Australian Government

MSS Sustainability

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MSS Sustainability

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MSS20316 Certificate II in Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS20312 Certificate II in Competitive Systems and Practices.

Release 2. Unit title updated. Equivalent outcome.

Qualification Description

The MSS20316 Certificate II in Competitive Systems and Practices provides introductory skills and specifies the competencies required to apply competitive systems and practices to a level suitable for application to an individual's own work role.

This qualification provides the skills needed to improve efficiency in a person's own work role. It complements but does not duplicate qualifications supplying operational, production, maintenance, logistics or other technical skills to industry. Where these skills are required appropriate qualifications from other Training Packages should be considered.

The skills in this qualification are often known in industry under a variety of titles many of which relate to manufacturing which is the origin of many competitive systems and practices. The most common term is lean manufacturing. However, other names for some of the system skills and techniques include agile manufacturing, lean operations, six sigma, lean six sigma, and so on.

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This qualification is not intended to be the main qualification supplying operational or technical skills that are used in conjunction with competitive systems and practices skills although some technical competencies can be selected under the general electives provision at the end of elective group.

This qualification assumes that a learner has current or past work experience where some operational or technical skills have already been gained. The qualification is not suitable for direct entry from school.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSS20316 Certificate II in Competitive Systems and Practices, competency must be achieved in **ten (10)** units of competency:

- **four (4)** core units of competency
- **six (6)** elective units of competency listed below.

A maximum of **three (3)** electives may be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificates II and III. Units chosen should be relevant to the workplace and would normally be drawn from the appropriate sector Training Package, or possibly the Business Services Training Package.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Core units of competency

Unit code	Unit title
MSS402001	Apply competitive systems and practices
MSS402010	Manage the impact of change on own work
MSMENV272	Participate in environmentally sustainable work practices

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MSMWHS200	Work safely

Elective units of competency

Unit code	Unit title	Prerequisites
MSS402002	Sustain process improvements	
MSS402020	Apply quick changeover procedures	
MSS402021	Apply Just in Time procedures	
MSS402031	Interpret product costs in terms of customer requirements	
MSS402040	Apply 5S procedures	
MSS402041	Apply 5S in an office	
MSS402050	Monitor process capability	
MSS402051	Apply quality standards	
MSS402052	Implement continuous improvements based on standardised work practices	
MSS402053	Participate in breakthrough improvements in an office	
MSS402061	Use SCADA systems in operations	
MSS402080	Undertake root cause analysis	
MSS402081	Contribute to the application of a proactive maintenance strategy	
MSS402082	Apply cost factors to work practices	
MSS402083	Use planning software systems in operations	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS20312 Certificate II in Competitive Systems and Practices.

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Release 2. Equivalent to MSS20316 Certificate II in Competitive Systems and Practices.

Links

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MSS30316 Certificate III in Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS30312 Certificate III in Competitive Systems and Practices.

Release 2. MSS30316 Certificate III in Competitive Systems and Practices. Unit title updated. Equivalent outcome.

Qualification Description

The MSS30316 Certificate III in Competitive Systems and Practices specifies the competencies required to apply competitive systems and practices to one's own work as well as, where required, to assist others to apply competitive systems and practices to their work.

This qualification provides a mixture of introductory and more advanced skills in competitive systems and practices.

This qualification provides the skills needed to improve efficiency in a person's own work role or the efficiency of a team or work area. It complements but does not duplicate qualifications supplying operational, production, maintenance, logistics, administration or other technical skills to industry. Where these skills are required appropriate qualifications from other Training Packages should be considered.

The skills in this qualification are often known in industry under a variety of titles many of which relate to manufacturing which is the origin of many competitive systems and practices. The most common term is lean manufacturing. However, other names for some of the system skills and techniques include agile manufacturing, lean operations, six sigma, lean six sigma, and so on.

This qualification is not intended to supply operational or technical skills that are used in conjunction with competitive systems and practices skills.

This qualification assumes that a learner has current or past work experience where operational or technical skills have already been gained and a supervisory, facilitation or similar level of responsibility exists. The qualification is not suitable for direct entry from school.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSS30316 Certificate III in Competitive Systems and Practices,

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competency must be achieved in **ten (10)** units of competency.

- **three (3)** core units of competency
- **seven (7)** elective units of competency, as specified below:
  - a minimum of **one (1)** unit of competency from Group A
  - a minimum of **two (2)** units of competency from Group B
  - the balance of **four (4)** elective units of competency may be selected from:
    - Group A, not previously selected
    - Group B, not previously selected
    - Group C units listed below.

A maximum of **four (4)** Group C units may be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificates III, IV or Diploma level. Units chosen should be relevant to the workplace and would normally be drawn from the appropriate sector Training Package, or possibly the Business Services Training Package.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Core units of competency

Unit code	Unit title
MSS403001	Review competitive systems and practices
MSMENV272	Participate in environmentally sustainable work practices
MSMWHS200	Work safely

Elective units of competency

Group A

Unit code	Unit title	Prerequisites
MSS403005	Facilitate use of a Balanced Scorecard for performance improvement	

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MSS403006	Facilitate implementation or review of competitive systems and practices in an office	
MSS403010	Facilitate change in an organisation implementing competitive systems and practices	
MSS403011	Facilitate implementation of competitive systems and practices	
MSS403013	Lead team culture improvement	
MSS403085	Ensure process improvements are sustained	

Group B

Unit code	**Unit title**	**Prerequisites**
MSS402052	Implement continuous improvements based on standardised work practices	
MSS402080	Undertake root cause analysis	
MSS402082	Apply cost factors to work practices	
MSS403007	Map an office value stream	
MSS403021	Facilitate a Just in Time system	
MSS403023	Monitor a levelled pull system of operations	
MSS403024	Work within a constrained process	
MSS403032	Analyse manual handling processes	
MSS403033	Map an operational process	
MSS403034	Organise products into groups	
MSS403035	Implement the visual workplace	
MSS403039	Facilitate and improve 5S in an office	
MSS403040	Facilitate and improve implementation of 5S	
MSS403041	Facilitate breakthrough improvements	

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MSS403042	Facilitate mistake proofing in an office	
MSS403043	Facilitate breakthrough improvements in an office	
MSS403044	Facilitate continuous improvement through the use of standardised procedures and practices	
MSS403084	Improve changeovers	
MSS403086	Improve cost factors in work practices	
MSS403087	Mistake proof an operational process	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMSUP390	Use structured problem solving tools	

Group C

Unit code	**Unit title**	**Prerequisites**
MSS402002	Sustain process improvements	
MSS402010	Manage the impact of change on own work	
MSS402020	Apply quick changeover procedures	
MSS402021	Apply Just in Time procedures	
MSS402031	Interpret product costs in terms of customer requirements	
MSS402040	Apply 5S procedures	
MSS402041	Apply 5S in an office	
MSS402050	Monitor process capability	
MSS402051	Apply quality standards	
MSS402053	Participate in breakthrough improvements in an office	
MSS402061	Use SCADA systems in operations	
MSS402081	Contribute to the application of a proactive	

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	maintenance strategy	
MSS402083	Use planning software systems in operations	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS30312 Certificate III in competitive Systems and Practices.

Release 2. Equivalent to MSS30316 Certificate III in Competitive Systems and Practices Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS40118 Certificate IV in Sustainable Operations

Modification History

Release 1. Code updated, core units updated, qualification template updated, qualification description simplified and changes to elective list. Supersedes and is equivalent to MSS40116 Certificate IV in Sustainable Operations.

Qualification Description

This qualification specifies the skills and knowledge required to identify, implement and report on sustainability related initiatives within a section of an enterprise, such as a defined work area, work team or stage of production. It may also apply to a small or medium enterprise. It applies to specialist roles, such as a sustainability officer or sustainability project assistant. The qualification also provides specialist sustainability competencies to technical, supervisory or operational employees who do not have whole of enterprise responsibilities. It includes assisting organisations to meet their obligations under sustainability related regulatory arrangements, government or similar incentives or other initiatives that apply to the employee's area of operation.

This qualification has no formal entry requirement due to the wide variety of sustainability applications in industry. However, most enterprises will expect technical skills relevant to their operations or equivalent vocational experience and for this reason the qualification is unlikely to be suitable for direct entry from school.

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Entry Requirements

This qualification has no formal entry requirement.

Packaging Rules

Total number of units = 10

- **3** core units
- **7** elective units, consisting of.
  - a minimum of **3** units from Group A
  - the balance of units, to a maximum of **4**, may be selected from:
    - Group A
    - Group B
    - up to 2 units from any endorsed Training Package or accredited course at Certificate IV level – these units must be relevant to the work outcome.

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Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title
MSMENV472	Implement and monitor environmentally sustainable work practices
MSS014008	Improve sustainability through readily implementable change
MSS014009	Evaluate sustainability impact of a work or process area

Elective units

Group A

Unit code	Unit title
MSFFDT4003	Assess and record the lifecycle of a product
MSL933007	Apply critical control point requirements
MSL934005	Contribute to the ongoing development of HACCP plans
MSL974022	Undertake environmental field-based monitoring
MSL974024	Undertake field-based, remote-sensing monitoring
MSMSUP301	Apply HACCP to the workplace
MSS014010	Optimise sustainability of a process or work area
MSS014011	Facilitate team to develop and implement sustainability strategies
MSS014012	Apply proactive maintenance strategies to sustainability
MSS014013	Contribute to sustainability related audits
MSS014014	Implement social sustainability in work practices
MSS015024	Develop required sustainability reports
MSS024014	Implement environmental management plans and procedures

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Unit code	Unit title
MSS024015	Apply an understanding of environmental principles to a site
MSS404082	Assist in implementing a proactive maintenance strategy
MSS404083	Support proactive maintenance
PMASUP520	Review procedures to minimise environmental impact of process

Group B

Unit code	Unit title
BSBPMG416	Apply project procurement procedures
BSBPMG417	Apply project life cycle management processes
BSBPMG418	Apply project stakeholder engagement techniques
BSBRSK401	Identify risk and apply risk management processes
MEM13002B	Undertake occupational health and safety activities in the workplace
MEM30016A	Assist in the analysis of a supply chain
MSFFT4007	Sample, inspect and test products to specifications
MSS027013	Coordinate environmental management activities
MSS402061	Use SCADA systems in operations
MSS402080	Undertake root cause analysis
MSS402082	Apply cost factors to work practices
MSS402083	Use planning software systems in operations
MSS403001	Review competitive systems and practices
MSS403005	Facilitate use of a Balanced Scorecard for performance improvement
MSS403010	Facilitate change in an organisation implementing competitive systems and practices
MSS403011	Facilitate implementation of competitive systems and practices
MSS403013	Lead team culture improvement

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Unit code	Unit title
MSS403023	Monitor a levelled pull system of operations
MSS403040	Facilitate and improve implementation of 5S
MSS403041	Facilitate breakthrough improvements
MSS403085	Ensure process improvements are sustained
MSS403086	Improve cost factors in work practices
MSS403087	Mistake proof an operational process
MSS404052	Apply statistics to operational processes
MSS404053	Use DMAIC techniques
MSS404060	Facilitate the use of planning software systems in a work area or team
MSS404061	Facilitate the use of SCADA systems in a team or work area
MSS404081	Undertake proactive maintenance analyses
MSS404084	Undertake process capability improvements
MSTGN4002	Participate in product engineering
MSTGN4007	Contribute to the development of products or processes

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS40116 Certificate IV in Sustainable Operations.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS40218 Certificate IV in Environmental Monitoring and Technology

Modification History

Release 1. Code updated, core units updated, qualification template updated, qualification description simplified and changes to elective list. Supersedes and is equivalent to MSS40216 Certificate IV in Environmental Monitoring and Technology.

Qualification Description

This qualification specifies the competencies required to conduct environmental sampling, testing and monitoring in a variety of industry sectors, including:

- environmental monitoring, sampling and field testing (e.g. air, water, soil and rocks)
- geotechnical services
- natural resource management
- water supply and treatment, storm and wastewater management
- solid and hazardous waste management.

This qualification applies to environmental assistants, environmental technicians and similar personnel employed by enterprises and Commonwealth, state/territory/local governments in the sectors listed above. Many of these employees are engaged in the monitoring of environmental impacts at industrial sites. They operate monitoring equipment, collect samples and conduct tests both in the field and at site laboratories. Other employees may collect a range of field data relating to the suitability of land and water use and process and present this data using geographical information systems (GIS) software.

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

Total number of units = 16

- **8** core units
- **8** elective units, consisting of.
  - a minimum of **5** units from Group A
  - the balance of units, to a maximum of **3**, may be selected from:
    - Group A, B or C

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- any endorsed Training Package or accredited course at Certificate IV level – these units must be relevant to the work outcome.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title
MSL943004	Participate in laboratory or field workplace safety
MSL952001	Collect routine site samples
MSL974022	Undertake environmental field-based monitoring
MSMENV272	Participate in environmentally sustainable work practices
MSS024013	Work and communicate effectively as an environmental technician
MSS024014	Implement environmental management plans and procedures
MSS024015	Apply an understanding of environmental principles to a site
MSS024016	Process and present environmental data

Elective units

Group A: Specialist elective units

Unit code	Unit title	Prerequisites
BSBWHS409	Assist with workplace monitoring processes	
MSL904002	Perform standard calibrations	
MSL924002	Use laboratory application software	
MSL954004	Obtain representative samples in accordance with sampling plan	
MSL974018	Conduct geotechnical site investigations	

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Unit code	Unit title	Prerequisites
MSL974019	Perform chemical tests and procedures	
MSL974021	Perform biological procedures	
MSL974024	Undertake field-based, remote-sensing monitoring	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSS014013	Contribute to sustainability related audits	
MSS024017	Collect spatial and discrete environmental data	
MSS024018	Perform sampling and testing of water	
MSS024019	Collect and evaluate meteorological data	
MSS024020	Recognise common geological landforms and samples	
MSS024021	Assist with assessing and monitoring stormwater systems	
MSS024022	Perform environmental biological techniques	
MSS024023	Navigate in urban, regional and remote areas	
MSS024024	Undertake simple environmental project activities	
PSPRAD003	Perform basic radiation measurements	

Group B

Unit code	Unit title	Prerequisites
CPPWMT4001A	Plan waste audits	
CPPWMT4002A	Carry out waste audits	
MSL975042	Design and supervise complex environmental field surveys	* MSL974022 Undertake environmental field-based monitoring

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Unit code	Unit title	Prerequisites
MSL975045	Perform laboratory-based ecological techniques`	* MSL974021 Perform biological procedures
MSL975051	Supervise geotechnical site investigations	* MSL974018 Conduct geotechnical site investigations
MSS015011	Conduct a sustainability energy audit	
MSS015021	Measure and report carbon footprint of a product or product class	
MSS015028	Conduct a sustainability water use audit	
MSS015030	Conduct an emissions audit	
MSS015034	Inform and educate organisation and community representatives on sustainability issues	
MSS025005	Produce site maps	*MSS024017 Collect spatial and discrete environmental data
MSS025008	Monitor and evaluate noise	
MSS025009	Perform sampling and testing of air	
MSS025010	Assist with odour source assessment	
MSS025011	Assist with odour field assessment	
MSS025012	Perform environmental microbiological tests	* MSS024022 Perform environmental biological techniques
MSS025013	Assist with assessing and monitoring wetlands	
MSS025014	Perform sampling and testing of contaminated sites	* MSS024020 Recognise common geological landforms and samples
MSS025016	Perform sampling and testing of stationary emissions	

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Unit code	Unit title	Prerequisites
MSS025017	Assist with assessing site environmental indicators	*MSS024015 Apply an understanding of environmental principles to a site
MSS025019	Report environmental data	*MSS024016 Process and present environmental data
MSS025020	Provide environmental information to customers	
MSS025021	Collect and evaluate groundwater data	
MSS025022	Perform sampling and testing of soils	*MSS024020 Recognise common geological landforms and samples
MSS025023	Plan and conduct environmental project work	
PSPRAD007	Monitor radiation	

Group C

Unit code	Unit title	Prerequisites
CUAPHI302	Capture photographic images	
HLTAID003	Provide first aid	
MSL934004	Maintain and calibrate instruments and equipment	
MSL973013	Perform basic tests	
MSL973014	Prepare working solutions	
MSL973016	Perform aseptic techniques	
MSL973019	Perform microscopic examination	
MSL973024	Perform site investigation activities	
PUAWER009B	Participate as a member of a workplace emergency initial response team	
TAEDEL301	Provide work skill instruction	

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Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS40216 Certificate IV in Environmental Monitoring and Technology.

Links

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MSS40316 Certificate IV in Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS40312 Certificate IV in Competitive Systems and Practices.

Release 2. Pre-requisites updated. Equivalent outcome.

Qualification Description

The MSS40316 Certificate IV in Competitive Systems and Practices specifies the competencies required by team leaders or those in similar job roles that are responsible for the implementation of competitive systems and practices in the work of a team or in a work area.

This qualification provides the skills and knowledge required by a team leader or other person to implement competitive systems and practices in the work of a team or work group, or by a specialist in competitive systems and practices.

This qualification provides the skills needed to improve efficiency in a team or work area as well as in a person's own work role through the implementation of competitive systems and practices. It complements but does not duplicate qualifications supplying operational, production, maintenance, logistics or other technical skills to industry. Where these skills are required appropriate qualifications from other Training Packages should be considered.

This qualification is not intended to supply operational or technical skills that are used in conjunction with competitive systems and practices skills.

This qualification assumes that a learner has current or past work experience where operational or technical skills have already been gained and a supervisory or similar level of responsibility exists. This qualification is not suitable for direct entry from school.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSS40316 Certificate IV in Competitive Systems and Practices, competency must be achieved in **twelve (12)** units of competency.

- **three (3)** core units of competency
- **nine (9)** elective units of competency, as specified below:
  - a minimum of **one (1)** unit of competency from Group A
  - a minimum of **five (5)** units of competency from Group B

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- the balance of **three (3)** elective units of competency may be selected in any combination from:
  - Group A, not previously selected
  - Group B, not previously selected
  - Group C units listed below.

A maximum of **three (3)** Group C units may be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificates III, IV or Diploma level. Units chosen should be relevant to the workplace and would normally be drawn from the appropriate sector Training Package, or possibly the Business Services Training Package.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Core units of competency

Unit code	Unit title
MSS403001	Review competitive systems and practices
MSS403010	Facilitate change in an organisation implementing competitive systems and practices
MSMENV472	Implement and monitor environmentally sustainable work practices

Group A

Unit code	Unit title	Prerequisites
MSS403005	Facilitate use of a Balanced Scorecard for performance improvement	
MSS403006	Facilitate implementation or review of competitive systems and practices in an office	
MSS403011	Facilitate implementation of competitive systems and practices	
MSS403013	Lead team culture improvement	
MSS403085	Ensure process improvements are sustained	

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Group B

Unit code	Unit title	Prerequisites
MSS403007	Map an office value stream	
MSS403021	Facilitate a Just in Time system	
MSS403023	Monitor a levelled pull system of operations	
MSS403024	Work within a constrained process	
MSS403032	Analyse manual handling processes	
MSS403033	Map an operational process	
MSS403034	Organise products into groups	
MSS403035	Implement the visual workplace	
MSS403039	Facilitate and improve 5S in an office	
MSS403040	Facilitate and improve implementation of 5S	
MSS403041	Facilitate breakthrough improvements	
MSS403042	Facilitate mistake proofing in an office	
MSS403043	Facilitate breakthrough improvements in an office	
MSS403044	Facilitate continuous improvement through the use of standardised procedures and practices	
MSS403084	Improve changeovers	
MSS403086	Improve cost factors in work practices	
MSS403087	Mistake proof an operational process	
MSS404052	Apply statistics to operational processes	
MSS404053	Use DMAIC techniques	
MSS404060	Facilitate the use of planning software systems in a work area or team	

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MSS404061	Facilitate the use of SCADA systems in a team or work area	
MSS404081	Undertake proactive maintenance analyses	
MSS404082	Assist in implementing a proactive maintenance strategy	
MSS404083	Support proactive maintenance	
MSS404084	Undertake process capability improvements	
MSMSUP390	Use structured problem solving tools	

Group C

Unit code	**Unit title**	**Prerequisites**
MSS402080	Undertake root cause analysis	
MSS405001	Develop competitive systems and practices for an organisation	
MSS405002	Analyse and map a value stream	
MSS405003	Manage a value stream	
MSS405004	Develop business plans in an organisation implementing competitive systems and practices	
MSS405005	Manage competitive systems and practices responding to individual and unique customer orders	
MSS405006	Develop a Balanced Scorecard	
MSS405007	Introduce competitive systems and practices to a small or medium enterprise	
MSS405010	Manage relationships with non-customer external organisations	
MSS405012	Manage workplace learning	
MSS405013	Facilitate holistic culture improvement in an organisation	

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MSS405014	Develop a communications strategy to support operations	
MSS405020	Develop quick changeover procedures	
MSS405021	Develop a Just in Time system	
MSS405022	Design a process layout	
MSS405023	Develop a levelled pull system for operations and processes	
MSS405024	Apply the theory of constraints	
MSS405030	Optimise cost of product or service	
MSS405031	Undertake value analysis of a product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	
MSS405033	Optimise office systems to deliver to customer demand	
MSS405040	Manage 5S system in an organisation	
MSS405041	Implement improvement systems in an organisation	
MSS405050	Determine and improve process capability	*
MSS405052	Design an experiment	*
MSS405053	Manage application of six sigma for process control and improvement	*
MSS405060	Develop the application of enterprise control systems in an organisation	
MSS405061	Determine and establish information collection requirements and processes	
MSS405075	Facilitate the development of a new product	*
MSS405081	Develop a proactive maintenance strategy	
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	
MSS405083	Adapt a proactive maintenance strategy for a seasonal or cyclical business	

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MSS405084	Manage people relationships	
MSS405085	Develop a documentation control strategy for an organisation	
MSS405086	Develop sustainable energy practices	
MSS014011	Facilitate team to develop and implement sustainability strategies	
MSS014010	Optimise sustainability of a process or work area	
MSS024015	Apply an understanding of environmental principles to a site	
MSMWHS200	Work safely	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS40312 Certificate IV in Competitive Systems and Practices.

Release 2. Equivalent to MSS40316 Certificate IV in Competitive Systems and Practices Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS50118 Diploma of Sustainable Operations

Modification History

Release 1. Code updated, core units updated, qualification template updated, qualification description simplified and changes to elective list. Supersedes and is equivalent to MSS50116 Diploma of Sustainable Operations.

Qualification Description

This qualification specifies the competencies required to work in a technical, supervisory or operational role in sustainability in an organisation.

This qualification provides the skills and knowledge needed to measure current sustainability performance and to establish processes for improved sustainability performance within organisations.

This qualification has no formal entry requirement due to the wide variety of sustainability applications in industry. However, most enterprises will expect technical skills relevant to their operations or equivalent vocational experience and for this reason the qualification is unlikely to be suitable for direct entry from school.

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

Total number of units = 20

- **5** core units
- **15** elective units, consisting of:
  - a minimum of **7** units from Group A
  - a minimum of **3** units from Group B
  - the balance of units, to a maximum of **5**, may be selected from:
    - Group A or B
    - Group C
    - up to 4 units from any endorsed Training Package or accredited course at Diploma level – these units must be relevant to the work outcome.

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Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title
MSS015021	Measure and report carbon footprint of a product or product class
MSS015022	Develop strategies for more sustainable use of resources
MSS015025	Develop a business case for sustainability improvements
MSS015026	Develop strategic sustainability plans
MSS015027	Implement sustainability plans

Elective units

Group A

Unit code	Unit title	Prerequisites
MSS014008	Improve sustainability through readily implementable change	
MSS015006	Report to Global Reporting Initiative guidelines	
MSS015011	Conduct a sustainability energy audit	
MSS015014	Develop response to sustainability related regulation	
MSS015017	Develop regulated sustainability reports	
MSS015023	Design sustainable product or process	
MSS015024	Develop required sustainability reports	
MSS015028	Conduct a sustainable water use audit	
MSS015030	Conduct an emissions audit	
MSS015031	Conduct a sustainability related transport audit	

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Unit code	Unit title	Prerequisites
MSS015033	Implement and monitor reengineering for sustainability	
MSS015034	Inform and educate organisation and community representatives on sustainability issues	
MSS405086	Develop sustainable energy practices	
PMASUP520	Review procedures to minimise environmental impact of process	
PMASUP620	Manage environmental management system	

Group B

Unit code	Unit title	Prerequisites
MSMENV672	Develop workplace policy and procedures for environmental sustainability	
MSS015019	Establish/review metrics for social sustainability	
MSS025017	Assist with assessing site environmental indicators	* MSS024015 Apply an understanding of environmental principles to a site
MSS025018	Assess the environmental risk and impact of a project activity or process	* MSS024015 Apply an understanding of environmental principles to a site
MSS404052	Apply statistics to operational processes	
MSS405001	Develop competitive systems and practices for an organisation	
MSS405002	Analyse and map a value stream	
MSS405003	Manage a value stream	
MSS405004	Develop business plans in an organisation implementing competitive systems and practices	

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Unit code	Unit title	Prerequisites
MSS405010	Manage relationships with non-customer external organisations	
MSS405012	Manage workplace learning	
MSS405013	Facilitate holistic culture improvement in an organisation	
MSS405014	Develop a communications strategy to support operations	
MSS405020	Develop quick changeover procedures	
MSS405021	Develop a Just in Time system	
MSS405031	Undertake value analysis of product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	
MSS405040	Manage 5S system in an organisation	
MSS405041	Implement improvement systems in an organisation	
MSS405050	Determine and improve process capability	* MSS404052 Apply statistics to operational processes
MSS405060	Develop the application of enterprise control systems in an organisation	
MSS405061	Determine and establish information collection requirements and processes	
MSS405075	Facilitate the development of a new product	* MSS404052 Apply statistics to operational processes
MSS405081	Develop a proactive maintenance strategy	
MSS405084	Manage people relationships	
MSS405085	Develop a documentation control strategy for an organisation	

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Group C

Unit code	Unit title	Prerequisites
BSBMGT516	Facilitate continuous improvement	
BSBPMG517	Manage project risk	
BSBPMG518	Manage project procurement	
BSBPMG519	Manage project stakeholder engagement	
BSBPMG522	Undertake project work	
BSBWOR502	Lead and manage team effectiveness	
MSMSUP390	Use structured problem-solving tools	
MSS014014	Implement social sustainability in work practices	
MSS015020	Facilitate an energy audit	
MSS024015	Apply an understanding of environmental principles to a site	
MSS402061	Use SCADA systems in operations	
MSS402080	Undertake root cause analysis	
MSS402082	Apply cost factors to work practices	
MSS402083	Use planning software systems in operations	
MSS403001	Review competitive systems and practices	
MSS403010	Facilitate change in an organisation implementing competitive systems and practices	
MSS403023	Monitor a levelled pull system of operations	
MSS403087	Mistake proof an operational process	
MSS404053	Use DMAIC techniques	
MSS404060	Facilitate the use of planning software systems in a work area or team	
MSS404081	Undertake proactive maintenance analyses	

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Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS50116 Diploma of Sustainable Operations.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS50218 Diploma of Environmental Monitoring and Technology

Modification History

Release 1. Code updated, core units updated, qualification template updated, qualification description simplified. Supersedes and is equivalent to MSS50216 Diploma of Environmental Monitoring and Technology.

Qualification Description

This qualification specifies the competencies required to apply a range of methods and technologies to conduct environmental sampling, testing and monitoring in most industry sectors, and to assist environmental scientists, engineers and planners with site assessment, minimising environmental impacts of processes and remediation/rehabilitation of sites.

This qualification applies to environmental officers, environmental protection officers, environmental compliance officers, environmental technicians and similar personnel employed by enterprises and Commonwealth, state/territory and local governments. These personnel often work with environmental scientists, engineers, planners and community groups to manage and conserve natural systems and resources, minimise pollution, remediate/rehabilitate sites and trial practical strategies to protect and improve ecosystems. Their work often involves environmental monitoring and technology, internal auditing and continuous improvements to enhance compliance and minimise the environmental impacts of processes. Government employees may be more involved with external inspection and auditing of enterprises and negotiating appropriate responses to instances of non-compliance.

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

Total number of units = 20

- **11** core units
- **9** elective units, consisting of:
  - a minimum of **5** units from Group A
  - the balance of units, to a maximum of **4**, may be selected from:
    - Group A and B
    - up to **3** units from Group C

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- up to **4** units from any endorsed Training Package or accredited course at Diploma level – these units must be relevant to the work outcome.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title	Prerequisites
MSL943004	Participate in laboratory or field workplace safety	
MSL952001	Collect routine site samples	
MSL974022	Undertake environmental field-based monitoring	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSS024014	Implement environmental management plans and procedures	
MSS024015	Apply an understanding of environmental principles to a site	
MSS024016	Process and present environmental data	
MSS025017	Assist with assessing site environmental indicators	* MSS024015 Apply an understanding of environmental principles to a site
MSS025018	Assess the environmental risk and impact of a project activity or process	* MSS024015 Apply an understanding of environmental principles to a site
MSS025019	Report environmental data	* MSS024016 Process and present environmental data
MSS025020	Provide environmental information to customers	

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Elective units

Group A

Unit code	Unit title	Prerequisites
CPPWMT4001 A	Plan waste audits	
CPPWMT4002 A	Carry out waste audits	
MSL975042	Design and supervise complex environmental field surveys	* MSL974022 Undertake environmental field-based monitoring
MSL975045	Perform laboratory-based ecological techniques`	* MSL974021 Perform biological procedures
MSL975051	Supervise geotechnical site investigations	* MSL974018 Conduct geotechnical site investigations
MSS015011	Conduct a sustainability energy audit	
MSS015021	Measure and report carbon footprint of a product or product class	
MSS015028	Conduct a sustainable water use audit	
MSS015030	Conduct an emissions audit	
MSS015034	Inform and educate organisation and community representatives on sustainability issues	
MSS025005	Produce site maps	* MSS024017 Collect spatial and discrete environmental data
MSS025008	Monitor and evaluate noise	
MSS025009	Perform sampling and testing of air	
MSS025010	Assist with odour source assessment	
MSS025011	Assist with odour field assessment	

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Unit code	Unit title	Prerequisites
MSS025012	Perform environmental microbiological tests	* MSS024022 Perform environmental biological techniques
MSS025013	Assist with assessing and monitoring wetlands	
MSS025014	Perform sampling and testing of contaminated sites	* MSS024020 Recognise common geological landforms and samples
MSS025016	Perform sampling and testing of stationary emissions	
MSS025021	Collect and evaluate groundwater data	
MSS025022	Perform sampling and testing of soils	* MSS024020 Recognise common geological landforms and samples
MSS025023	Plan and conduct environmental project work	
PSPRAD007	Monitor radiation	

Group B

Unit code	Unit title	Prerequisites
BSBWHS409	Assist with workplace monitoring processes	
MSL904002	Perform standard calibrations	
MSL924004	Use laboratory application software	
MSL954004	Obtain representative samples in accordance with sampling plan	
MSL974018	Conduct geotechnical site investigations	
MSL974019	Perform chemical tests and procedures	
MSL974021	Perform biological procedures	

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Unit code	Unit title	Prerequisites
MSL974024	Undertake field-based, remote sensing monitoring	
MSS014013	Contribute to sustainability related audits	
MSS024013	Work and communicate effectively as an environmental technician	
MSS024017	Collect spatial and discrete environmental data	
MSS024018	Perform sampling and testing of water	
MSS024019	Collect and evaluate meteorological data	
MSS024020	Recognise common geological landforms and samples	
MSS024021	Assist with assessing and monitoring stormwater systems	
MSS024022	Perform environmental biological techniques	
MSS024023	Navigate in urban, regional and remote areas	
MSS024024	Undertake simple environmental project activities	
PSPRAD003	Perform basic radiation measurements	

Group C

Unit code	Unit title	Prerequisites
CUAPHI302	Capture photographic images	
HLTAID003	Provide first aid	
MSL934004	Maintain and calibrate instruments and equipment	
MSL973013	Perform basic tests	
MSL973014	Prepare working solutions	
MSL973016	Perform aseptic techniques	
MSL973019	Perform microscopic examination	
MSL973024	Perform site investigation activities	

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Unit code	Unit title	Prerequisites
MSMENV272	Participate in environmentally sustainable work practices	
PUAWER009B	Participate as a member of a workplace emergency initial response team	
TAEDEL301	Provide work skill instruction	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS50216 Diploma of Environmental Monitoring and Technology.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS50316 Diploma of Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS50312 Diploma of Competitive Systems and Practices.

Release 2. Pre-requisites updated. Equivalent outcome.

Qualification Description

The MSS50316 Diploma of Competitive Systems and Practices specifies the competencies required by managers, technical specialists or those in similar job roles that are responsible for the implementation of competitive systems and practices in an organisation.

This qualification provides the skills and knowledge required by a manager or technical specialist to determine and supervise the strategy for implementing competitive systems and practices in an organisation and the organisation's value chain. The qualification packaging has been developed on an assumption that competency will be developed through a combination of on and off-the-job learning strategies.

This qualification provides the skills needed to improve efficiency in an organisation through the implementation of competitive systems and practices. It complements but does not duplicate qualifications supplying operational, production, maintenance, logistics or other technical skills to industry. Where these skills are required appropriate qualifications from other Training Packages should be considered.

This qualification is not intended to supply operational or technical skills that are used in conjunction with competitive systems and practices skills and knowledge.

The qualification assumes that a learner has current or past work experience where operational or technical skills have already been gained and a managerial or technician level of responsibility exists. The qualification is not suitable for direct entry from school.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSS50316 Diploma of Competitive Systems and Practices, competency must be achieved in **twenty (20)** units of competency.

- **three (3)** core units of competency
- **seventeen (17)** elective units of competency, as specified below:

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- a minimum of **three (3)** units of competency from Group A
- a minimum of **five (5)** units of competency from Group B
- the balance of **nine (9)** elective units of competency may be selected in any combination from:
  - Groups A and B, not previously selected
  - Group C (a maximum of two (2) of these units may be chosen from units with the code sequence MSS402...).

A maximum of **eight (8)** Group C units may be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificate IV, Diploma or Advanced Diploma level. Units chosen should be relevant to the workplace and would normally be drawn from the appropriate sector Training Package, or possibly the Business Services Training Package.

Note: Units with prerequisite requirements are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Core units of competency

Unit code	Unit title
MSS405001	Develop competitive systems and practices for an organisation
MSS405013	Facilitate holistic culture improvement in an organisation
MSMENV472	Implement and monitor environmentally sustainable work practices

Elective units of competency

Group A

Unit code	Unit title	Prerequisites
MSS405002	Analyse and map a value stream	
MSS405003	Manage a value stream	
MSS405004	Develop business plans in an organisation	

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	implementing competitive systems and practices	
MSS405005	Manage competitive systems and practices responding to individual and unique customer orders	
MSS405006	Develop a Balanced Scorecard	
MSS405007	Introduce competitive systems and practices to a small or medium enterprise	
MSS405010	Manage relationships with non-customer external organisations	
MSS405012	Manage workplace learning	
MSS405014	Develop a communications strategy to support operations	
MSS405084	Manage people relationships	

Group B

Unit code	Unit title	Prerequisites
MSS404052	Apply statistics to operational processes	
MSS405020	Develop quick changeover procedures	
MSS405021	Develop a Just in Time system	
MSS405022	Design a process layout	
MSS405023	Develop a levelled pull system for operations and processes	
MSS405024	Apply the theory of constraints	
MSS405030	Optimise cost of product or service	
MSS405031	Undertake value analysis of a product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	

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MSS405033	Optimise office systems to deliver to customer demand	
MSS405040	Manage 5S system in an organisation	
MSS405041	Implement improvement systems in an organisation	
MSS405050	Determine and improve process capability	*
MSS405052	Design an experiment	*
MSS405053	Manage application of six sigma for process control and improvement	*
MSS405060	Develop the application of enterprise control systems in an organisation	
MSS405061	Determine and establish information collection requirements and processes	
MSS405075	Facilitate the development of a new product	*
MSS405081	Develop a proactive maintenance strategy	
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	
MSS405083	Adapt a proactive maintenance strategy for a seasonal or cyclical business	
MSS405085	Develop a documentation control strategy for an organisation	
MSS405086	Develop sustainable energy practices	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Group C

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Unit code	Unit title	Prerequisites
MSS014010	Optimise sustainability of a process or work area	
MSS014011	Facilitate team to develop and implement sustainability strategies	
MSS014009	Evaluate sustainability impact of a work or process area	
MSS015022	Develop strategies for more sustainable use of resources	
MSS015023	Design sustainable product or process	
MSS402010	Manage the impact of change on own work	
MSS402031	Interpret product costs in terms of customer requirements	
MSS402080	Undertake root cause analysis	
MSS402082	Apply cost factors to work practices	
MSS403001	Review competitive systems and practices	
MSS403005	Facilitate use of a Balanced Scorecard for performance improvement	
MSS403006	Facilitate implementation or review of competitive systems and practices in an office	
MSS403007	Map an office value stream	
MSS403010	Facilitate change in an organisation implementing competitive systems and practices	
MSS403011	Facilitate implementation of competitive systems and practices	
MSS403013	Lead team culture improvement	
MSS403021	Facilitate a Just in Time system	

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MSS403023	Monitor a levelled pull system of operations	
MSS403032	Analyse manual handling processes	
MSS403033	Map an operational process	
MSS403034	Organise products into groups	
MSS403035	Implement the visual workplace	
MSS403039	Facilitate and improve 5S in an office	
MSS403040	Facilitate and improve implementation of 5S	
MSS403041	Facilitate breakthrough improvements	
MSS403042	Facilitate mistake proofing in an office	
MSS403043	Facilitate breakthrough improvements in an office	
MSS403044	Facilitate continuous improvement through the use of standardised procedures and practices	
MSS403084	Improve changeovers	
MSS403085	Ensure process improvements are sustained	
MSS403086	Improve cost factors in work practices	
MSS403087	Mistake proof an operational process	
MSS404053	Use DMAIC techniques	
MSS404060	Facilitate the use of planning software systems in a work area or team	
MSS404061	Facilitate the use of SCADA systems in a team or work area	
MSS404081	Undertake proactive maintenance analyses	

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MSS404082	Assist in implementing a proactive maintenance strategy	
MSS404083	Support proactive maintenance	
MSS404084	Undertake process capability improvements	
MSS024015	Apply an understanding of environmental principles to a site	
MSMSUP390	Use structured problem solving tools	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS50312 Diploma of Competitive Systems and Practices.

Release 2. Equivalent to MSS50316 Diploma of Competitive Systems and Practices Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS60316 Advanced Diploma of Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS60312 Advanced Diploma of Competitive Systems and Practices.

Release 2. Pre-requisites updated. Equivalent outcome.

Qualification Description

The MSS60316 Advanced Diploma of Competitive Systems and Practices specifies the competencies required by managers and technical specialists responsible for the implementation of competitive systems and practices in an organisation.

This qualification provides the skills and knowledge required by a manager or technical specialist to determine and supervise the strategy for implementing competitive systems and practices in a large organisation and in the organisation's value chain, or in an organisation where the implementation of competitive systems and practices is particularly complex.

This qualification provides the skills needed to improve efficiency in an organisation through the implementation of competitive systems and practices. It complements but does not duplicate qualifications supplying operational, production, maintenance, logistics or other technical skills to industry. Where these skills are required appropriate qualifications from other Training Packages should be considered.

This qualification is not intended to supply operational or technical skills that are used in conjunction with competitive systems and practices skills and knowledge.

This qualification assumes that a learner has current or past work experience where operational or technical skills have already been gained and a managerial or technician level of responsibility exists. The qualification is not suitable for direct entry from school.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSS60316 Advanced Diploma of Competitive Systems and Practices, competency must be achieved in **thirty (30)** units of competency:

- **three (3)** core units of competency
- **twenty-seven (27)** elective units of competency, as specified below:

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- a minimum of **five (5)** units of competency from Group A
- a minimum of **ten (10)** units of competency from Group B
- the balance of **twelve (12)** elective units of competency may be selected in any combination from:
  - Groups A and Group B, not previously selected
  - Group C (a maximum of **two (2)** of these units may be chosen from units with the code sequence MSS402…).

A maximum of **eight (8)** Group C units may be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificate IV, Diploma or Advanced Diploma level. Units chosen should be relevant to the workplace and would normally be drawn from the appropriate sector Training Package, or possibly the Business Services Training Package.

Note: Units with prerequisite requirements are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Core units of competency

Unit code	Unit title
MSS405001	Develop competitive systems and practices for an organisation
MSS405013	Facilitate holistic culture improvement in an organisation
MSMENV472	Implement and monitor environmentally sustainable work practices

Elective units of competency

Group A

Unit code	Unit title	Prerequisites
MSS405002	Analyse and map a value stream	
MSS405003	Manage a value stream	
MSS405004	Develop business plans in an organisation	

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	implementing competitive systems and practices	
MSS405005	Manage competitive systems and practices responding to individual and unique customer orders	
MSS405006	Develop a Balanced Scorecard	
MSS405007	Introduce competitive systems and practices to a small or medium enterprise	
MSS405010	Manage relationships with non-customer external organisations	
MSS405012	Manage workplace learning	
MSS405014	Develop a communications strategy to support operations	
MSS405084	Manage people relationships	

Group B

Unit code	**Unit title**	**Prerequisites**
MSS404052	Apply statistics to operational processes	
MSS405020	Develop quick changeover procedures	
MSS405021	Develop a Just in Time system	
MSS405022	Design a process layout	
MSS405023	Develop a levelled pull system for operations and processes	
MSS405024	Apply the theory of constraints	
MSS405030	Optimise cost of product or service	
MSS405031	Undertake value analysis of a product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	
MSS405033	Optimise office systems to deliver to customer demand	

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MSS405040	Manage 5S system in an organisation	
MSS405041	Implement improvement systems in an organisation	
MSS405050	Determine and improve process capability	*
MSS405052	Design an experiment	*
MSS405053	Manage application of six sigma for process control and improvement	*
MSS405060	Develop the application of enterprise control systems in an organisation	
MSS405061	Determine and establish information collection requirements and processes	
MSS405075	Facilitate the development of a new product	*
MSS405081	Develop a proactive maintenance strategy	
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	
MSS405083	Adapt a proactive maintenance strategy for a seasonal or cyclical business	
MSS405085	Develop a documentation control strategy for an organisation	
MSS405086	Develop sustainable energy practices	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Group C

Unit code	**Unit title**	**Prerequisites**
MSS014009	Evaluate sustainability impact of a work or process area	
MSS402010	Manage the impact of change on own work	
MSS402031	Interpret product costs in terms of customer	

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	requirements	
MSS402080	Undertake root cause analysis	
MSS402082	Apply cost factors to work practices	
MSS403001	Review competitive systems and practices	
MSS403085	Ensure process improvements are sustained	
MSS403005	Facilitate use of a Balanced Scorecard for performance improvement	
MSS403006	Facilitate implementation or review of competitive systems and practices in an office	
MSS403007	Map an office value stream	
MSS403010	Facilitate change in an organisation implementing competitive systems and practices	
MSS403011	Facilitate implementation of competitive systems and practices	
MSS403013	Lead team culture improvement	
MSS403021	Facilitate a Just in Time system	
MSS403023	Monitor a levelled pull system of operations	
MSS403032	Analyse manual handling processes	
MSS403033	Map an operational process	
MSS403034	Organise products into groups	
MSS403035	Implement the visual workplace	
MSS403039	Facilitate and improve 5S in an office	
MSS403040	Facilitate and improve implementation of 5S	
MSS403041	Facilitate breakthrough improvements	
MSS403042	Facilitate mistake proofing in an office	
MSS403043	Facilitate breakthrough improvements in an office	
MSS403044	Facilitate continuous improvement through the use of standardised procedures and practices	

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MSS403084	Improve changeovers	
MSS403086	Improve cost factors in work practices	
MSS403087	Mistake proof an operational process	
MSS404053	Use DMAIC techniques	
MSS404060	Facilitate the use of planning software systems in a work area or team	
MSS404061	Facilitate the use of SCADA systems in a team or work area	
MSS404081	Undertake proactive maintenance analyses	
MSS404082	Assist in implementing a proactive maintenance strategy	
MSS404083	Support proactive maintenance	
MSS404084	Undertake process capability improvements	
MSS015022	Develop strategies for more sustainable use of resources	
MSS015023	Design sustainable product or process	
MSS024015	Apply an understanding of environmental principles to a site	
MSMSUP390	Use structured problem solving tools	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS60312 Advanced Diploma of Competitive Systems and Practices.

Release 2. Equivalent to MSS60316 Advanced Diploma of Competitive Systems and Practices Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS80118 Graduate Certificate in Sustainable Operations

Modification History

Release 1. Code updated, core units updated, qualification template updated, qualification description changed, entry requirements simplified and changes to elective list. Supersedes and is equivalent to MSS80116 Graduate Certificate in Sustainable Operations.

Qualification Description

This qualification provides professional development training and recognition to people exercising leadership or change management functions in an organisation on sustainability, including setting of sustainability strategy and leadership and planning for the deployment of the sustainability strategy.

The qualification applies to individuals demonstrating advanced theoretical and technical knowledge, autonomy and well developed judgement to improve sustainability within an organisation. Aspects of this responsibility may include regulatory responses; setting and monitoring of sustainability related performance indicators; and liaison with stakeholders (including employees, value chain members and the local and general community). Target groups include supervisors, managers and technical experts responsible for implementing sustainability improvement strategies and practices in their organisation and/or all or part of the value chain.

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Entry Requirements

Entrants to the MSS80118 Graduate Certificate in Sustainable Operations should have one or more of the following:

- Diploma or higher in a sustainability related discipline or equivalent industry experience
- Certificate III or higher together with work experience at a senior or advanced level in a related technical field

Entrants for the qualification should also possess operational or technical skills related to the organisation seeking sustainability improvements either through prior experience or previous study.

Packaging Rules

Total number of units = 5

- **2** core units
- **3** elective units, consisting of:

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- a minimum of **2** units from Group A
- the balance of **1** elective unit, may be selected from:
  - Group A
  - Group B
  - any endorsed Training Package or accredited course at Graduate Certificate and Graduate Diploma level – these units must be relevant to the work outcome.

Note: Units with prerequisite requirements are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title
MSS017009	Analyse and determine organisational risk areas in sustainability
MSS017012	Lead sustainable strategy deployment

Elective units

Group A

Unit code	Unit title
MSS017010	Determine process loss through mass or energy balancing
MSS017011	Identify and respond to external sustainability factors for an organisation
MSS017013	Manage a major sustainability non-conformance
MSS017014	Identify and improve sustainability interactions with the community
MSS017015	Design for sustainability
MSS017016	Develop a proactive social sustainability strategy
MSS027014	Apply environmental legislation, codes and standards
MSS407016	Lead a process to determine and solve root cause for a complex problem

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Group B

Unit code	Unit title
BSBPMG609	Direct procurement and contracting for a project program
MSMENV672	Develop workplace policy and procedures for environmental sustainability
MSS407002	Review operations practice tools and techniques
MSS407003	Analyse process changes
MSS407004	Facilitate improvements in the internal value stream
MSS407005	Undertake a qualitative review of a process change
MSS407008	Capture learning from daily activities in an organisation
MSS407009	Facilitate improvements in the external value stream
MSS407010	Improve visual management in the workplace
MSS407011	Manage benchmarking studies
MSS407014	Prepare for and implement change
MSS407015	Build relationships between teams in an operations environment
MSS407017	Review continuous improvement processes
MSS408001	Develop the competitive systems and practices approach
MSS408002	Audit the use of competitive tools
MSS408008	Analyse data for relevance to organisational learning

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS80116 Graduate Certificate in Sustainable Operations.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS80218 Graduate Certificate in Environmental Management

Modification History

Release 1. Code updated, core units updated, qualification template updated, qualification description changed. Supersedes and is equivalent to MSS80216 Graduate Certificate in Environmental Management.

Qualification Description

This qualification specifies the competencies required by technical specialists who demonstrate advanced theoretical and technical knowledge, autonomy and well developed judgement to undertake environmental monitoring and management activities at a site or for a significant environmental management program or project.

This qualification applies to individuals who have some previous training or work experience at a senior or advanced level performing a wide range of environmental sampling, monitoring, field-testing, inspection, auditing or data processing tasks for enterprises. Job roles targeted by this qualification include environmental site coordinators, environmental managers and senior environmental officers employed by enterprises or authorities in a wide range of industry sectors.

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Entry Requirements

Entrants to the MSS80218 Graduate Certificate in Environmental Management are required to have one of the following:

- relevant higher education qualification or equivalent industry experience
- MSS50218 Diploma of Environmental Monitoring and Technology together with work experience at a senior or advanced level in environmental monitoring and technology or relevant technical field
- extensive work experience at a senior or advanced level in environmental monitoring and technology or relevant field

Packaging Rules

Total number of units = 12

- **5** core units
- **7** elective units, consisting of:
  - a minimum of **3** units from Group A
  - the balance of units, to a maximum of **4**, may be selected from:
    - Group A

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- Group B
- up to **2** units from any endorsed Training Package or accredited course at Diploma level – these units must be relevant to the work outcome.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title
MSL944002	Maintain laboratory or field workplace safety
MSMENV472	Implement and monitor environmentally sustainable work practices
MSS027013	Coordinate environmental management activities
MSS027014	Apply environmental legislation, codes and standards
MSS027015	Provide environmental advice to clients

Elective units

Group A

Unit code	Unit title	Prerequisites
BSBWHS608	Assist with applying occupational hygiene to manage WHS risks	
LGAPLEM506A	Improve community knowledge and skills in environmental management practices	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	
MSS027006	Coordinate water quality management activities	* MSS024018 Perform sampling and testing of water
MSS027007	Coordinate air quality management activities	* MSS025009 Perform sampling and testing of air

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Unit code	Unit title	Prerequisites
		Or MSS025016 Perform sampling and testing of stationary emissions
MSS027008	Coordinate noise management activities	* MSS025008 Monitor and evaluate noise
MSS027009	Coordinate site remediation or rehabilitation activities	* Path 1: MSS025021 Collect and evaluate groundwater data MSS025022 Perform sampling and testing of soils MSS024020 Recognise common geological landforms and samples Path 2: MSS025021 Collect and evaluate groundwater data MSS025022 Perform sampling and testing of soils MSS025013 Assist with assessing and monitoring wetlands
MSS027011	Select, commission and maintain environmental monitoring instruments	
MSS027016	Contribute to improving environmental performance	
MSS027017	Contribute to environmental decision making	
MSS027018	Undertake complex environmental project work	* MSS025023 Plan and conduct

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Unit code	Unit title	Prerequisites
		environmental project work
MSS027019	Implement and maintain the site health and safety management system	* MSL944002 Maintain laboratory or field workplace safety
PUAWER010B	Lead a workplace emergency initial response team	* PUAWER009B Participate as a member of a workplace emergency initial response team
RIINHB408D	Supervise environmental drilling operations	
RIIPRM501D	Implement, monitor, rectify and report on contracts	

Group B

Unit code	Unit title	Prerequisites
MSL974022	Undertake environmental field-based monitoring	
MSL974024	Undertake field-based, remote sensing monitoring	
MSL975042	Design and supervise complex environmental field surveys	* MSL974022 Undertake environmental field-based monitoring
MSS015024	Develop required sustainability reports	
MSS015034	Inform and educate organisation and community representatives on sustainability issues	
MSS024017	Collect spatial and discrete environmental data	
MSS024018	Perform sampling and testing of water	
MSS024019	Collect and evaluate meteorological data	
MSS024020	Recognise common geological landforms and samples	

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Unit code	Unit title	Prerequisites
MSS024021	Assist with assessing and monitoring stormwater systems	
MSS025005	Produce site maps	* MSS024017 Collect spatial and discrete environmental data
MSS025008	Monitor and evaluate noise	
MSS025009	Perform sampling and testing of air	
MSS025010	Assist with odour source assessment	
MSS025011	Assist with odour field assessment	
MSS025013	Assist with assessing and monitoring wetlands	
MSS025014	Perform sampling and testing of contaminated sites	* MSS024020 Recognise common geological landforms and samples
MSS025016	Perform sampling and testing of stationary emissions	
MSS025021	Collect and evaluate groundwater data	
MSS025022	Perform sampling and testing of soils	* MSS024020 Recognise common geological landforms and samples
MSS025023	Plan and conduct environmental project work	
PSPRAD007	Monitor radiation	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS80216 Graduate Certificate in Environmental Management.

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Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS80316 Graduate Certificate in Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS70312 Graduate Certificate in Competitive Systems and Practices.

Release 2. Unit title updated. Equivalent outcome.

Qualification Description

The MSS80316 Graduate Certificate in Competitive Systems and Practices provides professional development training and recognition for people exercising leadership or change management functions in an organisation using lean principles and other competitive systems and practices.

This qualification provides specialised skills and knowledge in competitive systems and practices with an emphasis on value chain liaison and development of a supporting culture within an organisation. It builds on previously acquired skills and knowledge and applies to team leaders, managers and technical experts responsible for implementing competitive systems and practices in an organisation or who are working in part of a value chain linked to an organisation implementing competitive systems and practices.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

Entrants to the MSS80316 Graduate Certificate in Competitive Systems and Practices are required to have one or more of the following:

- a relevant Advanced Diploma or Diploma qualification
- a relevant Certificate IV qualification together with significant relevant vocational practice at a team leader/technical specialist role or higher in an organisation
- relevant extensive vocational practice without formal qualifications at a team leader/technical specialist role or higher in an organisation
- a relevant Bachelor Degree
- another higher education qualification, with relevant vocational practice.

A relevant qualification that would support entry to the MSS80316 Graduate Certificate in Competitive Systems and Practices should include aspects of administration, operations, office administration, logistics or manufacturing processes, including features such as productivity measurement, efficiency and effectiveness.

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For the purposes of this qualification the term 'vocational practice' is defined as experience in an organisation implementing competitive systems and practices with responsibility for implementation for a team, area, site or part of the value chain of the organisation.

Packaging Rules

To be awarded the MSS80316 Graduate Certificate in Competitive Systems and Practices competency must be achieved in **four (4)** elective units of competency, as specified below:

- a minimum of **three (3)** units of competency from Group A
- **one (1)** additional unit of competency from Group A or Group B.

The Group B elective unit may also be chosen from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where that unit is available at Certificate IV level or above.

Registered Training Organisations (RTOs) should seek a determination from Manufacturing Skills Australia (MSA) regarding the suitability of any unit proposed for use in this qualification.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Elective units of competency

Group A

Unit code	Unit title
MSS407002	Review operations practice tools and techniques
MSS407003	Analyse process changes
MSS407004	Facilitate improvements in the internal value stream
MSS407005	Undertake a qualitative review of a process change
MSS407007	Respond to a major non-conformance
MSS407008	Capture learning from daily activities in an organisation

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MSS407009	Facilitate improvements in the external value stream
MSS407010	Improve visual management in the workplace
MSS407011	Manage benchmarking studies
MSS407014	Prepare for and implement change
MSS407015	Build relationships between teams in an operations environment
MSS407016	Lead a process to determine and solve root cause for a complex problem
MSS407017	Review continuous improvement processes
MSS408001	Develop the competitive systems and practices approach
MSS408002	Audit the use of competitive tools
MSS408008	Analyse data for relevance to organisational learning

Group B

Unit code	**Unit title**	**Prerequisites**
MSS408003	Develop models of future state operations practice	
MSS408004	Develop the value stream	
MSS408005	Develop knowledge systems and learning processes for an organisation	
MSS408006	Develop and refine systems for continuous improvement in operations	
MSS408007	Develop problem solving capability of an organisation	
MSS405002	Analyse and map a value stream	
MSS405003	Manage a value stream	
MSS405006	Develop a Balanced Scorecard	
MSS405007	Introduce competitive systems and practices to a small or medium enterprise	

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MSS405020	Develop quick changeover procedures	
MSS405022	Design a process layout	
MSS405023	Develop a levelled pull system for operations and processes	
MSS405024	Apply the theory of constraints	
MSS405030	Optimise cost of product or service	
MSS405031	Undertake value analysis of a product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	
MSS405033	Optimise office systems to deliver to customer demand	
MSS405040	Manage 5S system in an organisation	
MSS405050	Determine and improve process capability	*
MSS405052	Design an experiment	*
MSS405053	Manage application of six sigma for process control and improvement	*
MSS405081	Develop a proactive maintenance strategy	
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	
MSS405083	Adapt a proactive maintenance strategy for a seasonal or cyclical business	
MSS405086	Develop sustainable energy practices	
MSS017009	Analyse and determine organisational risk areas in sustainability	
MSS017010	Determine process loss through mass or energy balancing	
MSS017011	Identify and respond to external sustainability factors for an organisation	
MSS017012	Lead sustainable strategy deployment	

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MSS027014	Apply environmental legislation, codes and standards	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS70312 Graduate Certificate in Competitive Systems and Practices.

Release 2. Equivalent to MSS80316 Graduate Certificate in Competitive Systems and Practices Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS80416 Graduate Diploma of Competitive Systems and Practices

Modification History

Release 1. Supersedes and is equivalent to MSS80312 Graduate Diploma of Competitive Systems and Practices.

Release 2. Unit title updated. Equivalent outcome.

Qualification Description

The MSS80416 Graduate Diploma of Competitive Systems and Practices provides comprehensive professional development training and recognition for people exercising major leadership and accountability for change management functions in an organisation using lean principles and other competitive systems and practices.

This qualification provides advanced skills and knowledge in competitive systems and practices with an emphasis on development of the value chain competitive systems and of a supporting culture within an organisation. It builds on previously acquired skills and knowledge and applies to managers and technical experts responsible for implementing competitive systems and practices in an organisation or who are working in part of a value chain linked to an organisation implementing competitive systems and practices.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

Entrants to the MSS80416 Graduate Diploma of Competitive Systems and Practices are required to have one or more of the following:

- MSS80316 Graduate Certificate in Competitive Systems and Practices
- a relevant Advanced Diploma or Diploma qualification
- a relevant Certificate IV qualification together with significant relevant vocational practice at a team leader/technical specialist role or higher in an organisation
- relevant extensive vocational practice without formal qualifications
- a relevant Bachelor Degree
- another higher education qualification, with relevant vocational practice.

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A relevant qualification that would support entry to the MSS80416 Graduate Diploma of Competitive Systems and Practices should include aspects of administration, operations, office administration, logistics or manufacturing processes, including features such as productivity measurement, efficiency and effectiveness.

For the purposes of this qualification the term 'vocational practice' is defined as experience in an organisation implementing competitive systems and practices with responsibility for implementation for a team, area, site or part of the value chain of the organisation.

Packaging Rules

To be awarded the MSS80416 Graduate Diploma of Competitive Systems and Practices competency must be achieved in **eight (8)** elective units of competency, as specified below:

- a minimum of **two (2) units** of competency from Group A
- **three (3)** additional units of competency must be selected from either Group A or Group B
- the remaining **three (3)** units of competency may be selected from either Group A, Group B or Group C.

A maximum of **one (1)** Group C unit may be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where the unit is available at Diploma level or above. Registered Training Organisations (RTOs) should seek a determination from Manufacturing Skills Australia (MSA) regarding the suitability of any unit proposed for use in this qualification.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Elective units of competency

Group A

Unit code	Unit title
MSS408001	Develop the competitive systems and practices approach
MSS408002	Audit the use of competitive tools
MSS408003	Develop models of future state operations practice

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MSS408004	Develop the value stream
MSS408005	Develop knowledge systems and learning processes for an organisation
MSS408006	Develop and refine systems for continuous improvement in operations
MSS408007	Develop problem solving capability of an organisation
MSS408008	Analyse data for relevance to organisational learning

Group B

Unit code	**Unit title**
MSS407002	Review operations practice tools and techniques
MSS407003	Analyse process changes
MSS407004	Facilitate improvements in the internal value stream
MSS407005	Undertake a qualitative review of a process change
MSS407007	Respond to a major non-conformance
MSS407008	Capture learning from daily activities in an organisation
MSS407009	Facilitate improvements in the external value stream
MSS407010	Improve visual management in the workplace
MSS407011	Manage benchmarking studies
MSS407014	Prepare for and implement change
MSS407015	Build relationships between teams in a operations environment
MSS407016	Lead a process to determine and solve root cause for a complex problem
MSS407017	Review continuous improvement processes

Group C

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Unit code	Unit title	Prerequisites
MSS405002	Analyse and map a value stream	
MSS405003	Manage a value stream	
MSS405006	Develop a Balanced Scorecard	
MSS405007	Introduce competitive systems and practices to a small or medium enterprise	
MSS405020	Develop quick changeover procedures	
MSS405022	Design a process layout	
MSS405023	Develop a levelled pull system for operations and processes	
MSS405024	Apply the theory of constraints	
MSS405030	Optimise cost of product or service	
MSS405031	Undertake value analysis of a product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	
MSS405033	Optimise office systems to deliver to customer demand	
MSS405040	Manage 5S system in an organisation	
MSS405050	Determine and improve process capability	*
MSS405052	Design an experiment	*
MSS405053	Manage application of six sigma for process control and improvement	*
MSS405081	Develop a proactive maintenance strategy	
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	
MSS405083	Adapt a proactive maintenance strategy for a seasonal or cyclical business	

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MSS405086	Develop sustainable energy practices	
MSS017009	Analyse and determine organisational risk areas in sustainability	
MSS017010	Determine process loss through mass or energy balancing	
MSS017011	Identify and respond to external sustainability factors for an organisation	
MSS017012	Lead sustainable strategy deployment	
MSS027014	Apply environmental legislation, codes and standards	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MSS80312 Graduate Diploma of Competitive Systems and Practices.

Release 2. Equivalent to MSS80416 Graduate Diploma of Competitive Systems and Practices Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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BSBMGT516 Facilitate continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to lead and manage continuous improvement systems and processes. Particular emphasis is on the development of systems and the analysis of information to monitor and adjust performance strategies, and to manage opportunities for further improvements.

It applies to individuals who take an active role in managing a continuous improvement process in order to achieve an organisation's objectives.

At this level, work will normally be carried out using complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem-solving and decision-making strategies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and leadership – Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Lead continuous improvement systems and processes	1.1 Develop strategies to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative as

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ELEMENT	PERFORMANCE CRITERIA
	appropriate 1.2 Establish systems to ensure that the organisation's continuous improvement processes are communicated to stakeholders 1.3 Ensure that change and improvement processes meet sustainability requirements 1.4 Develop effective mentoring and coaching processes to ensure that individuals and teams are able to implement and support the organisation's continuous improvement processes 1.5 Ensure that insights and experiences from business activities are captured and accessible through knowledge management systems
2. Monitor and adjust performance strategies	2.1 Develop strategies to ensure that systems and processes are used to monitor operational progress and to identify ways in which planning and operations could be improved 2.2 Adjust and communicate strategies to stakeholders according to organisational procedures
3. Manage opportunities for further improvement	3.1 Establish processes to ensure that team members are informed of outcomes of continuous improvement efforts 3.2 Ensure processes include recording of work team performance to assist in identifying further opportunities for improvement 3.3 Consider areas identified for further improvement when undertaking future planning

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 3.3	• Identifies and extracts relevant information from a range of complex texts • Locates, interprets and analyses workplace documentation to gather information relating to continuous improvement
Writing	1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 3.1-3.3	• Develops complex texts related to continuous improvement processes according to organisational requirements

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		• Ensures the vocabulary, grammatical structures and conventions are appropriate for the context and target audience
Oral Communication	1.1, 1.2, 1.4, 2.2	• Presents information to a range of audiences using appropriate structure and language • Listens and comprehends information from a variety of spoken exchanges with clients, co-workers and other stakeholders • Confirms understanding through questioning and active listening
Navigate the world of work	1.1-1.3, 2.1, 2.2	• Develops strategies to enable compliance with legislative requirements and achievement of the organisation's goals • Monitors adherence to organisational policies, procedures and protocols and considers own role in terms of its contribution to broader goals of the work environment
Interact with others	1.1, 1.2, 1.4, 2.2	• Identifies and uses appropriate conventions and protocols when communicating with colleagues and external stakeholders • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction and influencing direction
Get the work done	1.1, 1.2, 1.4, 1.5, 2.1, 3.1, 3.2, 3.3	• Takes responsibility for developing, implementing and monitoring systems and processes to achieve organisational outcomes • Uses analytical and lateral thinking to review current practices and develop ideas for improvement • Reflects on the ways in which digital systems and tools are used, or could be used, to achieve work goals

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBMGT516 Facilitate continuous improvement	BSBMGT516C Facilitate continuous improvement	Updated to meet Standards for Training Packages	Equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBMGT516 Facilitate continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to establish systems and processes for continuous improvement that:

- facilitate effective contributions to and communications about continuous improvement processes and outcomes
- address sustainability requirements
- incorporate mentoring, coaching and other support to enable people to participate effectively in continuous improvement processes
- capture insights, experiences and ideas for improvements and incorporate them into the organisation's knowledge management systems and future planning.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain how systems and procedures can support effective continuous improvement
- explain how continuous improvement systems and processes relate to other business systems and requirements including, knowledge management, quality, performance management and sustainability.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

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Assessors must satisfy NVR/AQTF assessor requirements.

Links

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BSBPMG416 Apply project procurement procedures

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to assist with procurement for a project. It involves identifying procurement requirements, assisting with supplier selection, conducting procurement activities, and assisting with procurement finalisation activities for the project.

It applies to individuals who are project practitioners working in a project support role. The individual may be operating in a large or small organisation, and applying skills in the context of enterprise projects.

The project practitioner may be part of a project team under the direction of a project manager, or may work as part of a smaller scale, self-directed team.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Assist with procurement planning	1.1 Contribute to establishing procurement requirements to achieve project objectives 1.2 Act under delegated authority to contribute to development of

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ELEMENT	PERFORMANCE CRITERIA
	procurement-management plan 1.3 Contribute to developing procurement documentation
2. Contribute to supplier selection process	2.1 Gather and evaluate information on potential suppliers 2.2 Make recommendations to assist in selection of preferred suppliers 2.3 Contribute to establishing agreed terms and conditions with preferred suppliers 2.4 Identify and act in line with probity and project governance constraints 2.5 Assist in developing contractual documentation
3. Conduct procurement activities	3.1 Test and accept supplies to ensure they are fit for purpose in both quality and suitability 3.2 Undertake procurement activities and maintain information in line with reporting, confidentiality and audit requirements 3.3 Receive, reconcile and register supplies according to established procedures 3.4 Monitor and control suppliers according to contractual supply documentation
4. Assist in finalising procurement activities	4.1 Assist in finalising procurement agreements 4.2 Assist in review of project outcomes using available records to determine effectiveness of procurement activities 4.3 Contribute to identifying lessons learned and possible improvements to procurement management

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 2.1, 2.4, 3.2, 3.3, 3.4, 4.2	• Applies appropriate strategies to construct meaning from a variety of texts
Writing	1.1, 1.3, 2.2, 2.3,	• Develops informative project documents using vocabulary and structure appropriate to audience,

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	2.5, 3.2, 3.3, 4.1, 4.2	context and purpose • Completes project documentation using required formats and structure
Oral Communication	1.1, 1.3, 2.2, 2.3, 2.5	• Participates verbal exchanges using clear language and appropriate non-verbal features to provide and seek information • Uses questioning and listening skills to check and confirm understanding
Numeracy	1.3, 2.5, 3.2, 3.3	• Uses basic mathematical formula to calculate whole numbers and decimals to ensure financial accounts match purchased items
Navigate the world of work	1.2, 2.4, 3.2-3.4	• Understands responsibilities and boundaries associated with own role • Adheres to organisational policies and procedures when planning and undertaking work
Interact with others	1.1, 1.3, 2.2, 2.3, 2.5	• Uses accepted communication practices and protocols to share or provide information • Collaborates with others to achieve project outcomes
Get the work done	1.2, 2.1, 3.1, 3.2, 3.4, 4.2, 4.3	• Plans, organises and implements tasks required to achieve outcomes according to organisational requirements • Reflects on outcomes to gain insights into future improvements

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBPMG416 Apply project procurement procedures	BSBPMG416A Apply project procurement procedures	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG416 Apply project procurement procedures

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- document procurement requirements for a workplace project, including clear descriptions of product and service, quality specifications, resource identification, supply and delivery requirements and supply and engagement metrics
- apply procurement-management procedures to a workplace project, including selection criteria, testing and accepting, monitoring and receiving supplies
- finalise procurement agreements.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify and describe procurement-management policy, processes and procedures
- explain the procurement documentation requirements
- describe the components of contractual documentation and the legal obligations of all parties
- explain the process used to select preferred contractors
- identify and describe project procurement-management tools and techniques.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- examples of project procurement documentation
- examples of procurement tasks and activities

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- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBPMG417 Apply project life cycle management processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to assist in implementing project life cycle management processes.

It applies to individuals who are project practitioners working in a project support role.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Assist in establishing project	1.1 Identify and clarify project initiation documentation where required 1.2 Establish relationship between the project and broader organisational strategies and goals 1.3 Assist in negotiating and documenting project objectives, outcomes and benefits 1.4 Assist in establishing the project governance structure 1.5 Assist in drafting a project charter for approval
2. Support project	2.1 Support breakdown of project objectives into achievable

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ELEMENT	PERFORMANCE CRITERIA
planning and design processes	project deliverables 2.2 Assist in identifying project stages, and key requirements for stage completion 2.3 Identify project milestones and map clearly against time and objectives 2.4 Assist in consolidating associated plans and baselines in project management plan 2.5 Support negotiation with relevant stakeholders and project authority to gain approval of project plan
3. Assist with project control and execution	3.1 Maintain and update records against project deliverables and plans at required intervals 3.2 Prepare status reports on project progress and identified issues 3.3 Assist with undertaking an impact analysis of proposed changes to the project 3.4 Maintain relevant project logs and registers accurately and regularly to assist with project audit 3.5 Update associated plans to reflect project progress against baselines and approved changes
4. Assist with project finalisation	4.1 Assist with project finalisation activities where required 4.2 Prepare project products and associated documentation for handover to client 4.3 Assist in completing financial, legal and contractual obligations where required 4.4 Contribute perspectives on project performance to assist with project review assessments

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1,1.2, 2.3, 2.4, 3.1, 3.2, 3.5, 4.3	• Recognises and interprets textual information from a range of sources and determines how content may be applied to organisational requirements

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Writing	1.1-1.5, 2.3, 2.4, 3.1-3.5, 4.1-4.4	• Uses clear, industry specific terminology, and appropriate structure, to complete and update, workplace documentation • Maintains records using required vocabulary and formats
Oral Communication	1.3-1.5, 2.2, 2.4, 2.5, 3.3, 4.1, 4.4	• Participates in verbal exchanges using clear language and appropriate non-verbal features to provide relevant information • Uses active listening and questioning to elicit views and opinions of others
Numeracy	2.3, 2.4, 4.3	• Interprets mathematical information to finalise financial obligations and measure work outputs against projections
Navigate the world of work	1.2, 2.5, 4.3	• Understands own responsibilities and considers implications of these when negotiating, planning and undertaking work • Adheres to organisational policies and procedures and legislative requirements
Interact with others	1.3-1.5, 2.2, 2.4, 2.5, 3.3, 4.1, 4.3, 4.4	• Recognises importance of taking audience, purpose and contextual factors into account when making decisions about what to communicate, with whom, why and how • Collaborates with others as part of familiar routine activities and contributes to specific activities
Get the work done	1.1, 2.1, 2.2, 2.3, 3.3, 3.4, 3.5, 4.1, 4.4	• Sequences and schedules required tasks, monitors implementation and manages relevant communication • Reflects on outcomes to identify opportunities for improvement

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBPMG417 Apply project life cycle management processes	BSBPMG417A Apply project life cycle management processes	Updated to meet Standards for Training Packages. Minor edits to clarify meaning of Performance Criteria.	Equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG417 Apply project life cycle management processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- work with others to plan and document a project based on organisational parameters
- complete and update all relevant documentation
- examine impact that project changes could have on final outcomes
- undertake project finalisation activities.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain basic project governance models
- describe project finalisation and evaluation products
- identify and describe project life cycle stages, phases and structures relevant to industry and project
- explain project planning documents and their specific formats relevant to industry and context
- outline key organisational policies and procedures
- describe various types of project initiation documentation
- identify types of project logs and registers in use in this context.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- project documentation, including information about life cycle processes

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- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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BSBPMG418 Apply project stakeholder engagement techniques

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to assist in managing stakeholder relationships during a project. It involves ensuring timely and appropriate involvement of key individuals, organisations and groups throughout the project.

It applies to individuals who are project practitioners working in a project support role.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Assist in identifying and addressing stakeholder interests	1.1 Assist in identifying stakeholders relevant to project objectives 1.2 Segment stakeholder interests and assist in determining forms of engagement 1.3 Consider interests of stakeholders when advising on project operations 1.4 Support actions to address differing stakeholder interests where required
2. Actively participate in	2.1 Apply interpersonal skills to ensure stakeholder engagement is

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ELEMENT	PERFORMANCE CRITERIA
stakeholder engagement	effective 2.2 Conduct stakeholder engagement in line with agreed and defined project roles 2.3 Establish and clarify stakeholder behaviour expectations where required 2.4 Openly engage with stakeholder performance reviews 2.5 Recognise and address development needs and opportunities to support stakeholder engagement
3. Assist stakeholder communications	3.1 Assist in determining and documenting stakeholder communication needs 3.2 Assist in negotiating agreement on project communication method, and content and timing of stakeholder engagement 3.3 Support communication of information as planned within authority levels, identifying and addressing variances

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.2	• Recognises and interprets textual information to determine and adhere to objectives
Writing	1.2, 3.1	• Documents findings on communication needs using required formats and structure
Oral Communication	1.1-1.3, 2.1-2.4, 3.1-3.3	• Participates in verbal exchanges using clear and detailed language to provide relevant information • Uses active listening and questioning techniques to elicit views and opinions of others
Navigate the world of work	2.2, 3.3	• Understands how own role meshes with others and contributes to broader work goals
Interact with others	1.1-1.4, 2.1-2.5, 3.1-3.3	• Recognises importance of taking audience, purpose and contextual factors into account when making decisions about what to communicate, with whom, why and how • Collaborates with others as part of familiar routine

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		activities and contributes to specific activities • Uses interpersonal skills to build rapport, negotiate agreement and maintain positive working relationships
Get the work done	1.1, 1.2, 2.2, 2.5, 3.1, 3.3	• Uses analytical skills to identify stakeholders and determine their needs • Follows pre-determined plans to achieve required outcomes

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBPMG418 Apply project stakeholder engagement techniques	BSBPMG418A Apply project stakeholder engagement techniques	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG418 Apply project stakeholder engagement techniques

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- work with others to establish various stakeholders needs and interests
- engage with project stakeholders using effective interpersonal skills and appropriate methods of communication
- select and use communications methods relevant to the project needs and stakeholder expectations
- complete all relevant documentation.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe different types of stakeholders
- explain the different levels of stakeholder engagement on projects
- describe techniques and strategies for stakeholder engagement
- explain why the interests and expectations of stakeholders must be considered
- describe common problems leading to variances in stakeholder engagement.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- project documentation detailing stakeholder engagement
- examples of stakeholder engagement activities.

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Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBPMG517 Manage project risk

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to manage risks that may impact achievement of project objectives. It involves identifying, analysing, treating and monitoring project risks, and assessing risk management outcomes.

It applies to individuals responsible for managing and leading a project in an organisation, business, or as a consultant.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Identify project risks	1.1 Determine risk objectives and standards, with input from stakeholders 1.2 Establish project risk context to inform risk management processes 1.3 Identify project risks using valid and reliable risk identification methods 1.4. Classify project risks within agreed risk categories

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ELEMENT	PERFORMANCE CRITERIA
2. Analyse project risks	2.1 Determine risk analysis classification criteria and apply to agreed risk ranking system 2.2 Use risk analysis processes, within delegated authority, to analyse and qualify risks, threats and opportunities 2.3 Determine risk priorities in agreement with project client and other stakeholders 2.4 Document risk analysis outcomes for inclusion in risk register and risk management plan
3. Establish risk treatments and controls	3.1 Identify and document existing risk controls 3.2 Consider and determine risk treatment options using agreed consultative methods 3.3 Record and implement agreed risk treatments 3.4 Update risk plans and allocate risk responsibilities to project team members
4. Monitor and control project risks	4.1 Establish regular risk review processes to maintain currency of risk plans 4.2 Regularly monitor risk environment to identify changed circumstances impacting project risks 4.3 Determine risk responses to changed environment 4.4 Implement agreed risk responses and modify plans to maintain currency of risk treatments and controls
5. Assess risk management outcomes	5.1 Review project outcomes to determine effectiveness of risk-management processes and procedures 5.2 Identify and document risk management issues and recommended improvements for application to future projects

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1-1.4, 2.1, 2.2, 3.1, 3.2, 4.2, 5.1, 5.2	• Interprets and critically analyses complex texts from a range of sources and determines how content may be applied according to organisational requirements

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Writing	1.3, 1.4, 2.1, 2.4, 3.1, 3.3, 3.4, 4.1, 4.3, 4.4, 5.2	• Documents risks, risk analysis and risk controls using required formats and structure • Modifies and updates workplace documentation according to requirements
Oral Communication	1.1, 2.3, 3.4	• Participates in verbal exchanges using clear language to provide and seek information • Uses active listening and questioning techniques to confirm understanding
Numeracy	1.3, 2.1, 2.3	• Analyses numerical data to identify project risk levels and rank risks according to agreed system of classification
Navigate the world of work	1.1, 2.2	• Determines and adheres to organisational policies and standards • Considers own role in terms of its contribution to broader goals of work environment
Interact with others	1.1, 2.3, 3.4	• Selects and uses appropriate conventions and protocols when communicating with internal and external stakeholders to seek or share information • Actively identifies requirements of important communication exchanges, selecting appropriate channels, format and content to suit purpose and audience
Get the work done	1.1-1.4, 2.1, 3.2, 4.1, 4.4, 5.1	• Identifies and develops approaches to risk management and implements complex tasks to achieve outcomes • Analyses information to make decisions, involving others when appropriate • Uses formal and informal processes to monitor implementation of decisions and reflect on outcomes

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBPMG517 Manage project risk	BSBPMG517A Manage project risk	Updated to meet Standards for Training Packages	Equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG517 Manage project risk

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- conduct effective risk management for a project of sufficient complexity to demonstrate the full range of performance requirements
- apply risk management techniques, strategies and tools.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify project risks in a range of risk categories
- explain key components of a risk management plan
- outline industry sector risk classifications and relate these to different risk contexts
- summarise organisational and industry standard risk frameworks
- identify and describe characteristics, techniques and appropriate applications of quantitative and qualitative risk management techniques and approaches.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- workplace risk management documentation
- feedback from project stakeholders about how risks were managed.

Assessors must satisfy NVR/AQTF assessor requirements.

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Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBPMG518 Manage project procurement

Modification History

Release	Comments
Release 2	This version first released with BSB Business Services Training Package Version 1.2. Version created to correct missing elements
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to undertake procurement in projects.

It applies to individuals responsible for managing and leading a project in an organisation, business, or as a consultant.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Determine procurement requirements	1.1 Identify procurement requirements with input from stakeholders as basis for procurement planning 1.2 Establish and maintain, within delegated authority, agreed procurement management plan
2. Establish agreed	2.1 Obtain information from suppliers capable of fulfilling

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ELEMENT	PERFORMANCE CRITERIA
procurement processes	procurement requirements 2.2 Determine or adopt established selection processes and selection criteria, and communicate to vendors to ensure transparency 2.3 Obtain relevant approvals for procurement processes to be used
3. Conduct procurement activities	3.1. Identify and act according to ***probity and project governance constraints*** 3.2. Communicate agreed proposals and/or specifications to prospective vendors to ensure clarity of understanding of project objectives 3.3. Solicit vendor responses according to proposal requirements 3.4. Evaluate responses and select preferred vendors according to current legal requirements and agreed selection criteria 3.5. Negotiate with preferred contractor or supplier, to agree on terms and conditions of supply
4. Implement and monitor procurement	4.1. Implement established procurement management plan and make ***modifications*** in line with agreed delegations 4.2. Review progress and manage agreed variations to ensure timely completion of tasks and resolution of conflict within the legal framework of the supply agreement 4.3. Identify and report procurement management issues and implement agreed remedial actions to ensure project objectives are met
5. Manage procurement finalisation procedures	5.1. Conduct finalisation activities to ensure vendor deliverables meet contracted requirements 5.2. Review project outcomes using available procurement records and information to determine effectiveness of procurement processes and procedures 5.3. Document lessons learned and recommended improvements for application to future projects

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

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Skill	Performance Criteria	Description
Reading	1.1, 2.1, 3.1, 3.4, 4.1, 5.2	• Interprets, evaluates and critiques ideas and information from a range of complex texts
Writing	1.2, 2.2, 2.3, 3.2, 3.4, 4.1, 4.2, 4.3, 5.2, 5.3	• Develops plans using vocabulary, structure and conventions appropriate to text • Creates documents for internal and external use, using vocabulary and structure suitable for audience and context • Drafts requests for approvals using organisational formats
Oral Communication	1.1, 2.1, 2.2, 2.3, 3.2, 3.5, 4.2	• Participates in verbal exchanges using clear language to seek and provide information, or request approvals • Uses active listening and questioning techniques to confirm understanding
Numeracy	1.1, 4.2	• Recognises cost parameters and interprets numerical information accordingly • Calculates changes to timelines resulting from changes to plan
Navigate the world of work	1.2, 3.1, 3.4, 4.1	• Understands responsibilities and boundaries of own role
Interact with others	1.1, 2.1, 2.2, 2.3, 3.2, 3.3, 3.5, 4.2	• Selects and uses appropriate conventions and protocols when communicating with internal and external stakeholders to seek or share information • Uses interpersonal skills to negotiate acceptable outcomes
Get the work done	1.1,1.2, 2.1, 3.1, 3.3, 3.4, 4.1, 4.2, 4.3, 5.1, 5.2	• Plans and organises complex activities, monitors implementation and manages relevant communication • Resolves problems and makes decisions based on analysis of options against set criteria and targets

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
BSBPMG518 Manage project	BSBPMG518 Manage project	Updated to correct missing	Equivalent unit

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Code and title current version	Code and title previous version	Comments	Equivalence status
procurement Release 2	procurement Release 1	elements	

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG518 Manage project procurement

Modification History

Release	Comments
Release 2	This version first released with BSB Business Services Training Package Version 1.2. Version created to correct missing elements
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- work with others to determine procurement requirements and produce a procurement management plan for a project
- carry out procurement and contracting activities according to agreed processes
- monitor activities across a project's life cycle and resolve issues that could affect achievement of project objectives
- create and maintain procurement records and documentation according to requirements of project and organisation
- document a review of procurement management processes and procedures.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe the general features of a procurement management plan
- summarise procurement procedures and required documentation
- identify criteria that could be used to select vendors or suppliers
- explain the general conditions and legal obligations of contracts as they relate to project procurement
- explain probity and project governance constraints that relate to project procurement in a project and industry context.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- workplace documentation relevant to procurement and contracts
- case studies or, where possible, real situations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBPMG519 Manage project stakeholder engagement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to manage stakeholder relationships.

It applies to individuals responsible for managing and leading a project in an organisation, business, or as a consultant.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Identify and address stakeholder interests	1.1 Identify stakeholders relevant to project objectives 1.2 Segment stakeholder interests and determine forms of engagement 1.3 Consider interests of stakeholders when considering and advising on project management issues 1.4 Identify and implement actions to address differing interests where required
2. Manage effective stakeholder engagement	2.1 Support development of team members' interpersonal skills in effective stakeholder engagement

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ELEMENT	PERFORMANCE CRITERIA
	2.2 Distribute team work effectively to ensure defined project roles are followed 2.3 Identify and clarify stakeholder behavioural expectations, where required 2.4 Openly lead stakeholder performance reviews 2.5 Identify and address individual development needs and opportunities to support stakeholder engagement
3. Manage stakeholder communications	3.1 Determine and document stakeholder communication needs 3.2 Ensure relevant stakeholders agree to communication method, content and timing of engagement 3.3 Communicate information as planned and in line with authority levels, identifying and addressing variances

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.2	• Recognises and interprets workplace documentation to determine pertinent information
Writing	1.1, 1.2, 3.1, 3.3	• Documents information about stakeholder interests and communication needs using appropriate vocabulary and formats
Oral Communication	1.3, 2.1, 2.3, 2.4, 2.5, 3.2, 3.3	• Participates in verbal exchanges using clear and detailed language to provide and seek information • Uses active listening and questioning to confirm understanding
Navigate the world of work	3.3	• Understands and works according to role parameters
Interact with others	2.1-2.5, 3.2, 3.3	• Actively identifies requirements of important communication exchanges, selecting appropriate channels, format and content to suit purpose and audience • Collaborates with others to achieve joint outcomes, playing an active role in facilitating and leading activities

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Get the work done	1.1-1.4, 2.3, 3.1, 3.3	• Takes responsibility for decisions in complex situations involving multiple variables and constraints • Uses analytical skills to identify and address problems

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBPMG519 Manage project stakeholder engagement	BSBPMG519A Manage project stakeholder engagement	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG519 Manage project stakeholder engagement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- develop and implement stakeholder engagement for a project of sufficient complexity to demonstrate the full range of performance requirements
- implement a range of appropriate stakeholder communication mechanisms for a project
- demonstrate effective team leadership for project team and stakeholders.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify common problems leading to variances in stakeholder engagement
- explain and analyse interests and expectations of stakeholders
- describe levels and means of stakeholder engagement
- identify and explain stakeholder engagement theory and strategies
- describe types of project stakeholders.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- examples of project management documentation for stakeholder engagement
- records of project team leadership in stakeholder engagement activities
- case studies and, where possible, real situations.

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Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBPMG522 Undertake project work

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to undertake a straightforward project or a section of a larger project. It covers developing a project plan, administering and monitoring the project, finalising the project and reviewing the project to identify lessons learned for application to future projects.

This unit applies to individuals who play a significant role in ensuring a project meets timelines, quality standards, budgetary limits and other requirements set for the project.

The unit does not apply to specialist project managers. For specialist project managers, the other units of competency in the project management field (BSBPMG) will be applicable.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Define project	1.1 Access project scope and other relevant documentation 1.2 Define project stakeholders 1.3 Seek clarification from delegating authority of issues related to

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ELEMENT	PERFORMANCE CRITERIA
	project and project parameters 1.4 Identify limits of own responsibility and reporting requirements 1.5 Clarify relationship of project to other projects and to the organisation's objectives 1.6 Determine and access available resources to undertake project
2. Develop project plan	2.1 Develop project plan in line with the project parameters 2.2 Identify and access appropriate project management tools 2.3 Formulate risk management plan for project, including Work Health and Safety (WHS) 2.4 Develop and approve project budget 2.5 Consult team members and take their views into account in planning the project 2.6 Finalise project plan and gain necessary approvals to commence project according to documented plan
3. Administer and monitor project	3.1 Take action to ensure project team members are clear about their responsibilities and the project requirements 3.2 Provide support for project team members, especially with regard to specific needs, to ensure that the quality of the expected outcomes of the project and documented time lines are met 3.3 Establish and maintain required recordkeeping systems throughout the project 3.4 Implement and monitor plans for managing project finances, resources and quality 3.5 Complete and forward project reports as required to stakeholders 3.6 Undertake risk management as required to ensure project outcomes are met 3.7 Achieve project deliverables
4. Finalise project	4.1 Complete financial recordkeeping associated with project and check for accuracy 4.2 Ensure transition of staff involved in project to new roles or reassignment to previous roles 4.3 Complete project documentation and obtain necessary sign-offs for concluding project
5. Review project	5.1 Review project outcomes and processes against the project scope and plan

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ELEMENT	PERFORMANCE CRITERIA
	5.2 Involve team members in the project review 5.3 Document lessons learned from the project and report within the organisation

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 3.4, 3.5, 4.1, 4.3, 5.1	• Organises, evaluates and critiques ideas and information from a range of complex texts
Writing	2.1, 2.3, 2.6, 3.3, 3.5, 4.1, 4.3, 5.3	• Develops plans, reports and recommendations using vocabulary, structure and conventions appropriate to text • Establishes and maintains records according to organisational requirements
Numeracy	1.6, 2.4, 3.4, 4.1	• Uses formal and some informal, oral and written mathematical language and representation to prepare and communicate budgetary and financial information
Oral communication	2.5, 5.2	• Participates in verbal discussions using clear language and appropriate features to present or seek information • Using listening and questioning skills to seek information and confirm understanding
Navigate the world of work	1.3, 1.4, 2.3, 3.1, 4.3	• Recognises and responds to organisational and legislative/regulatory requirements
Interact with others	2.5, 3.1, 3.2, 4.2, 5.2	• Selects and uses appropriate communication protocols and practices to ensure shared understanding of project roles and expectations • Uses collaborative techniques to engage stakeholders in consultations and negotiations
Get the work done	1.2, 1.5, 1.6, 2.1, 2.2, 2.3, 2.6, 3.1-3.7, 4.1, 4.2, 4.3, 5.1, 5.3	• Develops and implements plans to manage projects that involve diverse stakeholders with potentially competing demands • Systematically gathers and analyses all relevant information and evaluates options to make informed decisions • Evaluates outcomes of decisions to identify

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		opportunities for improvement • Uses digital technologies and applications to access, organise and share information

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBPMG522 Undertake project work	BSBPMG522A Undertake project work	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG522 Undertake project work

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- define the parameters of the project including:
  - project scope
  - project stakeholders, including own responsibilities
  - relationship of project to organisational objectives and other projects
  - reporting requirements
  - resource requirements
- use project management tools to develop and implement a project plan including:
  - deliverables
  - work breakdown
  - budget and allocation of resources
  - timelines
  - risk management
  - recordkeeping and reporting
- consult and communicate with relevant stakeholders to generate input and engagement in planning, implementing and reviewing the project
- provide support to team members to enable them to achieve deliverables and to transition them as appropriate at completion of the project
- finalise the project including documentation, sign-offs and reporting
- review and document the project outcomes.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

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- give examples of project management tools and how they contribute to a project
- outline types of documents and other sources of information commonly used in defining the parameters of a project
- explain processes for identifying and managing risk in a project
- outline the organisation's mission, goals, objectives and operations and how the project relates to them
- explain the organisation's procedures and processes that are relevant to managing a project including:
  - lines of authority and approvals
  - quality assurance
  - human resources
  - budgets and finance
  - recordkeeping
  - reporting
- outline the legislative and regulatory context of the organisation in relation to project work, including work health and safety (WHS) requirements.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership – project management field of work and include access to:

- relevant legislation, regulations, standards and codes
- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBPMG609 Direct procurement and contracting for a project program

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to direct the management of contracting and procurement activities across projects and programs. It covers setting up the contracting process, directing management of contract and procurement processes, and finalising contracts for projects across the program.

It applies to individuals who are program managers, managing a suite of projects (a program).

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Direct planning for project contracting and procurement	1.1 Direct identification of product specifications and procurement requirements for procurement and contract planning, in consultation with appropriate stakeholders 1.2 Direct development of procurement strategies, methods and management plans in line with project objectives across the program
2. Direct set up of	2.1 Direct project managers to source organisations that meet

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ELEMENT	PERFORMANCE CRITERIA
contract and procurement process	procurement requirements 2.2 Establish selection processes and selection criteria, in consultation with stakeholders, and arrange for communication to prospective contractors 2.3 Ensure contract and procurement actions accord with organisation and program objectives
3. Direct management of contract and procurement process	3.1 Provide direction for identification of requirements of proposals and arrange communication to prospective contractors 3.2 Ensure responses are evaluated and preferred contractors are selected in accordance with agreed selection processes 3.3 Direct negotiation of contract terms and conditions between client and preferred contractor
4. Direct management of contracts	4.1 Direct management of contract and procurement activities in accordance with program contract and procurement management guidelines 4.2 Provide direction for regular reviews from available records and information, and ensure variances are analysed and changes for implementation agreed on 4.3 Ensure project managers work within legal and organisational framework for contracts 4.4 Identify potential, perceived and actual contractual conflicts and approve remedial actions to minimise disruption
5. Direct finalisation of contracts	5.1 Direct finalisation activities for management of contract deliverables in accordance with contractual project and program requirements 5.2 Direct review and analysis of project outcomes to determine effectiveness of contract and procurement processes and procedures 5.3 Aggregate and use lessons learnt for application in planning and implementation of later projects within the program and, where appropriate, pass on to organisational management for use in strategic planning

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

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Skill	Performance Criteria	Description
Reading	2.3, 4.1, 4.3, 5.2	• Identifies, interprets and analyses information from complex sources, including legislation
Writing	1.2, 2.2, 3.1, 3.2, 4.2, 4.4, 5.2, 5.3	• Develops and documents strategies and plans using organisational format and specific terminology • Documents outcomes according to organisational requirements
Oral Communication	1.1, 1.2, 2.1, 2.2, 3.3, 4.4, 5.2	• Provides direction and contributes to discussions using language and features appropriate to the audience
Numeracy	1.2, 4.1, 4.2, 5.2	• Interprets and evaluates mathematical information in a broad range of texts • Selects from, and flexibly applies, a range of mathematical and problem-solving strategies and techniques to compare and contrast effectiveness of processes
Navigate the world of work	2.3, 4.3	• Monitors adherence to organisational, legal and regulatory requirements
Interact with others	1.1, 1.2, 2.1, 2.2, 3.3, 4.4, 5.2	• Plays a lead role in situations requiring effective collaboration, demonstrating high-level influencing skills and ability to direct others • Uses negotiation skills to set up contracts, to agree prices and terms, and to resolve disputes
Get the work done	1.1, 2.1-2.3, 3.2, 4.1, 4.2, 5.1, 5.2	• Develops flexible plans for complex, high-impact activities with strategic implications, involving a diverse range of stakeholders with potentially competing demands • Uses analytical processes to decide on a course of action, establishing criteria for deciding between options, and seeking input and advice from others before taking action, when necessary • Monitors outcomes of decisions, considering results from a range of perspectives, and identifying key concepts and principles that may be adaptable to future situations

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Unit Mapping Information

Code and title **current version**	**Code and title** **previous version**	**Comments**	**Equivalence status**
BSBPMG609 Direct procurement and contracting for a project program	BSBPMG609A Direct procurement and contracting for a project program	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBPMG609 Direct procurement and contracting for a project program

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- direct planning for project contracting and procurement, including:
  - directing identification of product specifications and procurement requirements
  - directing development of procurement strategies, methods and management plans
- direct set up of contract and procurement process, including:
  - directing project managers to source suitable organisations
  - establishing selection processes and selection criteria
  - ensuring contract and procurement actions accord with objectives
- direct management of contract and procurement process, including:
  - providing direction for identifying and arranging communication of proposal requirements
  - ensuring responses are evaluated and preferred contractors selected
  - directing negotiation of contract terms and conditions
- direct management of contracts, including:
  - directing management of contract and procurement
  - providing direction for regular reviews
  - ensuring project managers work within legal and organisational framework
  - identifying and approving remedial actions for potential, perceived and actual contractual conflicts
- direct finalisation of contracts, including:
  - directing finalisation activities for management of contract deliverables
  - directing review and analysis of project outcomes
  - aggregating and using lessons learnt.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

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Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain contract management and legal obligations of both parties
- describe procurement processes and options.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the Management and Leadership – Project Management field of work and include access to:

- workplace contractual and procurement documentation
- feedback from project team and stakeholders as to how procurement and contractual processes were handled.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBRSK401 Identify risk and apply risk management processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to identify risks and to apply established risk management processes to a defined area of operations that are within the responsibilities and obligations of the role.

It applies to individuals with a broad knowledge of risk analysis or project management who contribute well developed skills in creating solutions to unpredictable problems through analysis and evaluation of information from a variety of sources. They may have responsibility to provide guidance or to delegate aspects of these tasks to others.

In this unit, risks applicable within own work responsibilities and area of operation, may include projects being undertaken individually or by a team, or operations within a section of the organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Regulation, Licensing and Risk – Risk Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Identify risks	1.1 Identify the context for risk management 1.2 Identify risks using tools, ensuring all reasonable steps have

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ELEMENT	PERFORMANCE CRITERIA
	been taken to identify all risks 1.3 Document identified risks in accordance with relevant policies, procedures, legislation and standards
2. Analyse and evaluate risks	2.1 Analyse and document risks in consultation with relevant stakeholders 2.2 Undertake risk categorisation and determine level of risk 2.3 Document analysis processes and outcomes
3. Treat risks	3.1 Determine appropriate control measures for risks and assess for strengths and weaknesses 3.2 Identify control measures for all risks 3.3 Refer risks relevant to whole of organisation or having an impact beyond own work responsibilities and area of operation to others as per established policies and procedures 3.4 Choose and implement control measures for own area of operation and/or responsibilities 3.5 Prepare and implement treatment plans
4. Monitor and review effectiveness of risk treatment/s	4.1 Regularly review implemented treatment/s against measures of success 4.2 Use review results to improve the treatment of risks 4.3 Provide assistance to auditing risk in own area of operation 4.4 Monitor and review management of risk in own area of operation

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.2	• Comprehends documents and texts of varying complexity to extract and analyse relevant information
Writing	1.3, 2.1, 2.3, 3.5	• Uses specific, industry related terminology and logical organisational structure in workplace documents that identify and analyse risk and report management process outcomes

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Oral communication	2.1	• Participates effectively in interactions with stakeholders by using questioning and listening to elicit opinions and clarify understanding
Numeracy	1.2, 4.1	• Uses numerical tools to assess risk and uses numerical data to review plans
Navigate the world of work	1.1, 1.3, 3.3	• Complies with organisational and legislative requirements • Takes responsibility for identification and management of risk within own work context and refers matters to others as required
Interact with others	2.1	• Selects appropriate communication protocols and conventions when conferring with others to establish risk management requirements
Get the work done	1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4	• Determines job sequence and works logically and systematically to undertake defined tasks • Uses analysis and consultative processes to inform decisions about selection and implementation of risk control measures • Evaluates effectiveness of plans and results to inform improvement decisions • Uses familiar digital technologies and systems to access information, prepare plans and communicate with others

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBRSK401 Identify risk and apply risk management processes	BSBRSK401A Identify risk and apply risk management processes	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBRSK401 Identify risk and apply risk management processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to apply organisational policies, procedures and processes to:

- identify risks
- consult with relevant stakeholders to analyse and evaluate risks
- identify and evaluate control measures
- develop and implement treatment plans for own area or responsibility
- refer risks that are beyond own area of responsibility to others
- maintain risk management documentation.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline techniques for identifying and evaluating risks
- outline organisational policies, procedures or processes for risk management
- give examples of areas where risks are commonly identified in an organisation
- outline the purpose and key elements of current risk management standards
- outline the legislative and regulatory context of the organisation in relation to risk management
- describe the organisation's auditing requirements relating to risk management.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the regulation, licensing and risk - risk management field of work and include access to:

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- relevant legislation, regulations, standards and codes
- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBWHS409 Assist with workplace monitoring processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to assist with monitoring a range of physical agents and conditions relevant to work health and safety (WHS).

It applies to individuals working in a broad range of WHS roles across all industries who assist with using a range of measuring devices to collect, interpret, evaluate and report on workplace information and data in relation to physical agents and conditions.

It does not extend to hazard identification, risk assessment or developing control measures based on the outcomes of monitoring, which are covered in BSBWHS404 Contribute to WHS hazard identification, risk assessment and risk control.

NOTE: The terms 'occupational health and safety' (OHS) and 'work health and safety' (WHS) are equivalent and generally either can be used in the workplace. In jurisdictions where the Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the	*Performance criteria describe the performance needed to*

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ELEMENT	PERFORMANCE CRITERIA
essential outcomes.	*demonstrate achievement of the element.*
1 Assist with selecting measuring devices	1.1 Assist with identifying regulatory requirements and standards that apply to monitoring 1.2 Identify agent and/or condition to be measured through consultation with relevant individuals and parties 1.3 Identify characteristics of agent and/or condition 1.4 Determine the area where measurements are to be taken 1.5 Assist with identifying types of appropriate measuring equipment 1.6 Assist with the selection of measuring equipment according to the agent and/or condition, the environment, the activities being carried out and the level of risk to self 1.7 Recognise limits of own expertise and available equipment and seek expert advice and equipment as required
2 Assist with preparations to collect workplace information and data	2.1 Determine a sampling process 2.2 Consult with and advise those involved in workplace activities to collect information and data about the requirements, nature and purpose of the monitoring 2.3 Assist with defining a sampling plan after inspecting area and consulting with workers and affected parties about the nature of the problem 2.4 Assist with checking the operability of equipment
3 Assist with collecting workplace information and data	3.1 Assist with selecting and calibrating monitoring equipment, and selecting appropriate scale 3.2 Assist with tests 3.3 Assist with correct use and maintenance of equipment to collect information and data 3.4 Ensure own health and safety while collecting information and data, and record readings using expert support and advice as required 3.5 Assist with dismantling and cleaning equipment and parts, or dispose of appropriately 3.6 Assist with correctly storing equipment or making it ready for re-use as required
4 Assist with documenting and evaluating results of	4.1 Assist with interpreting and evaluating results against a recognised standard and documenting results

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ELEMENT	PERFORMANCE CRITERIA
monitoring	4.2 Assist with preparing reports on the monitoring process, including any regulatory requirements, and consider purposes of report and the target audiences 4.3 Assist with presenting required information and data clearly and logically 4.4 Assist with retaining results and records in a format that enables them to be readily retrieved according to regulatory requirements and standards

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.3	• Interprets and analyses complex legal organisational and technical texts relevant to monitoring
Writing	1.2, 4.2, 4.3, 4.4	• Uses appropriate structure, layout and language for reporting and recording information about WHS monitoring
Oral communication	1.2, 1.7, 2.2, 2.3, 3.4	• Uses structure and language suitable for audience to present or seek information about monitoring
Numeracy	3.1, 3.2, 3.3, 4.1, 4.3	• Selects and flexibly uses a range of tools, hand-held devices, computers and technological processes to perform calculations • Collects, represents, summarises and interprets a range of statistical data appropriately • Uses a range of informal and formal oral and written mathematical language and symbols to communicate mathematically
Navigate the world of work	1.1, 4.1, 4.2	• Takes responsibility for adherence to legal and regulatory responsibilities in relation to WHS role and responsibilities • Keeps up to date on changes to WHS legislation or regulations
Interact with others	1.1,1.2, 1.7, 2.2, 2.3, 3.2, 3.3, 3.4, 3.5, 3.6, 4.2, 4.3, 4.4	• Understands what to communicate, with whom and how in context of WHS monitoring • Cooperates with others as part of WHS monitoring

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		processes, and contributes to specific activities requiring joint responsibility and accountability • Collaborates with others to achieve individual and team outcomes • Offers assistance and shares information and resources voluntarily
Get the work done	1.4, 1.5, 1.6, 1.7, 2.1, 2.3, 2.4, 3.1, 4.1, 4.2, 4.3, 4.4	• With assistance, determines priorities and sequences the steps in clearly defined tasks and identifies and assembles the resources required in relation to planning for WHS monitoring • Uses formal decision making processes, setting or clarifying goals, gathering information and identifying and evaluating choices against a set of criteria • Uses familiar digital systems and tools to access, organise, analyse and display information relevant to role • Manages and maintains files securely in appropriate storage media and formats to enable retrieval according to regulations and standards

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBWHS409 Assist with workplace monitoring processes	BSBWHS409A Assist with workplace monitoring processes	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBWHS409 Assist with workplace monitoring processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to assist with processes for monitoring physical agents and/or conditions including:

- identifying regulatory requirements and standards that apply to monitoring of physical agents and/or conditions relevant to work health and safety (WHS)
- identifying the context of measurements to be undertaken including:
  - which physical agents and/or conditions will be measured and their characteristics
  - where the measurements will be taken
  - area or space available
  - movements of people and equipment, tasks or activities being undertaken, number of persons occupying area and other factors that may impact on the sampling or data-collection processes
  - physical features of equipment, such as emitting sources
- preparing for and collecting workplace WHS data and information including:
  - selecting and calibrating appropriate equipment and selecting appropriate scale
  - defining a sampling process and plan
  - performing tests
  - correct preparation, use, maintenance, cleaning storage and if required disposal of equipment
- consultation and communication with individuals and parties about the requirements, purpose and nature of the monitoring
- interpreting and evaluating results of monitoring including calculations using appropriate units of measurement, logarithmic scales, decimals and order of magnitude relevant to making and interpreting measurements and measurement error
- preparing and presenting clear and logical reports that are appropriate to purpose of report and the target audience
- keeping records that meet regulatory requirements
- seek expert advice, support and equipment as required.
- ensure own safety during monitoring process.

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Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- list typical physical agents and/or conditions relevant to WHS including:
  - biological agents, such as insects, mites and bacteria
  - electricity
  - fibres, dusts and particulates
  - fumes, mists, gases and vapours
  - heat and humidity
  - light
  - noise
  - radiation, including ionising, non-ionising and laser
  - vibration
- outline aspects of WHS Acts, regulations, codes of practice and standards that are relevant to measuring physical agents and/or conditions and how they apply to the organisation
- explain the mode of action of common physical, biological and chemical agents on the body and how they produce discomfort or harm
- list the characteristics, mode of action and units of measurement for major hazard types
- describe environmental conditions that impact on measurements
- explain types of measuring and monitoring equipment and techniques for correct and safe use including limitations on use and output, calibration, adjustment, maintenance and any in-built alarms.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced by individuals carrying out work health and safety duties in the workplace and include access to:

- measuring devices and equipment
- office equipment and resources
- relevant Acts, regulations, codes of practice, licensing requirements, standards
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

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Links

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BSBWHS608 Assist with applying occupational hygiene to manage WHS risks

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to assist with the application of occupational hygiene principles, knowledge and techniques to manage work health and safety (WHS) risks.

It includes understanding how occupational hygiene contributes to WHS management, the appropriate application of occupational hygiene knowledge, skills and techniques and working with occupational hygienists and other specialists.

This unit applies to individuals who assist with applying occupational hygiene to manage WHS risks. Individuals who are required to assist with the monitoring of a range of physical agents and/or conditions in the workplace should use BSBWHS409 Assist with workplace monitoring processes.

NOTE: The terms 'occupational health and safety' (OHS) and 'work health and safety' (WHS) are equivalent and generally either can be used in the workplace. In jurisdictions where the Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1 Identify WHS hazards and risks to be addressed by occupational hygiene	1.1 Use workplace WHS information to identify WHS hazards and risks 1.2 Apply knowledge of occupational hygiene principles, knowledge, skills and techniques to identify workplace WHS hazards and risks to be addressed by occupational hygiene 1.3 Identify situations where WHS specialists and other advisers may be required
2 Assist with the assessment of identified risks	2.1 Assist with determining sources of exposure to identified hazards and risks 2.2 Assist with selecting occupational hygiene equipment and techniques for assessing identified risks 2.3 Assist with using occupational hygiene equipment and applying techniques 2.4 Assist with analysing and interpreting results of assessments, including the use of exposure standards 2.5 Assist with reporting the results of assessments, interpretations and recommendations to individuals and parties 2.6 Assist with ensuring reporting is understandable and that format, form and content meet the needs of individuals and parties
3 Assist with the design and implementation of risk controls	3.1 Apply the hierarchy of control when assisting with the design of risk-control strategies 3.2 Assist with identifying problems with existing risk controls and providing remedial advice 3.3 Assist with developing, selecting and implementing risk controls and ensuring effective consultation with, and participation of, individuals and parties 3.4 Access external sources of information and data, WHS specialists and other advisers as required, about the nature and level of health hazards, risks and risk controls
4 Assist with monitoring, evaluating and modifying risk controls	4.1 Assist with monitoring and evaluating risk controls in consultation with individuals and parties 4.2 Assist with modifying risk controls in consultation with individuals and parties

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ELEMENT	PERFORMANCE CRITERIA
	4.3 Identify and document training needs associated with risk controls and arrange training in consultation with individuals and parties 4.4 Assist with making recommendations about future risk controls as a result of evaluation and monitoring
5 Ensure occupational hygiene activities are appropriate	5.1 Ensure occupational hygiene activities comply with all applicable WHS legislation, regulations and codes of practice 5.2 Ensure occupational hygiene activities comply with relevant organisational and workplace procedures, processes, standards and systems 5.3 Apply appropriate occupational hygiene principles, knowledge, skills and techniques according to available resources and own role, responsibilities, skills and knowledge 5.4 Seek advice, support and input from WHS specialists and other advisers where necessary and appropriate

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.2, 2.1, 2.4, 2.5, 2.6, 3.4, 4.4, 5.1, 5.2	• Identifies, interprets and analyses complex legislative and organisational texts relevant to occupational hygiene activities
Writing	2.5, 2.6, 4.4	• Reports on assessments and recommendations about occupational hygiene, matching style of writing to purpose and audience • Drafts and develops required documents using appropriate vocabulary, grammatical structure and organisational conventions
Oral communication	3.3, 4.1, 4.2, 4.3, 5.4	• Presents information or ideas using language appropriate to the audience • Uses questioning and active listening to seek information and confirm understanding
Numeracy	2.3, 2.4, 2.5	• Uses equipment to take measurements • Selects from, and applies, a range of mathematical

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		strategies to interpret and analyse measurements • Uses formal and informal oral and written mathematical language and representation to communicate test results
Navigate the world of work	5.1, 5.2, 5.3	• Understands own responsibilities regarding occupational hygiene activities in WHS compliance contexts • Keeps up to date on changes to legislation or regulations relevant to own rights and responsibilities and considers implications of these when negotiating, planning and undertaking work • Understands the nature and purpose of own role and associated responsibilities, and how it contributes to the work of others in occupational hygiene contexts
Interact with others	2.5, 2.6, 3.3, 3.4, 4.1, 4.2, 4.3, 5.4	• Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction, influencing direction and taking a leadership role on occasion, in the context of consultation • Selects and uses appropriate conventions and protocols to build and cultivate relationships with external people who can provide specialist support
Get the work done	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.3	• Uses logical planning processes, and an increasingly intuitive understanding of context, in identifying and managing risks to be addressed by occupational hygiene • Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information, and identifying and evaluating options against agreed criteria, seeking input and advice from others before taking action, when necessary • Recognises the potential of new approaches to enhance work practices and outcomes in relation to application of occupational hygiene risk controls • Uses digital systems and tools to access, record, organise, analyse and display information

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBWHS608 Assist	BSBWHS608A Assist	Updated to meet	Equivalent unit

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Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
with applying occupational hygiene to manage WHS risks	with applying occupational hygiene to manage WHS hazards and risks	Standards for Training Packages Minor edits to clarify title and performance criteria	

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBWHS608 Assist with applying occupational hygiene to manage WHS risks

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- identify work health and safety (WHS) hazards and risks to be addressed by occupational hygiene through:
  - using workplace WHS information
  - using knowledge of occupational hygiene principles, knowledge, skills and techniques
  - identifying situations requiring specialists
- assist with the assessment of identified WHS hazards and risks including:
  - determining sources of exposure
  - identifying and using occupational hygiene equipment and techniques
  - analysing and interpreting results of assessments
  - reporting results, interpretations and recommendations
- assist with the design and implementation of risk controls including:
  - applying the hierarchy of control
  - identifying and advising on remediating problems with existing controls
  - ensuring participation and consultation
  - accessing external sources of information and specialist advice
- assist with monitoring, evaluating and modifying risk controls including:
  - consulting others
  - addressing related training needs
  - making recommendations about future risk controls
- ensure occupational hygiene activities are legislatively and organisationally compliant and appropriate:
  - according to resources, role and capabilities
  - seeking specialist advice as needed.

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Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain common controls for a range of hazards and associated risks, their effectiveness and their limitations
- describe how occupational hygienists work with WHS personnel, individuals and parties in the workplace to control WHS risks
- outline organisational and workplace WHS policies, procedures, processes and systems
- explain key concepts and processes including:
  - occupational hygiene assessments and investigations
  - characteristics of WHS hazards and risks addressed by occupational hygiene, their effects on people and how these effects occur
  - exposure standards, and other standards and guidelines used in occupational hygiene, including their limitations and practical applications
  - how recommendations for occupational hygiene risk controls are developed, implemented and evaluated
  - nature and scope of risk controls, including the hierarchy of control in relation to occupational hygiene
  - occupational hygiene principles, knowledge, skills, techniques and methodologies
  - roles and functions of occupational medicine physicians, other medical doctors and toxicologists
  - sources and routes of exposure of hazards and risks addressed by occupational hygiene
  - training, education, roles, functions and skills of occupational hygienists
  - types, purposes, functions and use of occupational hygiene equipment
  - summarise the requirements for individual training and instruction in the fitting, use, maintenance and storage of a range of personal protective equipment (PPE)
- summarise the requirements for selection and limitations of use of PPE
- define risk management as a duty of persons conducting businesses or undertakings (PCBUs) or officers under WHS legislation
- identify sources of occupational disease and their prevention
- outline WHS Acts, regulations and codes of practice with particular relevance to occupational hygiene
- outline workplace processes, activities, jobs and tasks relevant to occupational hygiene.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced by individuals carrying out work health and safety duties in the workplace and include access to:

- relevant legislation, standards and guidelines

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- occupational hygiene equipment that meets relevant standards for function and performance
- relevant workplace policies and procedures
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBWOR502 Lead and manage team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to lead teams in the workplace and to actively engage with the management of the organisation.

It applies to individuals working at a managerial level who facilitate work teams and build a positive culture within their work teams. At this level, work will normally be carried out using complex and diverse methods and procedures requiring the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Industry Capability – Workplace Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Establish team performance plan	1.1 Consult team members to establish a common understanding of team purpose, roles, responsibilities and accountabilities in accordance with organisational goals, plans and objectives 1.2 Develop performance plans to establish expected outcomes, outputs, key performance indicators (KPIs) and goals for work team 1.3 Support team members in meeting expected performance

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ELEMENT	PERFORMANCE CRITERIA
	outcomes
2. Develop and facilitate team cohesion	2.1 Develop strategies to ensure team members have input into planning, decision making and operational aspects of work team 2.2 Develop policies and procedures to ensure team members take responsibility for own work and assist others to undertake required roles and responsibilities 2.3 Provide feedback to team members to encourage, value and reward individual and team efforts and contributions 2.4 Develop processes to ensure that issues, concerns and problems identified by team members are recognised and addressed
3. Facilitate teamwork	3.1 Encourage team members and individuals to participate in and to take responsibility for team activities, including communication processes 3.2 Support the team in identifying and resolving work performance problems 3.3 Ensure own contribution to work team serves as a role model for others and enhances the organisation's image for all stakeholders
4. Liaise with stakeholders	4.1 Establish and maintain open communication processes with all stakeholders 4.2 Communicate information from line manager/management to the team 4.3 Communicate unresolved issues, concerns and problems raised by team members and follow-up with line manager/management and other relevant stakeholders 4.4 Evaluate and take necessary corrective action regarding unresolved issues, concerns and problems raised by internal or external stakeholders

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description

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Reading	1.1, 4.4	• Analyses and interprets textual information from the organisation's policies, goals and objectives to establish team goals or to determine corrective action
Writing	1.2, 2.1, 2.2, 2.4, 4.2, 4.3, 4.4	• Prepares written reports and workplace documentation that communicate complex information clearly and effectively
Oral Communication	1.1, 2.3, 3.1, 4.1, 4.2, 4.3	• Engages in discussions or provides information using appropriate vocabulary and non-verbal features • Uses listening and questioning techniques to confirm understanding and to engage the audience
Navigate the world of work	1.1, 2.1, 2.2, 3.3	• Understands how own role contributes to broader organisational goals • Modifies or develops policies and procedures to achieve organisational goals
Interact with others	1.1, 1.3, 2.2, 2.3, 3.1, 3.2, 4.2, 4.3	• Selects and uses appropriate conventions and protocols when communicating with diverse stakeholders • Uses interpersonal skills to gain trust and confidence of team and provides feedback to others in forms that they can understand and use • Adapts personal communication style to build positive working relationships and to show respect for the opinions, values and particular needs of others • Plays a lead role in situations requiring effective collaboration, demonstrating high level conflict resolution skills and ability to engage and motivate others
Get the work done	1.2, 2.1, 2.2, 2.4, 3.2, 4.1, 4.3, 4.4	• Develops, implements and monitors plans and processes to ensure team effectiveness • Monitors and actively supports processes and development activities to ensure the team is focused on work outcomes • Plans for unexpected outcomes and implements creative responses to overcome challenges

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBWOR502 Lead and manage team effectiveness	BSBWOR502B Ensure team effectiveness	Updated to meet Standards for Training Packages	Equivalent unit

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Code and title current version	Code and title previous version	Comments	Equivalence status
		Title change	

Links

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Assessment Requirements for BSBWOR502 Lead and manage team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- use leadership techniques and strategies to facilitate team cohesion and work outcomes including:
  - encouraging and fostering shared understanding of purpose, roles and responsibilities
  - identifying and resolving problems
  - providing feedback to encourage, value and reward others
  - modelling desired behaviour and practices
- develop policies and procedures to ensure team members take responsibility for own work and assist others to undertake required roles and responsibilities
- establish processes to address issues and resolve performance issues
- support team to meet expected performance outcomes including providing formal and informal learning opportunities as needed
- develop performance plans with key performance indicators (KPIs), outputs and goals for individuals or the team which incorporate input from stakeholders
- communicate effectively with a range of stakeholders about team performance plans and team performance
- facilitate two-way flow of information between team and management relevant to team performance
- evaluate and take necessary corrective action regarding unresolved issues, concerns and problems raised by internal or external stakeholders.

Note: if a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain how group dynamics can support or hinder team performance

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- outline strategies that can support team cohesion, participation and performance
- explain strategies for gaining consensus
- explain issue resolution strategies.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the industry capability - workplace effectiveness field of work and include access to:

- workplace documents
- case studies and, where possible, real situations
- office equipment and resources
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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CPPWMT4001A Plan waste audits

Modification History

Revised unit

Unit updated and equivalent to PRMWM01B Plan waste audit

Unit Descriptor

This unit of competency specifies the outcomes required to plan and organise the audit of a client's waste characteristics. It requires the ability to interpret and follow assignment instructions and liaise effectively with clients.

Application of the Unit

This unit of competency supports individuals with supervisory responsibilities for implementing and monitoring the organisation's waste audit policies, procedures and programs in a work area. It includes contributing to the development and implementation of developed strategies, systems and plans, as well as recognising the need for expert advice.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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Elements and Performance Criteria

1	Determine audit objectives.	1.1	***Client*** is consulted to determine ***waste audit purpose and requirements***.
		1.2	Waste audit objectives are reviewed to ensure that they are realistic and achievable.
		1.3	Waste audit objectives are documented and confirmed with client.
2	Scope waste audit site.	2.1	***Information relating to site and client operations*** is obtained from relevant personnel to determine ***audit methodology***.
		2.2	Waste generation ***site*** is assessed to determine ***waste characteristics***, and disposal and recovery routes.
		2.3	***Potential hazards and risks*** of waste generation site are reported to designated personnel.
3	Conduct audit planning.	3.1	Audit is planned in order to obtain valid and representative data of waste activity in a manner that causes minimal disruption to the client.
		3.2	***Client requirements***, ***personnel requirements***, sampling requirements and ***equipment requirements*** necessary to audit methodology are determined.
		3.3	Date, time and duration of audit are incorporated into audit plan.
		3.4	Details relating to access to site and specific site requirements are incorporated into audit plan.
		3.5	***Emergency and personal protective equipment*** to ensure effective, safe and efficient audit operations are identified and obtained.
		3.6	Full support and written authorisation to proceed with waste audit are obtained from client according to organisational requirements, legislation and safety procedures.

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		3.7	***Guidelines on use of waste management survey*** and client confidentiality arrangements are identified, confirmed and followed according to client and organisational requirements and legislation and codes.
4	Record audit plan.	4.1	Details of audit plan are recorded.
		4.2	***Waste site purpose*** and other documentation is completed and processed according to assignment instructions.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
  - identify hazards and risks
  - identify waste types and waste non-conformances
- interpersonal skills to consult with clients
- reading skills to interpret:
  - maps
  - plans
  - documents
  - work requirements and material safety data sheets (MSDS)
- self-management skills to:
  - conduct work practices safely and efficiently
  - apply accuracy and attention to detail
  - apply decision making
  - organise work methodically
  - source, organise and apply information
  - use recording equipment
  - use photographic equipment
  - use personal protective equipment (PPE)
  - use applicable information technology
  - use communications equipment (two-way radio, mobile phone)
- oral communication skills to:

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    - request advice or further information
    - listen actively
    - consult
    - follow instructions
- written communication skills to:
    - write reports
    - document waste audit objectives
    - develop surveys

Required knowledge

- environmental management relating to:
    - waste types, streams and characteristics
    - resource recovery options
- occupational health and safety (OHS) requirements relating to:
    - OHS hierarchy of control
    - potential hazards and risks in a waste management environment
- identification of:
    - waste non-conformances
    - unanticipated waste
    - waste non-conformance procedures
    - waste containment
    - waste disposal and recovery routes
- waste audit planning, including:
    - analysing waste practices
    - outlining possible benefits and outcomes from conducting a waste audit
    - incorporating standard audit requirements and procedures
    - incorporating nature and significance of waste minimisation hierarchy
    - incorporating types of client waste management surveys and their uses
    - using most effective auditing methods to meet client needs
    - conducting site scoping
    - estimating resource needs
    - identifying hazards and risks safely and efficiently
- waste audit processes, including:
    - visual assessment procedures
    - available reprocessing options
    - material densities
    - sampling and recording techniques
    - nature and significance of waste minimisation hierarchy
    - potential hazards and risks
- service requirements for waste audits, including:

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- duty of care
- legislation, regulations and codes of practice applicable to specific waste management functions
- organisational pricing schedules
- organisational requirements and structure, including workplace communication channels and procedures
- waste management hierarchy
- waste management options

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	This unit of competency could be assessed by discussion, relaying how to plan a waste audit.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of the required skills and knowledge specified in this unit. In particular the person should demonstrate the ability to: • determine a variety of audit objectives • consult effectively with client to obtain information and support for audit strategy • thoroughly scope waste audit site • observe OHS requirements.
Context of and specific resources for assessment	Assessment of essential underpinning knowledge may be conducted in an off-site context. It is to comply with relevant regulatory or Australian standards' requirements. Resource implications for assessment include: • work plans and approved specifications • forms and procedures manuals.
Method of assessment	The process of planning waste audits must meet the objectives of the client and comply with industry expectations in the particular client environment. If the environment is narrowly defined or is not representative of industry needs, it may be necessary to refer to portfolio case studies to assess competency in audit of waste plans. Assessment methods must: • satisfy the endorsed Assessment Guidelines of the Property

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	Services Training Package • include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application • reinforce the integration of employability skills with workplace tasks and job roles • confirm that competency is verified and able to be transferred to other circumstances and environments.
Guidance information for assessment	Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support. Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed. This unit could be assessed on its own or in combination with other units relevant to the job function, for example: • CPPWMT4002A Carry out waste audits • CPPWMT4003A Review, evaluate and document waste assessment findings.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Client includes:	• all forms of business enterprises in this context, including:
	  • government agencies
	  • internal customers
	  • local governments and councils
	  • private and public companies
	  • residents and ratepayers.

Waste audit purpose and requirements may include:	• address environmental concerns • develop waste management plan • identify recyclable waste • identify waste management policy • identify waste streams

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	• minimise waste • obtain valid and representative data • recover resources • reduce costs • review process • review implementation of waste management plan.
Information relating to site and client operations must include:	• access to site and specific site requirements • location of waste containers • maps of plant or site • processing methods • production dates and schedules • production inputs and outputs • site size • storage and disposal methods • waste handling • waste hazards • waste outputs • waste recovery routes • waste streams.
Audit methodology includes:	• audit scope • client waste management survey • determining sort categories • eliminating other variables • isolating waste streams • method of recording information • sample required.
Site may include:	• business premises • landfill site • local government area • plant or factory • waste processing plant.
Waste characteristics may include:	• density • level of contamination • quality • shape • size • volume • weight.
Potential hazards and risks are those identified by the organisation that	• damage to plant, vehicle or property • harm to the environment • illness or injury to employees, contractors or the public

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may lead to:	• injuries resulting from manual handling and repetitive work.
Hazards and risks may include:	• broken glass • broken metal • compaction equipment • contamination • dust • fire • gases and fumes • hazardous waste (e.g. sharps) • narrow driveways • other vehicles and equipment • overhanging signs • projectiles • spark-producing equipment • unguarded conveyor belts • weather.
Client requirements are found in:	• briefing papers • letters from client • quality assurance documents • tender or contract documents • verbal or written instructions.
Personnel requirements may include:	• licences required • skills of personnel • training or briefing • services of experts where advanced sampling or testing is required.
Equipment requirements include:	• absorbent material • bunding equipment • camera • collection containers • lifting gear • measurement equipment • PPE • reference manuals • safety barriers and warning signs • sample bench • scales.
Emergency and personal protective equipment must include:	• communications equipment • eye protection, such as goggles and protective glasses • eyewash kit • fire extinguishers

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	• first aid kit • footwear • gloves • overalls and protective clothing.
Emergency and personal protective equipment could also include:	• breathing apparatus • emergency procedure guides • face shields or masks • hard hats • hearing protection • MSDS • spill kit.
Personal protective equipment must be:	• cleaned and fitted according to organisational requirements, manufacturer specifications and OHS requirements • worn when required according to organisational requirements • stored according to organisational requirements.
Guidelines on use of waste management survey may include:	• develop survey questions according to waste audit objectives • ensure survey questions are able to be completed within time allowed by client • obtain client authorisation for survey according to organisational requirements • write clear survey instructions and questions for target group.
Waste management survey **methodology** could include:	• checklist • focus group • questionnaire • survey.
Waste site purpose **includes:**	• contamination • dangerous and hazardous wastes • disposal methods • production of waste • recycling • re-use • waste generation • waste streams • waste types.

Unit Sector(s)

Waste management

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Custom Content Section

Not applicable.

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CPPWMT4002A Carry out waste audits

Modification History

Revised unit

Unit updated and equivalent to PRMWM02B Carry out waste audit

Unit Descriptor

This unit of competency specifies the outcomes required to audit a client's waste characteristics. It requires the ability to follow assignment instructions, liaise with clients, and effectively identify and assess their waste practices and issues that impact on their organisational operations.

Application of the Unit

This unit of competency supports individuals with responsibilities for implementing and monitoring the organisation's waste audit policies, procedures and programs in a work area. It includes contributing to the implementation of developed strategies, systems and plans, as well as recognising the need for expert advice.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of

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performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Prepare for waste audit.	1.1	***Audit plan*** is reviewed to determine job requirements.
		1.2	***Equipment required*** to conduct audit is obtained.
		1.3	***Details relating to access to site and site requirements*** are identified and followed according to job requirements.
		1.4	Audit ***site*** is assessed for hazards and personnel specified in audit plan are advised of audit requirements.
		1.5	Audit site is set up to ensure safe and accurate data collection according to audit plan, site requirements and relevant legislation.
		1.6	***Emergency and personal protective equipment*** (PPE) is pre-checked for operability.
		1.7	***PPE*** is used according to job requirements, ***manufacturer specifications***, ***organisational requirements***, occupational health and safety (OHS) regulations and other legislation and codes.
		1.8	***Potential job requirement hazards and risks*** are identified and managed according to organisational requirements, and OHS and other legislation and codes.
2	Conduct waste audit.	2.1	Waste audit is conducted according to audit plan, OHS regulations and other legislation and codes.
		2.2	Waste stream is isolated to allow accurate audit according to waste audit plan requirements.
		2.3	Waste is identified, sorted, measured and recorded to ensure validity of data collection.
		2.4	Unanticipated waste is identified and included in data collection.
		2.5	At completion of audit, waste is removed, equipment packed and site restored to previous condition according

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			to audit plan and organisational requirements.
		2.6	***Audit material*** is collected and used to complete audit report.
3	Record waste audit findings.	3.1	Audit data is compiled and provided to ***relevant personnel***.
		3.2	Waste ***audit activity details*** are recorded according to audit plan and organisational requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
  - identify hazards and risks safely and efficiently
  - identify waste types and waste non-conformances
  - interpret audit plan
  - source, organise and apply information
  - use recording equipment
  - use photographic equipment
  - use PPE
- interpersonal skills to work in a team environment in a range of waste management activities
- oral communication skills to:
  - request advice or further information
  - listen, liaise and consult
  - follow instructions
- reading skills to interpret:
  - maps
  - plans
  - documents
  - work requirements and material safety data sheets (MSDS)
- self-management skills to:
  - conduct work practices safely and efficiently
  - apply accuracy and attention to detail

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    - apply decision making
    - comply with OHS standards
    - organise work methodically
    - use applicable information technology
- written communication skills to:
    - write reports
    - develop documentation
    - develop surveys

Required knowledge

- environmental management relating to:
    - waste types, streams and characteristics
    - resource recovery options
- OHS requirements relating to:
    - OHS hierarchy of control
    - potential hazards and risks in a waste management environment
- identification of:
    - waste non-conformances
    - unanticipated waste
    - waste non-conformance procedures
    - waste containment
    - waste disposal and recovery routes
- waste audit processes, including:
    - interpreting waste audit plans
    - understanding benefits and outcomes from conducting a waste audit
    - visual assessment procedures
    - available reprocessing options
    - material densities
    - sampling and recording techniques
    - nature and significance of waste minimisation hierarchy
    - potential hazards and risks
- service requirements for waste audits, including:
    - duty of care in provision of service
    - legislation, regulations and codes of practice applicable to specific waste management functions
    - organisational pricing schedules
    - organisational requirements and structure, including workplace communication channels and procedures
    - waste management hierarchy
    - waste management options

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Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	This unit of competency could be assessed by observation of practical demonstration in the workplace or in a simulated environment of carrying out a waste audit.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of the required skills and knowledge specified in this unit. In particular the person should demonstrate the ability to: • identify, sort, measure and record waste • identify unanticipated waste • conduct an accurate and valid waste audit • observe OHS requirements.
Context of and specific resources for assessment	Assessment of essential underpinning knowledge may be conducted in an off-site context. It is to comply with relevant regulatory or Australian standards' requirements. Resource implications for assessment include: • client audit requirements for workplace portfolio case studies, if required • work plans and approved specifications • results of sampling • forms and procedures manuals • surveys and reports.
Method of assessment	The process of carrying out a waste audit must meet the objectives of the client and comply with industry expectations in the particular client environment. If the environment is narrowly defined or is not representative of industry needs, it may be necessary to refer to portfolio case studies to assess competency in audit of waste. Assessment methods must: • satisfy the endorsed Assessment Guidelines of the Property Services Training Package • include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application

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	• reinforce the integration of employability skills with workplace tasks and job roles • confirm that competency is verified and able to be transferred to other circumstances and environments.
Guidance information for assessment	Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support. Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed. This unit could be assessed on its own or in combination with other units relevant to the job function, for example: • CPPWMT4001A Plan waste audits • CPPWMT4003A Review, evaluate and document waste assessment findings.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Audit plan may include:	• collection of photographic evidence • measurement and recording requirements • OHS requirements • personnel and equipment requirements, including PPE • sample requirements • site contacts • site requirements.
Equipment required may include:	• absorbent material • bunding equipment • camera • collection containers • lifting gear • measurement equipment • PPE • reference manuals • safety barriers and warning signs

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	• sample bench • scales.
Details relating to access to site and site requirements include:	• access and egress points • OHS requirements and noise control • PPE • security clearances • time of access • union requirements • work permits.
Site may include:	• business premises • landfill site • local government area • plant • factory • waste processing plant.
Emergency and personal protective equipment must include:	• communications equipment • eye protection, such as goggles and protective glasses • eyewash kit • fire extinguishers • first aid kit • footwear • gloves • overalls and protective clothing.
Emergency and personal protective equipment could also include:	• breathing apparatus • emergency procedure guides • face shields or masks • hard hats • hearing protection • MSDS • spill kit.
Personal protective equipment must be:	• cleaned and fitted according to organisational requirements, manufacturer specifications and OHS requirements • worn when required according to organisational requirements • stored according to organisational requirements.
Manufacturer specifications are found in:	• equipment specifications • operator manuals.
Organisational requirements may include information found in:	• briefing papers • job sheets • letters • memos

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	• operations manuals • policy and procedures documents • quality assurance documents • site development plans • tender and contract documents • training materials • verbal or written instructions • work procedures.
Potential job requirement hazards and risks include:	• contamination • dust • fire • gases and fumes • hazardous waste (e.g. sharps) • inadequately contained waste • injuries resulting from manual handling and repetitive work • other vehicles and equipment • projectiles • spark-producing equipment • weather.
Audit material may include:	• samples • waste management survey responses • work documents.
Relevant personnel may include:	• client • householder • management • waste generator's personnel.
Audit activity details should include:	• accidents and injuries • date • equipment used • location • results and findings • time • waste disposal.

Unit Sector(s)

Waste management

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Custom Content Section

Not applicable.

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CUAPHI302 Capture photographic images

Modification History

Release	Comments
Release 1	This version first released with CUA Creative Arts and Culture Training Package version 2.0.

Application

This unit describes the skills and knowledge required to use a standard digital stills camera using a range of techniques.

It applies to individuals who are planning a career in photo imaging, or in contexts where photography may not be the primary job role or main focus of work activity.

At this level, work would be undertaken independently, but within established parameters and under supervision and guidance.

No licensing, legislative or certification conditions apply to this unit at the time of publication.

Unit Sector

Visual communication – photo imaging

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare to capture digital images	1.1 Discuss photographic project with relevant people and select appropriate camera and accessories 1.2 Assess digital camera features to ensure that outcomes meet project requirements 1.3 Plan shots for project taking into account digital camera features,

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ELEMENT	PERFORMANCE CRITERIA
	lighting, photographic design elements and photographic techniques
2. Preview and experiment with image capture	2.1 Operate digital camera according to manufacturer specifications 2.2 Set digital camera preferences and use photographic techniques to achieve desired results 2.3 Adjust planned shots as required and experiment with different ways of achieving desired results
3. Review images	3.1 Adopt safe ergonomic practices when using screens and keyboards for extended periods of time 3.2 Download digital images or scan developed film images using appropriate digital imaging software where appropriate 3.3 Rotate, cull, sort and rename images to meet requirements 3.4 Apply metadata and key words to images as required 3.5 Back up files of images and archive as required 3.6 Seek feedback from others on quality of original captures and note areas for improvement
4. Enhance images	4.1 Use digital imaging software to manipulate original captures images 4.2 Evaluate enhanced images and confirm with relevant people that project requirements have been achieved 4.3 Seek feedback from others on quality of enhanced images and note areas for improvement
5. Finalise image capture process	5.1 Catalogue, extracting and embedding metadata as required 5.2 Complete workflow documentation as required 5.3 Clean and store equipment and accessories according to workplace procedures

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	2.1, 2.2	• Interprets straightforward information from relevant

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		sources to operate equipment correctly
Writing	3.3, 3.4, 5.1, 5.2	• Uses clear, specific and industry-related terminology and key words to record file identification information and complete related process documentation
Oral Communication	1.1, 3.6, 4.2, 4.3	• Participates in discussions with others using clear and relevant language to determine requirements • Uses listening and questioning techniques to request feedback and confirm understanding
Navigate the world of work	3.1, 5.3	• Observes workplace safety practices when performing tasks • Follows correct procedures for equipment cleaning and storage
Interact with others	1.1, 3.6, 4.2, 4.3	• Follows accepted communication practices and procedures to discuss work progress, and seeks and accepts feedback
Get the work done	1.1-1.3, 2.3, 3.2, 3.3, 3.5, 4.1, 5.3	• Plans and organises routine tasks with familiar goals and outcomes in a methodical sequence • Analyses photo imaging project to identify the camera features and functions required to achieve desired outcomes • Uses digital tools to capture, identify and store digital images • Makes technical and aesthetic decisions about image enhancement to meet project requirements with input from others

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
CUAPHI302 Capture photographic images	CUVPHI302A Capture photographic images	Updated to meet Standards for Training Packages. Minor edits to performance criteria.	Equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5

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Assessment Requirements for CUAPHI302 Capture photographic images

Modification History

Release	Comments
Release 1	This version first released with CUA Creative Arts and Culture Training Package version 2.0.

Performance Evidence

Evidence of the ability to:

- use a stills digital camera to capture photo images that meet specific requirements
- use digital software to enhance images to meet the quality and look required by the projects
- store images and equipment according to workplace requirements.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline basic techniques that are used to plan shots
- identify features of standard digital cameras and explain how these impact on a camera's photographic capability
- summarise elements and principles of design for photo images
- describe how light constrains and lighting enhances photographic image capture
- describe pixel count (megapixels) and how this relates to the resolution and output size of the final image
- describe how metadata is used to categorise photographic images
- outline cleaning techniques for cameras and accessories
- identify work health and safety requirements when using screens and keyboards for extended periods of time.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in creative arts industry environments. The assessment environment must include access to:

- digital stills camera and accessories to allow downloading of images
- digital imaging software
- manuals to support software.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational educational and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5

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HLTAID003 Provide first aid

Modification History

Release	Comments
Release 6	Updated: • assessor requirements statement • foundation skills lead in statement • licensing statement • modification history to reflect 2012 standards Equivalent outcome.
Release 5	Updated mapping information. Changes to assessment requirements. Equivalent outcome.
Release 4	Updated mapping information. Equivalent outcome.
Release 3	Updated mapping information.
Release 2	Minor corrections to formatting to improve readability. Equivalent competency outcome.
Release 1	This version was released in *HLT Health Training Package release 1.0* and meets the requirements of the 2012 Standards for Training Packages. Significant changes to elements and performance criteria, changes to scope of unit. New evidence requirements for assessment. Removal of prerequisite unit.

Application

This unit describes the skills and knowledge required to provide a first aid response to a casualty. The unit applies to all workers who may be required to provide a first aid response in a range of situations, including community and workplace settings.

Specific licensing /regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements define the essential outcomes.	*Performance criteria specify the level of performance needed to demonstrate achievement of the element.*
1. Respond to an emergency situation	1.1 Recognise an emergency situation 1.2 Identify, assess and manage immediate hazards to health and safety of self and others 1.3 Assess the casualty and recognise the need for first aid response 1.4 Assess the situation and seek assistance from emergency response services
2. Apply appropriate first aid procedures	2.1 Perform cardiopulmonary resuscitation (CPR) in accordance with Australian Resuscitation Council (ARC) guidelines 2.2 Provide first aid in accordance with established first aid principles 2.3 Display respectful behaviour towards casualty 2.4 Obtain consent from casualty where possible 2.5 Use available resources and equipment to make the casualty as comfortable as possible 2.6 Operate first aid equipment according to manufacturer's instructions 2.7 Monitor the casualty's condition and respond in accordance with first aid principles
3. Communicate details of the incident	3.1 Accurately convey incident details to emergency response services 3.2 Report details of incident to workplace supervisor as appropriate 3.3 Maintain confidentiality of records and information in line with statutory and/or organisational policies

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ELEMENT	PERFORMANCE CRITERIA
Elements define the essential outcomes.	*Performance criteria specify the level of performance needed to demonstrate achievement of the element.*
4. Evaluate the incident and own performance	4.1 Recognise the possible psychological impacts on self and other rescuers involved in critical incidents 4.2 Participate in debriefing to address individual needs

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705

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Assessment Requirements for HLTAID003 Provide first aid

Modification History

Release	Comments
Release 6	Updated: • assessor requirements statement • foundation skills lead in statement • licensing statement • modification history to reflect 2012 standards Equivalent outcome.
Release 5	Updated mapping information. Changes to assessment requirements. Equivalent outcome.
Release 4	Updated mapping information. Equivalent outcome.
Release 3	Updated mapping information.
Release 2	Minor corrections to formatting to improve readability. Equivalent competency outcome.
Release 1	This version was released in *HLT Health Training Package release 1.0* and meets the requirements of the 2012 Standards for Training Packages. Significant changes to elements and performance criteria, changes to scope of unit. New evidence requirements for assessment. Removal of prerequisite unit.

Performance Evidence

e candidate must show evidence of the ability to complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the job role.

There must be evidence that the candidate has completed the following tasks in line with state/territory regulations, first aid codes of practice, Australian Resuscitation Council (ARC) guidelines and workplace procedures:

- Followed DRSABCD in line with ARC guidelines, including:

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  - performed at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
  - performed at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
  - responded appropriately in the event of regurgitation or vomiting
  - managed the unconscious breathing casualty
  - followed single rescue procedure, including the demonstration of a rotation of operators with minimal interruptions to compressions
  - followed the prompts of an Automated External Defibrillator (AED)
- Responded to at least two simulated first aid scenarios contextualised to the candidate's workplace/community setting, including:
  - conducted a visual and verbal assessment of the casualty
  - demonstrated safe manual handling techniques
  - post-incident debrief and evaluation
  - provided an accurate verbal or written report of the incident
- Applied first aid procedures for the following:
  - allergic reaction
  - anaphylaxis
  - bleeding control
  - choking and airway obstruction
  - envenomation, using pressure immobilisation
  - fractures, sprains and strains, using arm slings, roller bandages or other appropriate immobilisation techniques
  - respiratory distress, including asthma
  - shock

Knowledge Evidence

The candidate must be able to demonstrate essential knowledge required to effectively complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the work role. This includes knowledge of:

- State/Territory regulations, first aid codes of practice and workplace procedures including:
  - ARC Guidelines relevant to provision of CPR and first aid
  - safe work practices to minimise risks and potential hazards
  - infection control principles and procedures, including use of standard precautions
  - requirements for currency of skill and knowledge
- legal, workplace and community considerations including:
  - awareness of potential need for stress-management techniques and available support following an emergency situation
  - duty of care requirements

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  - respectful behaviour towards a casualty
  - own skills and limitations
  - consent
  - privacy and confidentiality requirements
  - importance of debriefing
- considerations when providing first aid including:
  - airway obstruction due to body position
  - appropriate duration and cessation of CPR
  - appropriate use of an AED
  - chain of survival
  - standard precautions
  - how to conduct a visual and verbal assessment of the casualty
- principles and procedures for first aid management of the following scenarios:
  - abdominal injuries
  - allergic reaction
  - anaphylaxis
  - basic care of a wound
  - bleeding control
  - burns
  - cardiac conditions, including chest pain
  - choking and airway obstruction
  - crush injuries
  - diabetes
  - dislocations
  - drowning
  - envenomation
  - environmental impact, including hypothermia, hyperthermia, dehydration and heat stroke
  - eye and ear injuries
  - fractures
  - febrile convulsions
  - head, neck and spinal injuries
  - minor skin injuries
  - needle stick injuries
  - poisoning and toxic substances
  - respiratory distress, including asthma
  - seizures, including epilepsy
  - shock
  - soft tissue injuries, including strains and, sprains
  - stroke

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  - unconsciousness
- basic anatomy and physiology relating to:
  - how to recognise a person is not breathing normally
  - chest
  - response/consciousness
  - upper airway and effect of positional change
  - considerations in provision of first aid for specified conditions

Assessment Conditions

Skills must be demonstrated working individually in an environment that provides realistic in-depth, industry-validated scenarios and simulations to assess candidates' skills and knowledge.

Assessment resources must include:

- adult and infant resuscitation manikins in line with ARC Guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device
- AED training device
- placebo bronchodilator and spacer device
- roller bandages
- triangular bandages
- workplace First Aid kit
- workplace injury, trauma and/or illness record, or other appropriate workplace incident report form for written reports
- wound dressings

Simulated assessment environments must simulate the real-life working environment where these skills and knowledge would be performed, with all the relevant equipment and resources of that working environment.

Assessor requirements

Assessors must satisfy the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705

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LGAPLEM506A Improve community knowledge and skills in environmental management practices

Modification History

LGAPLEM506A Release 2: Layout adjusted.

LGAPLEM506A Release 1: Primary release.

Unit Descriptor

This unit covers identifying, implementing and reviewing methods for improving community knowledge and skills in environmental management practices.

Application of the Unit

This unit supports the attainment of skills and knowledge required for competent workplace performance in councils of all sizes. Knowledge of the legislation and regulations within which councils must operate is essential. The unique nature of councils, as a tier of government directed by elected members and reflecting the needs of local communities, must be appropriately reflected.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 **Identify the demographic composition of the community, and of interest groups and organisations in the community**	1.1 Demographic ***data on community*** is gathered and collated. 1.2 Community interest groups and organisations are identified. 1.3 Data is analysed to identify the composition and characteristics of the local community.
2 **Identify community need for information, skills and opportunities for involvement in environmental management practices**	2.1 Relevant information to assist ***community knowledge , skills*** and opportunities for community involvement in environmental management is identified, researched and collated. 2.2 Links with community interest groups, organisations and the broader community are established to identify information, skills and opportunities. 2.3 Community needs and opportunities for community involvement are established. 2.4 Gaps between expectations and current environmental management practices in the community are identified. 2.5 The need for modification or improvement of existing environmental practices in the community is identified. 2.6 New areas that require the implementation of environmental management practices in the community are identified.
3 **Identify and assess the effectiveness of methods for creating and raising community awareness of environmental management practices**	3.1 Data on the effectiveness of various methods is gathered and analysed in the context of known community data and environmental management targets. 3.2 ***Criteria*** for determining the range and effectiveness of methods are determined, based on known information. 3.3 Criteria are applied to known methods in order to determine relative effectiveness. 3.4 Specialist knowledge and skills are applied to determine the most suitable methods in the community.
4 **Implement appropriate methods to improve community awareness, skills and involvement in community environmental management**	4.1 Financial resources are identified within budget cycles to support the achievement of required outcomes. 4.2 Personnel are identified, trained and assigned to tasks so that strategy requirements for skills and knowledge are met. 4.3 Physical facilities and equipment are identified and procured within budget cycles. 4.4 Prioritised methods are implemented appropriately by identified staff. 4.5 Improvement in community awareness of environmental

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ELEMENT	PERFORMANCE CRITERIA
practices	issues is achieved in accordance with local policy, procedures and relevant legislative requirements.
5 **Monitor and review levels of community awareness**	5.1 Regular data is collected and analysed to provide accurate measures of performance. 5.2 Comparisons are made with required outcomes to assess effectiveness. 5.3 Recommendations are made for changes to methods and systems. 5.4 Changes to methods and systems are made to ensure outcomes are achieved. 5.5 Information obtained during monitoring and review is used to develop new methods and systems that are based on accumulated knowledge and experience.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit

Required Skills

- collecting and analysing quantitative and qualitative data
- community consultation
- community education
- presenting information to diverse individuals or groups
- programming activities
- program planning, implementation and review
- budgeting
- evaluating

Required Knowledge

- environmental issues
- community needs and expectations
- council structure, services, policies and procedures
- training requirements and networks
- community development strategies
- native title

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Evidence Guide

Overview of assessment requirements

A person who demonstrates competency in this unit will be able to perform the outcomes described in the Elements to the required performance level detailed in the Performance Criteria. The knowledge and skill requirements described in the Range Statement must also be demonstrated. For example, knowledge of the legislative framework and safe work practices that underpin the performance of the unit are also required to be demonstrated.

Critical aspects of evidence to be considered

A range of relevant environmental management practices are identified and documented.

Community consultation is carried out and documented.

Resources are identified within budget cycle.

Topics are prioritised relevant to community expectations, identified outcomes and resource constraints.

A variety of methods to improve community knowledge, skills and opportunities for involvement is activated.

Monitoring and review process is carried out and results are documented.

Context of assessment

On the job or in a simulated work environment.

Method of assessment

The following assessment methods are suggested:

- observation of the learner performing a range of workplace tasks over sufficient time to demonstrate handling of a range of contingencies
- written and/or oral questioning to assess knowledge and understanding
- completion of workplace documentation
- third-party reports from experienced practitioners
- completion of self-paced learning materials including personal reflection and feedback from trainer, coach or supervisor

Evidence required for demonstration of consistent performance

Evidence will need to be gathered over time across a range of variables.

Resource implications

Access to relevant data sets including:

- Australian Bureau of Statistics
- community profiles
- real or simulated community consultation processes such as workshops

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- forums
- participation in community events

Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Data on community may include:

- Australian Bureau of Statistics data
- community profiles
- information gathered from community groups and organisations

Community knowledge may include:

- methods of information distribution
- methods for suggesting improvements in systems
- local authority environmental management policies and practices
- other organisation's environmental management policies and practices
- community education techniques
- networks
- environmental management expertise

Community skills may include:

- composting
- mulching
- worm farming
- waste sorting
- community education
- action learning
- media skills
- building materials
- energy efficiency (e.g. solar and water)
- vegetation
- handling and disposing of toxins

Criteria may include:

- the range of education and marketing methods used
- consistency of involvement
- level and quality of training provided
- level and quality of involvement from each section of the community
- funding and resources required to support the involvement
- quality and level of benefit derived from involvement
- goals for involvement

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- available resources and funds

Unit Sector(s)

Planning

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MEM13002B Undertake occupational health and safety activities in the workplace

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers applying principles of Occupational Health and Safety (OHS) in the workplace and undertaking a safety risk assessment for the employee's area of responsibility.

Application of the Unit

Application of the unit	This unit applies to employees requiring additional OHS competencies beyond those inherent in their job. **Band**: **A** **Unit Weight**: **3**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply principles of OHS in a workplace	1.1. Basic OHS principles of hazard identification, risk assessment and control are described. 1.2. Understanding of OHS legislation as it is applied in the workplace is demonstrated.
2. Carry out safety audit	2.1. Regular safety audits in the area of responsibility are carried out in accordance with appropriate OHS standards.
3. Identify health and safety improvements	3.1. OHS issues and suggestions for improvements are made to OHS Representatives and Committees as appropriate. 3.2. On the basis of safety audits or as required, hazards are identified and recommendations for their control are made. 3.3. Contributions to safety improvements are made using standard operating procedures. 3.4. OHS training needs are identified.
4. Follow requirements of enterprise OHS program	4.1. Requirements of the OHS program are satisfied within the area of responsibility. This includes for example, accident investigation and emergency procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- performing safety audits
- making safety improvements
- initiating OHS training
- meeting requirements of the OHS program and procedures in the individual's area(s) of responsibility
- reading and interpreting audit and safety-related documentation
- following audit and OHS procedures
- entering information onto audit reports and other relevant documents
- communicating effectively about OHS activities with workplace personnel

Required knowledge

Look for evidence that confirms knowledge of:

- principles of hazard identification, assessment and control as applied to the workplace
- procedures for hazard identification, assessment and control
- application of OHS legislation in the workplace
- procedures for conducting safety audits
- safety standards applicable to the individual's area(s) of responsibility
- the frequency at which safety audits should be conducted
- procedures for implementing OHS improvements
- the means of rectifying given or identified hazards
- reasons for selecting the chosen means of rectifying the hazard
- the authority to whom recommended OHS improvements are to be reported
- procedures for making safety improvements
- requirement for OHS training in the individual's area(s) of responsibility
- objectives of OHS training
- procedures for initiating OHS training
- accident investigation procedures
- emergency OHS procedures
- the role of the individual in carrying out accident investigations and emergency procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to undertake OHS activities in the workplace.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with undertaking occupational health and safety activities in the workplace or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

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EVIDENCE GUIDE	
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Risk assessment	Risk assessment is a process that involves:
	• analysing the risk to identify influencing factors and the range of potential consequences
	• assessing:
	  • the effectiveness of existing controls
	  • the likelihood of each consequence considering exposure and hazard level
	• and combining these in some way to obtain a level of risk

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Co-requisite units		

Competency field

Competency field	Occupational health and safety

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MEM30016A Assist in the analysis of a supply chain

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assisting in the analysis of value adding and non value adding activities within the supply chain.

Application of the Unit

Application of the unit	The unit applies to all fields of engineering and manufacture. The skills defined by this unit would normally be exercised under supervision. **Band**: **0** **Unit Weight**: **0**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assist in mapping the supply stream for a nominated product/process	1.1. All organisations in the supply stream are identified. 1.2. All relevant steps in own organisation are identified.
2. Assist in assessing the value added at each step	2.1. Value added and contributed by each supplier organisation is identified. 2.2. Value added by each internal step is identified. 2.3. Activities which do not add value to customer benefit/features are identified. 2.4. External/internal supply chain members are liaised with to identify methods to reduce non value adding activities. 2.5. Information is collated and assessed. 2.6. Suggestions for improvements are recorded and submitted for approval.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • communicating • planning • assessing • problem solving • analysing • prioritising • reading and interpreting • recording
Required knowledge
Look for evidence that confirms knowledge of: • purpose of supply chain analysis • methods of supply chain analysis • types of waste, non value adding activities and methods of reducing them • process used to make own product • processes employed by other members of the supply chain sufficient to have meaningful dialogue with them • safe work practices

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to assist in the analysis of a supply chain.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency

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EVIDENCE GUIDE	
	in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with assisting in the analysis of a supply chain, or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work

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RANGE STATEMENT	
situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Supply stream	Encompasses the entire supply system, beginning with the raw materials, processing and all tiers of the supply chain
Value added	Is measured against its contribution to the customer benefits/features and is determined in accordance with company definitions
Non value adding activities	Includes excess production and early production, delays, movement and transport, poor process design, inventory, inefficient performance of a process and making defective items

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Engineering technician

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MSFFDT4003 Assess and record the lifecycle of a product

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers assessing and recording the design and production of a product from its raw source to its completion and life as a product in accordance with design elements and principles in an industry workplace or design studio environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Furniture design and technology

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Assess raw sources of material	1.1	Applicable work health and safety (WHS), legislative and organisational requirements relevant to recording the lifecycle of a product are verified and complied with
		1.2	Design brief is reviewed, confirmed and clarified with appropriate personnel
		1.3	Communication with others is established and maintained in accordance with WHS requirements
		1.4	Most suitable materials to fulfil the brief are assessed to meet the requirements
		1.5	Materials are assessed from their source taking account of where they derived from and their processing

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			techniques
		1.6	Materials are assessed for their ecological and environmental impact
		1.7	Materials are assessed for their availability and supply
		1.8	Information on raw materials is recorded for future use
2	Assess the design process	2.1	Problem or underlying factors being addressed by the design brief are verified and documented
		2.2	User needs and desires are assessed and documented
		2.3	Elements of design are assessed for the intended outcome and documented
		2.4	Principles of design are assessed for the intended outcome and documented
		2.5	Requirements of the brief are prioritised and assessed for conflicts
		2.6	Activities to be undertaken to complete concepts, sketches, drawings and models are documented and prioritised
		2.7	Final documentation outlining the full analysis of the design brief is compiled and produced as a report
3	Assess the production process	3.1	Production timeline is assessed
		3.2	Supply of raw materials for production is analysed
		3.3	Available personnel with suitable skills are assessed for proficiency to complete production
		3.4	Manufacturing process is assessed for equipment and assembly methods
		3.5	Component production is mapped
		3.6	Finishing requirements are assessed
		3.7	Final completion of product is assessed and quality checking arrangements put in place
		3.8	Action plan for production is completed
4	Assess the product	4.1	Packaging and despatch procedures are assessed and

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life		verified
	4.2	Destination of the final product is verified and documented
	4.3	Use of the product is assessed and potential life of the product estimated
	4.4	Product lifecycle process is reviewed using all of the assessed data

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit context includes:

- WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent
- work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements
- work requires individuals to demonstrate conceptual and analytical ability, discretion, judgement and problem solving
- customers or suppliers may be internal or external

Design brief includes:

- the aims, objectives and milestones for the design project
- organisational or personal profiles
- target audience
- budget

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	• timeline • consultation requirements • colour requirements • image requirements • function
Appropriate personnel include:	• trainers • supervisors • suppliers • clients • colleagues • managers
Materials include:	• timber (native and imported) • man-made timber products • plastic • metal • alloys • stones • glass • textiles • fibreglass • foam • cardboard • paper products • any other manipulable substance
Sources include:	• origin of the raw material, including type and location wood was derived from, how and where it was processed, impact growth and available seasoning lead time • mining source of metal or alloys and how these were processed • formulas for the composition of plastics • origin of textiles and how these were milled
Ecological and environmental impact include:	• how the use of raw materials effect the ecology and environment and how its continued use will affect the area it has been sourced from • what impact will be felt by reducing or stopping material from the source
Documentation includes:	• working notes • hand written records • typed and computer generated information • reports
Elements of design include:	• line • shape

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Principles of design include:	• form (geometric or organic) • texture • colour • function • balance • proportion (symmetry and asymmetry) • harmony • contrast • pattern • movement • rhythm • unity • style • focus • scale • dominant • sub-dominant • subordinate relationship • emphasis • proximity • alignment • space • anthropometry • ergonomics • arrangement • workload materials handling capacity • skills available • equipment capabilities • aesthetic relations • tension • development methods
Concepts include:	• ideas generated to respond to the design brief through both ideation drawings or sketching and written explanation
Sketches include:	• hand drawn images • ideation drawings completed freehand
Working drawings include:	• drafted technical drawings or drawings produced on computer using computer-aided design (CAD) software packages that contain project specifications
Models include:	• any three-dimensional (3-D) product which is made to full size or replicated through maquette, produced without normal manufacturing techniques, mainly to provide for the analysis of proportion, balance and aesthetic value

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Manufacturing processes include:	• methods by which the product will be produced with steps that entail working from drawings and specifications, producing components utilising machine operations, assembly of the components and finishing techniques
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• work procedures/instructions • manufacturer specifications and instructions • standard forms of workplace process and procedures • organisation work specifications and requirements • legislation, regulations and codes of practice • quality and Australian Standards and procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFDT4003A Assess and record the lifecycle of a product

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFDT4003 Assess and record the lifecycle of a product

Modification History

Release 1 - New unit of competency

Performance Evidence

- Collect, organise and understand information related to furnishing work instructions and work orders and safety procedures
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
- Record the lifecycle of a product from its raw source to its end use, work through the design process assessing the requirements and recording the intended outcomes
- Apply design elements and principles to a product lifecycle and produce a report on the analysis
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Lead others and work effectively to improve production quality and outcomes
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Use workplace technology related to the coordination, including communication equipment, time and management aids and other measuring devices
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity and encourage participation of employees in the planning of work activities and changes

Knowledge Evidence

- State or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for assessing and recording furniture details
- Organisational and site standards, requirements, policies and procedures for assessing and recording furniture details
- Environmental protection requirements
- Established communication channels and protocols

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- Relevant problem identification and resolution
- Elements and principles of design
- Ergonomics and aesthetic values
- Characteristics of furnishing materials, products and defects
- Design and related computer programs
- Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement

Assessment Conditions

- Assessors must:
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
  - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
  - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to materials, equipment and specifications relevant to recording the lifecycle of a product.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFT4007 Sample, inspect and test products to specifications

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers taking product samples, identifying and applying authorised testing procedures, interpreting test results and reporting findings within a furnishing enterprise.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Furnishing Technology

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Identify specifications and test procedures	1.1	Product quality specifications are read, drawings interpreted and test parameters are identified
		1.2	Test methods for each required test parameter are identified and the most efficient test method is noted
		1.3	Any requirement for testing by personnel external to the work area is identified and appropriate permission is obtained
		1.4	Design features that impact on testing and inspection are identified
2	Select evidence	2.1	Appropriate conforming and/or non-conforming products,

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			materials and/or waste are selected for testing in accordance with enterprise requirements
		2.2	Observations of operators and copies of procedures are collected
3	Conduct and interpret tests	3.1	Tests are conducted following workplace procedures and results are documented
		3.2	Comparisons of all data collected are made
		3.3	Any recommendations are noted and considered for feasibility
4	Report findings	4.1	Findings of tests are documented
		4.2	Any potential or existing problems and appropriate recommendations are identified and reported in accordance with enterprise procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit context includes:

- work health and safety (WHS) requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent
- work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements
- work requires individuals to demonstrate organisational and analytical ability, discretion, judgement and problem

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	solving • work is performed with little external assistance and with minimal supervision or direction • customers or suppliers of material to be sampled may be internal or external
Sampling, inspection and testing include:	• undertaking processes in accordance with industry standards and practices that reflect the type of product, the materials and processes used in its manufacture and its end use, and includes: • samples of raw materials • components • assemblies • end products
Materials to be sampled include:	• timber • metal alloys • glass, fabrics and textiles • plastics • leather • adhesives • fillers • finishes, as appropriate
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• work procedures/instructions • designer/drawer specifications and instructions • quality systems documentation or equivalent containing sampling, inspecting and testing frequency and criteria • organisation work specifications and requirements • legislation/regulation/national and industry codes and practices relevant to the products • quality and Australian Standards and procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFT4007B Sample, inspect and test products to specifications.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFT4007 Sample, inspect and test products to specifications

Modification History

Release 1 - New unit of competency

Performance Evidence

- Collect, organise and understand information related to multi-trade work instructions and work orders, building and structural plans and safety procedures
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
- Arrange and conduct a minimum of four (4) different processes covering sampling, inspection and testing
- Analyse test results and interpret outcomes against requirements
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Use workplace technology related to the coordination, including communication equipment, time and management aids and other measuring devices
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- General quality systems theory
- Sampling techniques for commonly encountered materials
- Inspection techniques and faults common within the sector products
- Testing techniques (destructive and non-destructive) relevant to the sector and related equipment/aids
- Work flow in relation to required times and stages where quality checking is required

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Assessment Conditions

- Assessors must:
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
  - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
  - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to production or product finishing facility, testing equipment and procedures.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSL904002 Perform standard calibrations

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL904001 Perform standard calibrations. Foundation skills information added. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit of competency describes the skills and knowledge to calibrate test and measurement equipment in accordance with standard calibration procedures and documented test methods. These procedures/methods specify all associated reference standards, materials, equipment and methods to be used and the required parameters or quantities and ranges to be tested, including the criteria for rejection or approval.

This unit applies to laboratory and calibration technicians who carry out tests and/or calibrations using standard calibration methods in first, second and third party laboratories, and laboratories where testing and/or calibration forms part of inspection or product certification. Personnel are not permitted to deviate from explicit instructions in any manner, modify the procedure, nor substitute alternative equipment. They work under limited supervision and results of their work are interpreted and checked by the laboratory supervisor, quality inspector or designated signatory.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Calibration

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare items for calibration**	1.1	Select the authorised calibration procedure in accordance with workplace procedures
		1.2	Identify hazards and use appropriate personal protective equipment (PPE), safety equipment and procedures
		1.3	Confirm all measuring equipment meets the laboratory's specification requirements and complies fully with the calibration procedure
		1.4	Assemble and set up specified reference standards and associated equipment prior to testing
		1.5	Verify performance of reference standards and measuring equipment prior to use and adjust or calibrate as necessary
		1.6	Identify and minimise potential sources of measurement error
2	**Perform calibration**	2.1	Perform individual tests without variance according to the documented procedure to ensure repeatability of measurement
		2.2	Confirm readings are the result of a valid measurement and record data as required (as-found or before adjustment)
		2.3	Adjust device under test to bring readings within specification and record data (as-left or after adjustment) where required
		2.4	Analyse resulting test data to detect trends or inconsistencies that would significantly affect the accuracy or validity of test results
		2.5	Seek appropriate advice when interpretation of results is outside authorised scope of approval
3	**Document results**	3.1	Estimate and document uncertainty of measurement in accordance with workplace procedures, where required

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	3.2	Document compliance/non-compliance with test requirements and/or specifications
	3.3	Record the results of each test/calibration accurately, unambiguously and objectively
	3.4	Ensure confidentiality of workplace information in accordance with workplace procedures
4 **Finalise calibration**	4.1	Prepare and issue a final report on the job/item detailing testing carried out, traceability, statement of compliance and relevant information
	4.2	Report any non-compliance and verify next course of action with supervisor
	4.3	Attach calibration labels, equipment stickers, quality control tags and tamper resistant seals as required in accordance with workplace procedures
	4.4	Store test equipment/measurement standards and results in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to:
  - perform calculations to give results in appropriate accuracy, precision and units
  - use statistical analysis (means, ranges and standard deviations) and estimation of uncertainty of measurement.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL904001 Perform standard calibrations, Release 1.

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Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL904002 Perform standard calibrations

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL904001 Perform standard calibrations. Foundation skills information added. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely and accurately calibrated a minimum of 3 different items of test and/or measurement equipment from the following list:
  - balance
  - thermometer
  - thermocouple
  - pH meter
  - refractive index meter
  - viscosity meter
  - flow meter (including digital)
  - volumetric dispenser including auto-pipette (POVAs)
  - volumetric glass (once for life time)
  - spectrophotometer
  - incubator/oven/fridge
  - digestion block
  - biological safety cabinet
  - fume cupboard.

Calibrations must be carried out in accordance with standard calibration procedures and documented test methods.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

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- purpose of metrology and calibration, including common terminology, concepts, principles, procedures and applications
- National Association of Testing Authority's (NATA) and National Measurement Institute's (NMI) role in the measurement and testing system in Australia and registration/licensing requirements
- requirements for the competence of testing and calibration laboratories (e.g. AS ISO/IEC 17025) as they affect job role and responsibilities
- Australian and international standards and codes covering requirements for the competence of testing and calibration laboratories
- standards imposed by regulatory and licensing bodies
- statistical analysis of quality control data, mean, median, mode, ranges and standard deviations
- hierarchy and appropriate selection of reference materials and instruments
- commonly used reference materials and working standards
- test equipment relevant to job role
- workplace procedures for:
  - non-conformance/non-compliance
  - equipment operation
  - calibration
  - troubleshooting for equipment and test methods
  - recording and reporting
  - handling, transport, storage and operation of reference and working standards
  - test methods and calibration (validated and authorised)
- different fields in which calibration work is conducted
- workplace and/or legal traceability requirements
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - specialised calibration/test equipment, reference standards and laboratory facilities
  - calibration methods, procedures and equipment specifications
  - workplace quality manual and procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL924004 Use laboratory application software

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL924002 Use laboratory application software. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to use and apply computer software for analysing and reporting in the laboratory, field and/or production plants.

This unit of competency applies to technical officers and laboratory technicians in all industry sectors. It describes the application and use of software packages, this software would be for the storage, retrieval, analysis and display of information. There is no expectation that candidates would be able to customise the software to meet specific needs.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Data

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Access application software**	1.1	Identify software required for the task
		1.2	Open software from a personal computer or network terminal
		1.3	Use information sources to locate details of software features and instructions for its use
2	**Use software for specified purposes**	2.1	Input a range of scientific data into a computing system
		2.2	Conduct searches for the retrieval of required data
		2.3	Use application features for efficient computation
		2.4	Construct data sets and databases for numerical and graphical analyses
3	**Produce reports of retrieved data and/or processed data**	3.1	Analyse data using features of the software package
		3.2	Select options for constructing data reports
		3.3	Print the results of data analyses using features of the software package
		3.4	Integrate data from diverse application software units in a report
		3.5	Report the outcomes and rationale for database searches
		3.6	Reference data sources according to the style requirements of the workplace
4	**Perform simple record housekeeping**	4.1	Maintain archived data according to workplace standard procedures
		4.2	Maintain hard copy data according to workplace standard procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Problem solving skills to refine searches to retrieve data.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL924002 Use laboratory application software, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL924004 Use laboratory application software

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL924002 Use laboratory application software. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- effectively used the most appropriate software for the analysis, reporting and management of 2 different sets of laboratory or field data and information.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- terminology associated with the software packages used in job role
- basic knowledge of the types of spreadsheet, database and data analysis packages that are available
- application of specific software package features to laboratory tasks relevant to job role
- relationship between the protocol for data input and file storage of the data
- general file and record maintenance
- importance of antivirus software and standard quarantine procedures
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a computer network, personal computer or laptop

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- software packages that cover databases, spreadsheets, statistical analysis and simple graphics output
- input and output data.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL933007 Apply critical control point requirements

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL933003 Apply critical control point requirements. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to monitor critical, quality and regulatory control points related to a person's work responsibilities. This unit of competency also covers support for ongoing improvement of the workplace hazard analysis and critical control points (HACCP) plan.

This unit of competency applies to production operators and laboratory assistants in the food processing and manufacturing sectors. Control points refer to those key points in a work process that must be monitored and controlled.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Quality

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Provide routine input to the HACCP plan**	1.1	Obtain information about control points in the manufacturing process
		1.2	Locate control points for own work area responsibilities
		1.3	Perform relevant checks and inspections on materials and equipment to establish conformance to meet requirements
		1.4	Identify variations or common faults
		1.5	Record inspection results and report to appropriate personnel
2	**Contribute to the continuous improvement of the HACCP plan**	2.1	Recognise non-conformance to the HACCP plan
		2.2	Identify likely causes for non-conformance
		2.3	Record and report non-conformances to appropriate personnel
3	**Maintain a safe work environment**	3.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other personnel
		3.2	Report potential hazards and/or maintenance issues in own work area to designated personnel
		3.3	Minimise the generation of waste and environmental impacts
		3.4	Dispose of waste in accordance with workplace procedures, relevant codes and regulations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL933003 Apply critical control point requirements, Release 1.

Links

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Assessment Requirements for MSL933007 Apply critical control point requirements

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL933003 Apply critical control point requirements. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- correctly and appropriately monitored the critical, quality and regulatory control points for 2 different processes in own work area.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the seven principles of HACCP and relationship to food or pharmaceutical safety, benefits of HACCP and preliminary steps for HACCP
- HACCP plan contents, including:
  - critical control points and control limits
  - consequences of non-conforming products being identified
- products/materials typically handled by laboratory assistants:
  - raw materials, ingredients, food additives, adjuncts/process aids and finished products
  - consumables, such as chemicals
- layout of the workplace, divisions and laboratory
- organisational structure of the workplace
- lines of communication
- quality policy, procedures and responsibilities of job role
- workplace procedures associated with the candidate's regular technical duties
- equipment and instrument calibration requirements
- continuous improvement practices
- methods used to monitor each critical, quality and regulatory control point
- methods for systematically investigating and responding to problems

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- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - quality manuals and procedures, HACCP plans and records
  - recording equipment
  - case studies to illustrate a range of HACCP issues.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL934004 Maintain and calibrate instruments and equipment

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to *MSL935004 Maintain instruments and equipment*. Change to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to check the serviceability and calibration of laboratory/field instruments and equipment and perform routine maintenance, such as cleaning and replacement of consumables and minor components. Personnel are also required to perform basic troubleshooting and repairs consistent with warranty and service agreements.

This unit of competency applies to technical assistants, instrument operators and technical officers working in all industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Quality

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Perform serviceability checks**	1.1	Perform pre-use and after-use checks in accordance with appropriate workplace and manufacturer procedures
		1.2	Identify faulty or unsafe components and equipment
		1.3	Identify and analyse service faults and report for appropriate for maintenance and/or repair
		1.4	Complete instrument/equipment logbooks to workplace requirements
2	**Conduct routine maintenance safely**	2.1	Identify maintenance procedures, records and safety requirements
		2.2	Plan and adjust maintenance schedules in accordance with operational requirements
		2.3	Identify and replace or repair damaged, worn and/or spent components or items
		2.4	Clean instruments and equipment using recommended cleaning agents and techniques
		2.5	Store instruments and equipment in accordance with workplace and/or manufacturer requirements
		2.6	Update maintenance records in accordance with workplace procedures
		2.7	Arrange for reordering of consumable stocks and equipment components as necessary
3	**Perform calibration/qualification checks**	3.1	Operate instruments and equipment in accordance with workplace and/or manufacturer procedures
		3.2	Check calibration/qualification using specified standards and/or procedures
		3.3	Record all calibration/qualification data accurately and legibly

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	3.4 Document calibration status and report out-of-calibration equipment/instruments
	3.5 Quarantine out-of-calibration items

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Reading skills to effectively interpret standard procedures and manufacturer requirements
- Writing skills to accurately record data and complete maintenance records
- Oral communication skills to interact effectively with suppliers and service agents.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL935004 Maintain instruments and equipment, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL934004 Maintain and calibrate instruments and equipment

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to *MSL935004 Maintain instruments and equipment*. Change to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- checked the serviceability of at least 3 laboratory/field instruments or items of equipment and performing routine maintenance on each
- accurately conducted calibration status/qualification checks for at least 2 instruments or items of equipment.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- role and importance of regular calibration checks and maintenance of instruments and equipment, and maintenance schedules and procedures
- function of key components of the instrument or equipment operating principles, details of the pre-use, calibration and safety checks, and operating procedures for the items used
- sources of uncertainty in instrument or equipment operation and their control
- common laboratory instruments and equipment
- equipment manuals and warranties
- common sources of faults in the instruments or equipment used and details of their repair
- typical basic repairs carried out on equipment
- typical calibration status/qualification checks
- basic equipment cleaning, maintenance and storage procedures for items of equipment used
- service agents or other personnel accredited to calibrate, service and repair equipment used in job role

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- process involved in arranging calibration, repair and/or maintenance of equipment including assessment of instrument repair status and determining if local repair or maintenance is possible and economical
- workplace procedures for recording data and reporting results, communicating with service agents and suppliers and ordering stocks
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - standard laboratory equipped with appropriate instruments and equipment, reference materials, consumables; cleaning, decontamination and/or disinfection agents and equipment; and personal protective equipment (PPE)
  - workplace procedures, calibration and maintenance schedules, equipment manuals, supplier catalogues and information/records management system.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL934005 Contribute to the ongoing development of HACCP plans

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL934001 Contribute to the ongoing development of HACCP plans. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to collect and analyse data obtained from hazard analysis and critical control points (HACCP) records. Personnel are required to implement approved corrective actions and complete the review and update of documents and systems related to HACCP plans.

This unit of competency applies to technical assistants working in the food processing, manufacturing and pharmaceutical industry sectors. This unit of competency is relevant to experienced technical officers who may work individually or as part of a team. Members of a HACCP team contribute a range of expertise and relevant technical support. They would normally share responsibilities for the development of a HACCP plan.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Quality

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Review existing HACCP plans**	1.1	Collect data and results from HACCP records
		1.2	Identify major and minor non-conformances to the HACCP plan
		1.3	Monitor critical control points to confirm performance
		1.4	Analyse problem areas using appropriate quality improvement tools and techniques
		1.5	Suggest corrective actions and strategies to prevent recurrence of the problem
		1.6	Document required amendments to the HACCP plan
		1.7	Report and present recommendations to appropriate personnel
2	**Provide support for the implementation of HACCP plans**	2.1	Analyse roles, duties and current competency of associated personnel in relation to HACCP responsibilities
		2.2	Identify training needs and skill development in relation to the successful implementation of the HACCP plan and assist with delivery
		2.3	Maintain resource requirements to support HACCP plan
3	**Review the implementation plan**	3.1	Implement any approved recommendations
		3.2	Update any changes to the HACCP plan documents
		3.3	Validate the effectiveness of changes to the HACCP plan

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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- Oral communication skills to work effectively as part of a team.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL934001 Contribute to the ongoing development of HACCP plans, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL934005 Contribute to the ongoing development of HACCP plans

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL934001 Contribute to the ongoing development of HACCP plans. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- actively contributed to the development of at least one HACCP plan, either individually or as part of a team, including:
  - monitoring and evaluating effectiveness of changes within the context of the ongoing development of HACCP plan
  - consulting and communicating appropriately with associated personnel.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the seven principles of HACCP and relationship to food or pharmaceutical safety, benefits of HACCP and preliminary steps for HACCP
- HACCP plan contents, including:
  - critical control points and control limits
  - consequences of non-conforming products being identified
- products and services provided by the workplace, and production process
- layout of the workplace, divisions and laboratory
- organisational structure of the workplace, communication channels and consultative arrangements
- role of laboratory services to the workplace and customers
- scheduling of tests and procedures to meet customer requirements
- quality policy, procedures and responsibilities of job role
- workplace procedures associated with the candidate's regular technical duties
- methods used to monitor each critical, quality and regulatory control point

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- methods for systematically investigating and responding to problems
- flow charts, symbols, control charts, control limits and control measures
- equipment and instrument calibration requirements
- procedures for addressing non-compliance and continuous improvement practices
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - HACCP plans
  - workplace quality procedures and manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL943004 Participate in laboratory or field workplace safety

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL943002 Participate in laboratory or field workplace safety. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to follow work health and safety (WHS) policies and procedures, deal with the identification and control of hazards, work safely at all times, follow emergency response procedures and contribute to the maintenance of workplace safety.

This unit of competency applies to laboratory assistants and instrument operators working in all industry sectors. WHS responses are restricted to a 'first response' approach, including the notification of appropriate workplace personnel. Workers will be provided with clear directions, information, training and appropriate supervision.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify, control and report WHS and environmental hazards**	1.1	Routinely check immediate work area for hazards prior to commencing and during work
		1.2	Address hazards within area of responsibility
		1.3	Report hazards and incidents to designated personnel according to workplace policies and procedures
2	**Conduct work safely**	2.1	Select, fit and use appropriate personal protective equipment (PPE)
		2.2	Follow workplace procedures when carrying out work tasks
		2.3	Keep all work areas clean and free from obstacles
		2.4	Maintain workplace standards of personal hygiene
		2.5	Safely store, transport and dispose of hazardous materials and dangerous goods
3	**Follow incident and emergency response procedures**	3.1	Identify incident and emergency situations
		3.2	Report and record incident and emergency situations according to workplace procedures
		3.3	Follow incident and emergency procedures as appropriate to the nature of emergency using emergency equipment according to workplace procedures
4	**Contribute to health and safety in the workplace**	4.1	Raise WHS and environmental issues with designated personnel in accordance with workplace procedures and legislated rights and obligations of employees
		4.2	Participate in WHS activities within scope of responsibilities

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Oral communication skills to clarify obligations, procedures and work instructions that impact on safety and legal liability.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL943002 Participate in laboratory/field workplace safety, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL943004 Participate in laboratory or field workplace safety

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL943002 Participate in laboratory or field workplace safety. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- completed 2 different routine work tasks working safely at all times by following work health and safety (WHS) policies and procedures.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- personal roles, rights and responsibilities and those of the employer
- signage, symbols and signals relating to WHS
- examples of hazards relevant to the work area, likely impacts and ways of addressing these using the hierarchy of control
- site layout, including emergency exits, location and use of safety alarms, emergency response system and procedures, and designated WHS personnel
- location, use, care and storage requirements for personal protective equipment (PPE) and emergency/hazard control equipment in the work area
- sources of advice and information on WHS issues, including safety data sheets (SDS) and key personnel
- relevant industry codes
- standard operating procedures (SOPs), workplace procedures and safe work practices relevant to job role, including:
    - handling, storage and disposal of hazardous substances and requirements for labelling of hazardous substances
    - handling equipment and any task-specific manual handling techniques as required by work role
    - controlling known hazards

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  - minimising environmental threats
  - minimising and disposing of waste
  - responding to safety, emergency, fire and incidents
  - selecting/using PPE
  - instructions that govern personal work, equipment use, and response to incidents and emergencies
- requirements and procedures for reporting (potential) WHS hazards and incidents, injuries, illness and near misses, and safety and environmental issues or concerns
- incidents that may occur in a laboratory or field workplace
- WHS and environmental issues that may occur
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - typical laboratory/field work equipment and materials
  - PPE
  - emergency equipment including first aid equipment, eye wash kit or shower and fire extinguisher
  - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL944002 Maintain laboratory or field workplace safety

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL944001 Maintain laboratory or field workplace safety. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to monitor and maintain work health and safety (WHS) within a work area where the person has supervisory responsibility for others.

This unit applies to laboratory technicians, senior technicians and laboratory managers in all industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Work health and safety

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Perform all work**	1.1 Use established work practices and personal protective

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	safely		equipment (PPE) to ensure personal safety and that of other laboratory personnel
		1.2	Clean, care for and store equipment, materials and reagents as required
		1.3	Minimise the generation of wastes and environmental impacts
		1.4	Ensure safe disposal of laboratory/hazardous wastes
2	**Ensure others in the work group are able to implement safe work practices**	2.1	Ensure hazard controls and PPE appropriate to the work requirements are available and functional
		2.2	Provide and communicate current information about WHS policies, procedures and programs to others
		2.3	Ensure hazards and control measures relating to work responsibilities are known by those in the work area
		2.4	Provide support to those in the work area to implement procedures to support safety
		2.5	Identify and address training needs within level of responsibility
3	**Monitor observance of safe work practices in the work area**	3.1	Ensure workplace procedures are clearly defined, documented and followed
		3.2	Identify any deviation from identified procedures and report and address within level of responsibility
		3.3	Ensure personal behaviour is consistent with workplace policies and procedures
		3.4	Encourage and follow up others to identify and report hazards in the work area
		3.5	Monitor conditions and follow up to ensure housekeeping standards in the work area are maintained

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
4	**Participate in risk management processes**	4.1	Report and address any identified hazards and inadequacies in existing risk controls within level of responsibility and according to workplace procedures
		4.2	Participate in risk assessments to identify and analyse risks
		4.3	Support the implementation of procedures to control risk (based on the hierarchy of control)
		4.4	Ensure records of incidents in the work area and other required documentation are accurately completed and maintained according to workplace procedures and legislative requirements
5	**Support the implementation of participative arrangements**	5.1	Inform and consult work group on WHS issues relevant to the work role
		5.2	Promptly report outcomes of consultation on WHS issues back to the work group
		5.3	Resolve, or promptly refer to appropriate personnel, matters raised relating to WHS
6	**Support the implementation of emergency procedures within the work group**	6.1	Ensure that workplace procedures for dealing with incidents and emergencies are available and known by work group
		6.2	Implement processes to ensure that others in the work area are able to respond appropriately to incidents and emergencies
		6.3	Participate, as required, in investigations of hazardous incidents to identify their cause

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Writing skills to prepare brief WHS reports for committees, managers and/or supervisors.

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Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL944001 Maintain laboratory/field workplace safety, Release 1.

Links

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Assessment Requirements for MSL944002 Maintain laboratory or field workplace safety

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL944001 Maintain laboratory or field workplace safety. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- effectively monitored and maintained work health and safety (WHS) within 1 work area, including:
  - ensuring others in the workgroup work safely and follow procedures for hazard identification and risk control and implement safe work practices.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common work health and safety (WHS) terminology, such as hazard, physical hazard, risk and risk management
- principles and procedures for WHS and environmental management, including hazard identification, risk assessment and hierarchy of risk control
- how the characteristics and composition of the workforce impact on WHS management
- roles and responsibilities under WHS legislation of employers and employees, including supervisors and contractors
- sources of advice and information on WHS issues, including safety data sheets (SDS) and key personnel
- site layout, including emergency exits, location and use of safety alarms, emergency response system and procedures, and designated WHS personnel
- signage, symbols and signals relating to WHS
- examples of hazards relevant to the work area and ways of addressing these using the hierarchy of control
- location and purpose of personal protective equipment (PPE) and emergency/hazard control equipment in the work area, including first aid facilities

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- use, care and storage requirements for PPE used in work areas
- requirements and procedures for reporting (potential) WHS hazards and incidents, injuries, illness and near misses, and safety and environmental issues or concerns
- possible workplace incidents/emergencies and response procedures
- requirements for record keeping that address WHS, privacy and other relevant legislation
- standard operating procedures (SOPs), work instructions, laboratory manuals, operator's manuals and manufacturers' operating manuals relating to WHS
- consultation and issue resolution requirements
- Australian, national and international standards, guidelines and codes covering WHS; laboratory design and construction; occupational protective equipment; labelling of workplace substances; storage, handling and transport of dangerous goods; physical containment levels and facility types
- industry specific codes, regulations and guidelines.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - typical laboratory/field work equipment and materials
  - PPE and other safety equipment
  - workplace WHS documentation, management system, policies and procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL952001 Collect routine site samples

Modification History

Release 1. Supersedes and is equivalent to MSL952001A Collect routine site samples

Application

This unit of competency covers the ability to collect samples at field or production sites using specified equipment and standard or routine procedures.

This unit of competency is applicable to production operators, field assistants and laboratory assistants in all industry sectors.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Sampling

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Prepare for sampling**	1.1 Confirm the purpose, priority and scope of the sampling request
		1.2 Liaise with relevant personnel to arrange site access and all necessary clearances/permits
		1.3 Identify site hazards and review workplace safety procedures

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		1.4	Confirm what samples are to be collected, from where, how and when
		1.5	Assemble all specified sampling equipment, safety equipment, materials and containers
		1.6	Conduct pre-use and cleanliness checks of all items to ensure they are fit for purpose
		1.7	Check all items against given inventory and stow them to ensure safe transport
2	**Conduct sampling**	2.1	Locate sampling points and services at the site
		2.2	Remove security devices, such as locks and covers as required
		2.3	Seek advice if the required samples cannot be collected or if procedures require modification
		2.4	Select and use required sampling equipment in accordance with given procedures
		2.5	Closely follow sampling procedures to obtain required samples and maintain their integrity
		2.6	Record all labelling information in accordance with workplace/legal traceability requirements
		2.7	Record sample appearance, environmental conditions and any other factors that may impact on sample integrity
		2.8	Replace security devices, such as locks and covers as required
3	**Finalise sampling**	3.1	Follow workplace procedures for the cleaning/decontamination of equipment and vehicle as necessary
		3.2	Check all equipment, materials and samples against inventory and stow for safe transport
		3.3	Liaise with relevant personnel to restore normal production and/or services as necessary

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		3.4	Maintain integrity of samples during transportation
		3.5	Deliver samples to the required collection point and complete all documentation to ensure traceability
		3.6	On return, check and document serviceability of equipment before storage
4	**Maintain a safe work environment**	4.1	Use established work practices and personal protective equipment (PPE) to ensure personal safety and that of others
		4.2	Minimise environmental impacts of sampling and generation of waste
		4.3	Dispose of all waste in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements

Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards covering the requirements for the competence of testing and calibration laboratories, laboratory safety, quality and environmental management, and sampling of materials
- national work health and safety (WHS) standards and codes of practice, national environmental protection measures, and national measurement regulations and guidelines
- specific codes, guidelines and procedures, such as National

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Association of Testing Authorities (NATA) accreditation requirements, and principles of good laboratory practice (GLP)
- workplace documents, such as standard operating procedures (SOPs); quality and equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS); safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; and maps and site plans
- sampling procedures for specific samples, sites and clients (labelling, preparation, storage, transport and disposal)

Materials sampled

Materials sampled as part of job role include one or more of:

- gas or air samples
- water, wastewater, stormwater, sewage and sludge
- solid samples, such as soil, sediments, rocks, concrete, quarry and mining material, and solid wastes
- raw materials, start, middle, end of production run samples, and final products and materials used in production processes, including food and beverages
- hazardous materials and/or dangerous goods

Maintenance of integrity of samples

Maintenance of integrity of samples includes one or more of:

- use of appropriate containers and lids, sealing of sample containers
- purging of sample lines and bores
- decontamination of sampling tools between collection of consecutive samples
- use of appropriate preservatives
- temperature control, which may involve prevention of direct contact between the sample and coolant, and wrapping container in foil or wet newspaper
- transfer of sterile sample into sterile container
- monitoring of storage conditions
- workplace/legal traceability through appropriate sample labelling and records

Services

Services include one or more of:

- water supply, gas and electricity
- telecommunications
- irrigation, stormwater and drainage systems

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- production plant

Safety procedures

Safety procedures include, but are not limited to, one or more of:

- use of PPE
- handling, labelling and storing hazardous material and equipment in accordance with labels, MSDS, manufacturer instructions and workplace procedures and regulations
- regular cleaning and/or decontamination of equipment
- use of machinery guards
- signage, barriers, service isolation tags, traffic control and flashing lights, lock out and tag-out procedures

Minimising environmental impacts

Minimising environmental impacts includes, but is not limited to, one or more of:

- replacement of soils and vegetation
- driving vehicles to minimise soil erosion and damage to fauna and vegetation
- appropriate disposal of surplus, spent or purged materials and hazardous waste
- recycling of non-hazardous wastes
- cleaning of vehicles and equipment to prevent transfer of pests and contaminants

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of samples
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSL952001A Collect routine site samples

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Links

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Assessment Requirements for MSL952001 Collect routine site samples

Modification History

Release 1. Supersedes and is equivalent to MSL952001A Collect routine site samples

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- locating services at sites
- collecting samples at field or production sites on at least three (3) occasions using specified equipment and standard/routine procedures
- collecting at least three (3) different types of samples
- collecting samples efficiently, safely and with minimal environmental impact in accordance with sampling procedures and plans
- maintaining the integrity and security of samples following safety procedures, workplace and/or legal traceability requirements
- completing sampling records using workplace procedures
- recognising own limitations and seeking timely advice
- liaising with others to access sites and conduct sampling efficiently.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- terminology and concepts, including sample, contamination, traceability, integrity and chain of custody, metrology and the international system of units (SI)
- types of samples, including grab samples (disturbed or undisturbed materials), composite samples (such as time, flow proportioned and horizontal/vertical cross section), and quality control samples (such as controls, background, duplicate and blanks)
- characteristics of product/materials sampled as part of job role
- purpose for which the samples have been collected
- function of key sampling equipment/materials and principles of operation
- sampling procedures covering labelling, preparation, storage, transport and disposal
- hazards, risks, environmental protection measures and work health and safety (WHS) procedures associated with routine sampling undertaken
- workplace procedures dealing with waste management, clean-up and spillage, handling, transport and storage of dangerous goods.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - MSL972001 Conduct routine site measurements
- Holistic assessment methods include:
  - review of sampling documentation completed by the candidate
  - review of the quality of samples collected by the candidate
  - observation of the candidate collecting a variety of samples at a range of sites
  - feedback from supervisors and clients that sampling plans were followed
  - oral/written questioning about sampling and safety procedures.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - field or production sites to sample and a variety of sample types
  - sampling tools, containers, equipment and procedures.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience.
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with a laboratory about performing the competency being assessed within the last twelve months.

Links

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MSL954004 Obtain representative samples in accordance with sampling plan

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL954001 Obtain representative samples in accordance with sampling plan. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to obtain a range of samples that are representative of the source material and to prepare the samples for testing. All sampling activities are conducted in accordance with a defined sampling plan. This unit does not cover the subsequent testing of the samples.

This unit of competency applies to laboratory technicians in all industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Sampling

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for sampling**	1.1	Confirm the sampling location, number and type of samples, and timing and frequency of sampling from workplace or client's sampling plan
		1.2	Liaise with relevant personnel to arrange site access and all necessary clearances and/or permits as required
		1.3	Select sampling equipment and conditions to achieve representative samples and preserve sample integrity during collection, storage and transit
		1.4	Check that all procedures are in accordance with client or workplace requirements, relevant standards and codes
		1.5	Identify site and sampling hazards and review workplace safety procedures
		1.6	Assemble and check all sampling equipment, materials, containers and safety equipment
		1.7	Arrange suitable transport to, from and around site as required
2	**Conduct sampling and log samples**	2.1	Locate sampling sites
		2.2	Conduct representative sampling in accordance with sampling plan and defined procedures
		2.3	Record all information and label samples in accordance with traceability requirements
		2.4	Record environment or production conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity
		2.5	Transport all samples back to base according to standard operating procedures (SOPs) and relevant codes
3	**Prepare samples for testing**	3.1	Prepare sub-samples and back-up sub-samples that are representative of the source
		3.2	Label all sub-samples to ensure traceability and store in accordance with SOPs

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	3.3	Follow defined preparation and safety procedures to limit hazard or contamination to samples, self, work area and environment
	3.4	Distribute sub-samples to defined workstations maintaining sample integrity and traceability requirements
4 **Address client issues**	4.1	Enter approved information into laboratory information management system (LIMS), as required
	4.2	Report all relevant aspects of the sampling and preparation phases in accordance with workplace procedures
	4.3	Ensure that information provided to client is accurate, relevant and authorised for release
	4.4	Maintain security and confidentiality of all client/workplace data and information
5 **Maintain a safe work environment**	5.1	Clean all equipment, containers, work area and vehicles according to workplace procedures
	5.2	Check serviceability of all equipment before storage
	5.3	Use defined safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other personnel
	5.4	Minimise the generation of wastes and environment impacts
	5.5	Ensure the safe collection of all hazardous wastes for appropriate disposal

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL954001 Obtain representative samples in accordance with sampling plan, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL954004 Obtain representative samples in accordance with sampling plan

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL954001 Obtain representative samples in accordance with sampling plan. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- obtained samples from at least 3 different sampling points, that are representative of the source material and taken in accordance with a sampling plan.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of representative sampling, including:
  - representative samples
  - preservation of integrity of samples
  - maintaining identification of samples relative to their source, workplace and legal traceability
  - cost-effectiveness of sampling
  - consistency of sampling procedures
- function of key sampling equipment/materials and principles of operation
- sampling principles, including random, systematic and stratified sampling
- characteristics of product/materials sampled as part of job role and likely contaminants
- methods to maintain the integrity of samples
- maps and site plans
- links between quality control, quality assurance, quality management systems and sampling procedures
- site and sampling hazards and the links between following WHS procedures and personal and environmental safety, particularly at high risk sites
- workplace and/or legal traceability requirements

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- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - source material
  - a variety of sample types
  - sampling plans and procedures, sampling containers and sampling equipment, and sample preparation materials and equipment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL973013 Perform basic tests

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973001 Perform basic tests. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to prepare samples and perform tests and measurements using standard methods with access to readily available advice from supervisors.

This unit of competency applies to laboratory/field assistants working in all industry sectors. In general, they do not calibrate equipment and make only limited adjustments to the controls. They do not interpret or analyse results or troubleshoot equipment problems.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret test requirements**	1.1	Review test request to identify samples to be tested, test method and equipment involved
		1.2	Identify hazards and workplace controls associated with the sample, preparation methods, reagents and/or equipment
2	**Prepare sample**	2.1	Record sample description, compare with specification, record and report discrepancies
		2.2	Prepare sample in accordance with appropriate standard methods
3	**Check equipment before use**	3.1	Set up test equipment in accordance with test method
		3.2	Perform pre-use and safety checks in accordance with workplace procedures and manufacturer instructions
		3.3	Identify faulty or unsafe equipment and report to appropriate personnel
		3.4	Check calibration status of equipment and report any out-of-calibration items to appropriate personnel
4	**Perform tests on samples**	4.1	Identify, prepare and weigh or measure sample and standards to be tested
		4.2	Conduct tests in accordance with workplace procedures
		4.3	Record data in accordance with workplace procedures
		4.4	Perform calculations on data as required
		4.5	Identify and report out of specification or atypical results promptly to appropriate personnel
		4.6	Shut down equipment in accordance with operating procedures
5	**Maintain a safe work environment**	5.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel
		5.2	Minimise the generation of wastes and environmental impacts
		5.3	Ensure safe disposal of laboratory and hazardous wastes

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.4 Clean, care for and store equipment and reagents as required

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to calculate simple quantities using appropriate equations, units, uncertainties and precision

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes MSL973001 Perform basic tests.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL973013 Perform basic tests

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973001 Perform basic tests. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared samples using different processes
- performed at least 3 basic tests or measurements using standard methods and procedures.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concepts of metrology, including:
  - all measurements are estimates
  - measurements belong to a population of measurements of the measured parameters
  - precision, accuracy and significant figures
  - sources of error, uncertainty and repeatability
  - traceability
- international system of units (SI)
- purpose of tests performed as part of job role and principles of the standard methods/specifications used
- sample preparation processes relevant to job role
- typical basic tests and methods relevant to job role
- measurements used for typical tests
- function of key components of the test equipment, pre-use equipment and safety checks
- sources of uncertainty in measurement and methods for control
- workplace and/or legal traceability requirements
- interpretation and recording of test result, including simple calculations
- procedures for recognising and reporting of unexpected or unusual results
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory equipped with basic test equipment, common measuring instruments, materials, standard methods, workplace procedures, SDS and equipment manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL973014 Prepare working solutions

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973002 Prepare working solutions. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to prepare working solutions and to check that existing stocks of solutions are suitable for use. Working solutions include those required to perform laboratory tests. Personnel are required to calculate quantities and make dilutions.

This unit of competency applies to laboratory assistants working in all industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Make up working**	1.1 Identify the relevant standard methods for solution

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	solutions		preparation
		1.2	Assemble specified laboratory equipment
		1.3	Select and prepare materials and solvent of specified purity
		1.4	Measure appropriate quantities of reagents for solution preparation and record data
		1.5	Prepare labels and log solution details in laboratory register
		1.6	Transfer solutions to appropriately labelled containers
2	**Check existing stock of solutions**	2.1	Monitor shelf life of working solutions and identify those that are unfit for use according to laboratory procedures
		2.2	Replace out-of-date or reject solutions according to laboratory procedures
3	**Maintain a safe work environment**	3.1	Use appropriate safety procedures and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel
		3.2	Store reagents and clean/store glassware and equipment in accordance with workplace procedures
		3.3	Minimise generation of waste and environmental impacts
		3.4	Clean up spills using appropriate techniques
		3.5	Ensure the safe collection of laboratory and hazardous waste for subsequent disposal

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Equivalent to MSL973002 Prepare working solutions, Release 1.

Links

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Assessment Requirements for MSL973014 Prepare working solutions

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973002 Prepare working solutions. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely prepared at least 5 examples of correctly labelled working solutions, including calculation of the quantities involved and any dilutions required
- checked existing stocks of working solutions and identified those unfit for use.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concepts of metrology, including:
  - all measurements are estimates
  - precision, accuracy and significant figures
  - sources of error, uncertainty and repeatability
  - traceability
- working solutions
- international system of units (SI)
- concentration terms, such as % w/w, % w/v, % v/v, ppm (mg/L) and molarity
- basic theory of acids, bases, salts, buffers and neutralisation
- what affects solubility
- difference between aqueous and organic solutions
- periodic table, symbols of the elements, atomic weights, and difference between elements and compounds
- chemical formulae
- workplace procedures for preparing solutions
- calculations required to prepare specified amounts of solutions of specified concentration

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- use of safety data sheets (SDS) and workplace procedures for preparing, handling and disposing of solutions and cleaning up spillages
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory equipped with appropriate reagents and equipment
  - standard methods and workplace procedures
  - containers and storage facilities.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL973016 Perform aseptic techniques

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973004 Perform aseptic techniques. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to perform aseptic techniques to maintain the integrity of both the sample source and the sample. It applies to sampling techniques in tissue culture and to generic microbiological procedures.

This unit of competency applies to laboratory assistants and technicians working in the field or laboratory in the biomedical, biological, food processing and environmental industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for aseptic sampling or transfer**	1.1	Check the sampling procedure conforms with the required sampling plan
		1.2	Use specified personal protective equipment (PPE)
		1.3	Prepare the work area for safe and effective sample transfer
		1.4	Select equipment and materials specified by the procedure
		1.5	Organise equipment to minimise contamination during manipulations
		1.6	Label containers for clear identification
		1.7	Record details in relevant log or database
		1.8	Macroscopically assess media and/or reagents to confirm sterility before use
2	**Transfer materials aseptically**	2.1	Protect the integrity of the sample source
		2.2	Sterilise inoculating loops and/or pipette where used to prevent contamination
		2.3	Perform transfer while minimising opportunities for contamination and cross-infection
		2.4	Protect the integrity of the sample source and destination after transfer, and before sealing the transport or culture vessel
		2.5	Re-sterilise inoculating loops, minimising the generation of aerosols as required
		2.6	Perform quality control checks to confirm aseptic transfer was successful
		2.7	Label transport or culture vessels for clear identification
3	**Maintain work area and equipment to prevent cross-infection and**	3.1	Place disposable and reusable items into relevant receptacles
		3.2	Clean and disinfect work area and equipment after use
		3.3	Transport disposable and reusable contaminated

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
contamination	materials to relevant areas for disinfection, sterilisation and cleaning or disposal
	3.4 Follow personal hygiene procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL973004 Perform aseptic techniques, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL973016 Perform aseptic techniques

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973004 Perform aseptic techniques. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely and effectively performed aseptic techniques when performing at least 3 different types of sample transfers from the following list:
  - body fluids (or simulated body fluids)
  - sterile liquid culture media
  - water
  - soil
  - sterile pharmaceuticals
  - yeasts and moulds
  - milk and yoghurt
  - swabs and smears
  - propagation tissue
  - plant material
  - fermented foods
  - fermented beverages
  - bacterial cultures.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- growth requirements of microorganisms including bacteria and fungi in terms of their laboratory culture

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- relationship between sterile practices, hygiene procedures and the ability to obtain growth free of contamination
- relationship between sterile practices and accurate test results
- importance of pure culture techniques and aseptic transfer to the successful microbiological investigation and correct interpretation of laboratory results
- cleaning and sanitising requirements of equipment and work area, and effects of physical and chemical agents on microbial growth and death
- sterilisation techniques:
  - flaming
  - high temperature, boiling and autoclaving
  - membrane filtration
  - radiation, gas and/or chemical treatments
- disinfection and sterilisation procedures used in the collection, processing and safe disposal of samples and materials
- principles of infection control related to work health and safety (WHS), and sampling and transfer of materials in microbiological investigations including how to minimise the generation of aerosols when flaming
- relevant hazards and how to deal with the risks presented:
  - injuries from sharps, burners, molten agar
  - ultraviolet (UV) light sources
  - exposure to hazardous substances and/or infectious agents
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and WHS requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory
  - test samples
  - appropriate equipment, including:
    - transfer equipment, such as inoculating loops, pipettes (quantitative and qualitative), flasks, tubes and spatulas
    - Sterilisation equipment such as bunsen burners, bench incinerators, autoclave and/or pressure cooker
    - Storage equipment such as incubators, water baths, refrigerators, freezers, anaerobic jars as required
    - laminar flow units or biohazard cabinets as required
    - swabs
  - appropriate materials, including:

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  - solid and/or liquid media
  - disinfecting and sterilising agents
  - consumables
  - receptacles for safe disposal of wastes and for processing of reusable materials
  - bar coding material and labels
- workplace schedules, procedures and standard methods, SDS and documented safe work practices.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL973019 Perform microscopic examination

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973007 Perform microscopic examination. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to set up a light microscope for optimum resolution, to prepare routine samples and to observe, identify and report sample characteristics.

This unit of competency applies to laboratory or technical assistants in all industry sectors. The unit of competency covers limited interpretation and analysis of results. Troubleshooting of equipment and procedures is not required.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Prepare samples for examination**	1.1	Log and label samples according to workplace procedures to ensure traceability
		1.2	Follow documented standard operating procedures to prepare samples for microscopic examination
2	**Set up and use a light microscope**	2.1	Carry and use a microscope correctly preventing damage to the equipment and ensuring operator safety
		2.2	Perform pre-use and safety checks to ensure equipment is fit for purpose
		2.3	Check lenses to ensure they are clean
		2.4	Set up the microscope for optimum resolution and even illumination
		2.5	Select the appropriate objectives and filter for the sample being examined
		2.6	Place sample correctly on the stage
3	**Observe and identify sample characteristics**	3.1	Recognise and identify significant sample characteristics
		3.2	Perform required calculations accurately
4	**Maintain a safe work environment**	4.1	Ensure safety and minimise cross-contamination through the use of personal protective equipment (PPE)
		4.2	Handle all samples and equipment in accordance with workplace safety protocols
		4.4	Minimise generation of waste and environmental impacts
		4.5	Collect and dispose of all wastes safely

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to:
  - perform counts on samples using grids
  - take basic measurements
  - perform accurate calculations as required by the method, including:
    - dilutions
    - number of cells in original sample after dilution
    - calculation of cells/ml in a number of squares of a counting chamber
  - interpret and record test results reliably
  - log and track samples through all steps from sample receipt to completion of the examination and reporting.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL973007 Perform microscopic examination, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL973019 Perform microscopic examination

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973007 Perform microscopic examination. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up a microscope for köhler illumination on 10x, 40x and 100x magnification on at least 3 occasions
- safely prepared and focused on at least 3 different sample types for examination with a compound light microscope including 3 from the following list:
  - preparing and staining a smear or film with a monolayer of cells
  - preparing a wet mount
  - loading a sample into a counting chamber
  - preparing hand cut samples
- observed, identified and reported the microscopic characteristics of at least 2 different sample types including at least 1 from the following list:
  - intact living or non-living organism
  - fixed and stained cells
  - wet mount
- taken basic measurements
- performed a count using a grid
- performed accurate calculations as required by the method, including:
  - dilutions
  - number of cells in original sample after dilution
  - calculation of cells/volume based cell counts.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

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- nature of samples, sample preparation methods, methods of examination and associated hazards
- parts and functions of a light microscope and steps taken to optimise the resolution of images
- procedures and reporting requirements for spills, faulty or unsafe equipment, hazards and incidents
- types of samples relating to job role
- causes and basic troubleshooting of common artefacts or incorrect results in microscopy
- vernier measurement and micrometry techniques
- sample characteristics restricted to what can be viewed by light microscopy:
  - shape and size of particles
  - presence of contamination
  - colour
  - consistency and variability
  - number of cells (e.g. cells in blood or other particulate samples, such as a yeast suspension or pollen grains)
  - type of cells
  - colour/staining and morphology
- applications of different types of microscopes/setups including compound light, dark field, phase contrast, fluorescent, electron, polarising and stereomicroscope (dissecting)
- awareness of environmental sustainability issues as they relate to the work task
- traceability requirements
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory equipped with appropriate equipment, including light microscopes and samples
  - workplace procedures, standard methods and materials
  - a light microscope.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL973024 Perform site investigation activities

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973012 Perform site investigation activities. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to prepare for and conduct activities, such as excavations, sampling and testing, as part of a site investigation team. Personnel are expected to identify common site problems and seek advice to deal with situations beyond their own technical competence.

This unit applies to laboratory assistants working under the close supervision of a senior technician in the construction, mining and drilling industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for on-site operations**	1.1	Confirm details of the job, location, work instructions, appropriate sampling/test procedures and safety requirements with supervisor
		1.2	Identify likely site hazards, personal protective equipment (PPE) and safety procedures that are specified for the job and materials used
		1.3	Collect, check and stow all tools, equipment and materials required at the site
		1.4	Confirm site access requirements, such as entry permits and participate in safety induction as required
2	**Conduct excavation of boreholes, test pits and/or trenches**	2.1	Confirm specified sampling/testing locations with supervisor
		2.2	Excavate to the specified sampling/testing depth, minimising disturbance and potential contamination of the site
		2.3	Ensure materials from different strata are kept separate
		2.4	Identify materials and record changes of the strata and the test results
3	**Conduct site sampling**	3.1	Prepare and check sampling equipment and materials
		3.2	Take disturbed and undisturbed samples as directed and in accordance with workplace methods and procedures
		3.3	Label samples and record samples/site conditions in accordance with workplace methods and procedures
4	**Conduct site testing**	4.1	Conduct pre-use checks of test equipment
		4.2	Perform basic tests as directed and in accordance with test methods or workplace procedures
		4.3	Record data in accordance with test methods or workplace procedures

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		4.4	Recognise obvious errors or atypical data and seek advice
5	**Complete site operations**	5.1	Reinstate the site in accordance with instructions
		5.2	Clean all equipment (and vehicle as necessary) avoiding environmental damage, stormwater contamination or spread of pests
		5.3	Check all equipment and materials prior to re-stowing them for safe transport
		5.4	Handle and transport samples in accordance with workplace procedures
		5.5	Notify appropriate site personnel on completion of tasks and prior to leaving site (if unsupervised)
		5.6	Check serviceability of test equipment before storage
6	**Maintain records**	6.1	Record details of site sampling, testing and material types in accordance with workplace procedures
		6.2	Maintain confidentiality of workplace information in accordance with workplace procedures
7	**Maintain a safe work environment**	7.1	Use safe work procedures and PPE to ensure personal safety and that of others
		7.2	Minimise environmental impacts of testing/sampling and generation of waste
		7.3	Collect and/or dispose of all waste in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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- Numeracy skills to:
  - interpret maps, site plans and drawings
  - recognise site features and soil, rock and fill materials
  - perform basic in situ tests and site measurements, including location and depth.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL973012 Assist with geotechnical site investigations, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL973024 Perform site investigation activities

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL973012 Perform site investigation activities. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared for site investigations and safely and effectively performed 3 site sampling, testing and excavation/reinstatement tasks.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the basic concepts, purposes and principles of site investigation activities conducted as part of job role
- site safety and management rules, including safety induction, risk assessments, controlled entry/exit to site and required personal protective equipment (PPE)
- simple methods for identifying and classifying materials
- basic engineering properties of soil and rock materials and their use in engineering and construction
- basic principles of representative sampling and testing
- basic in situ testing methods relevant to job role
- common site problems:
  - caving in of excavation walls
  - drilling difficulties
  - sample loss during retrieval
  - knowing when to stop a hole, or what and when to test and sample
  - misidentification of samples and sampling locations
  - equipment breakdown and breakage

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  - environmental impacts of construction activities on wildlife, vegetation, waterways and inclement weather
- common site hazards
- minimising environmental impacts
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - access to geotechnical and/or construction sites and relevant site documentation
  - workplace procedures, sampling plans, test methods and equipment manuals
  - consumables; hand tools; field sampling and test equipment, such as dynamic cone penetration (DCP) testing, standard penetration testing (SPT), shear vane, pocket penetrometer and water level indicator
  - excavation equipment, such as hand and power augers, powered excavators, generators and jack hammers
  - safety clothing and equipment, including helmets, boots, gloves, earmuffs and glasses.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL974018 Conduct geotechnical site investigations

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974002 Conduct geotechnical site investigations. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to prepare for and conduct and conclude site activities, such as excavations, sampling and testing as part of a geotechnical investigation team. Personnel are expected to solve common site problems and seek advice to deal with situations beyond their own technical competence.

This competency is typically performed by laboratory technicians working under the guidance of a geotechnical paraprofessional or engineer in the construction, mining and drilling industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for on-site operations**	1.1	Identify the job, location, work instructions, appropriate sampling and test procedures and safety requirements
		1.2	Identify site hazards and identify appropriate personal protective equipment (PPE) and safety procedures that are specified for the job and materials used
		1.3	Record description of the job to be undertaken, compare with specification and report any variations
		1.4	Arrange for the collection, checking, stowing and transport of all tools, equipment and materials required at the site
		1.5	Ensure site access requirements, such as entry permits and safety inductions, have been organised
2	**Arrange excavation of boreholes, test pits and/or trenches**	2.1	Identify the sampling/testing location
		2.2	Excavate or oversee excavation to the sampling and testing depth, minimising disturbance and potential contamination of the site
		2.3	Identify materials and record changes of strata, test results and other relevant information
		2.4	Ensure materials from different strata are kept separate
		2.5	Terminate the excavation at the appropriate depth and record the reason for termination
3	**Conduct site sampling**	3.1	Prepare and check sampling equipment and materials
		3.2	Take disturbed and undisturbed samples in accordance with workplace methods and procedures
		3.3	Label and record samples in accordance with workplace methods and procedures
		3.4	Recognise and record details of site conditions that may impact on sample integrity or site interpretation

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
4	**Conduct testing**	4.1	Prepare and conduct pre-use checks of test equipment
		4.2	Perform, or assist with performing, tests in accordance with test methods or workplace procedures
		4.3	Record test data in accordance with test methods or workplace procedures
		4.4	Recognise obvious errors or atypical data and take appropriate corrective actions
5	**Finalise site operations**	5.1	Backfill or seal any excavation and ensure that it is left in a safe and uncontaminated condition
		5.2	Reinstate surfaces disturbed by sampling or testing
		5.3	Clean all equipment (and vehicle, as necessary) avoiding environmental damage, stormwater contamination or spread of pests
		5.4	Check all equipment and materials prior to re-stowing them for safe transport
		5.5	Handle and transport samples in accordance with established practices
		5.6	Notify appropriate site personnel on completion of investigations and prior to leaving site
		5.7	Check serviceability of test equipment before storage on return to base
6	**Maintain records**	6.1	Maintain equipment records in accordance with established practices
		6.2	Complete site safety plans, equipment logs and test reports in accordance with workplace procedures
		6.3	Maintain confidentiality of workplace information
7	**Maintain a safe**	7.1	Use safe work procedures and PPE to ensure personal

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
work environment	safety and that of others
	7.2 Minimise environmental impacts of testing/sampling and generation of waste
	7.3 Collect and/or dispose of all waste in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to:
  - interpret maps, site plans and drawings accurately
  - perform basic in situ tests and site measurements, including location and depth.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974002 Conduct geotechnical site investigations, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL974018 Conduct geotechnical site investigations

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974002 Conduct geotechnical site investigations. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared for, and safely and effectively conducted and concluded at least 2 geotechnical site investigations, to provide accurate sampling and testing data, site information and work results within the expected timeframe.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concepts, purposes and principles of geotechnical site investigations conducted as part of job role
- standard methods for sampling and testing construction materials, such as soils, aggregates, concrete and asphalt
- identification and classification of soil, rock and fill materials
- uses and engineering properties of soil and rock materials
- principles of representative sampling and testing
- in situ testing methods used in job role
- site safety and management rules, including safety induction, risk assessments, controlled entry/exit to site and required personal protective equipment (PPE)
- common site problems and recommended corrective actions
- caving in of excavation walls:
  - drilling difficulties
  - not knowing the requirements of the design engineer
  - not understanding the nature of the item being designed (e.g. retaining wall, piled structure and earthworks)

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- sample loss during retrieval
- knowing when to stop a hole, or what and when to test and sample
- misidentification of samples and sampling locations
- equipment breakdown and breakage
- environmental problems and issues, including site access, inclement weather, traffic, wildlife, vegetation and construction activities
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - access to geotechnical sites and relevant site documentation
  - workplace procedures, sampling plans, test methods and equipment manuals
  - consumables; hand tools; field sampling and test equipment, such as dynamic cone penetration (DCP) testing, standard penetration testing (SPT), shear vane, pocket penetrometer and water level indicator
  - excavation equipment, such as hand and power augers, powered excavators, generators and jack hammers
  - safety clothing and equipment, including helmets, boots, gloves, earmuffs and glasses.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL974019 Perform chemical tests and procedures

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974003 Perform chemical tests and procedures. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to interpret chemical test requirements, prepare samples, conduct pre-use and calibration checks on equipment and perform routine chemical tests. These tests will involve several measurement steps. The unit includes basic data processing and interpretation of results.

This unit applies to laboratory or technical assistants and instrument operators in all industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret and schedule test requirements**	1.1	Review test request to identify samples to be tested, test method and equipment and instruments involved
		1.2	Identify hazards and workplace control measures associated with the sample, preparation and test methods, reagents and/or equipment
		1.3	Plan work sequences to optimise throughput of multiple samples
2	**Receive and prepare samples**	2.1	Log samples using standard operating procedures (SOPs)
		2.2	Record sample description, compare with specification and note and report discrepancies
		2.3	Prepare samples and standards in accordance with chemical testing requirements
3	**Check equipment before use**	3.1	Set up equipment and instruments in accordance with test method requirements
		3.2	Perform pre-use and safety checks in accordance with relevant workplace and operating procedures
		3.3	Check equipment calibration using specified standards and procedures
		3.4	Inspect reagents required for quality issues including visual checks and expiry
		3.5	Maintain equipment log in accordance with workplace procedures
4	**Test samples to determine chemical species or properties**	4.1	Operate equipment and instruments in accordance with test method requirements
		4.2	Perform tests or procedures on all samples and standards in accordance with specified methods
		4.3	Shut down equipment and instruments in accordance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			with operating procedures
5	**Process and interpret data**	5.1	Record test data noting atypical observations and anomalies
		5.2	Construct calibration graphs and compute results for all samples from these graphs
		5.3	Check calculated values for consistency with expectations
		5.4	Record and report results in accordance with workplace procedures
		5.5	Determine if obvious procedure or equipment problems have led to atypical data or results
6	**Maintain a safe work environment**	6.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel
		6.2	Minimise the generation of wastes and environmental impacts
		6.3	Safely collect and dispose of laboratory and hazardous waste
		6.4	Care for and store equipment and reagents as required
7	**Maintain laboratory records**	7.1	Record entries on report forms or into a laboratory information management system accurately calculating, recording or transcribing data as required
		7.2	Ensure traceability of sample from receipt to reporting of results

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Problem-solving skills to trace and source obvious causes of artefacts, track obvious test malfunctions for standardised procedures, and troubleshoot basic equipment and methods.
- Calculate the concentration of solutions.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974003 Perform chemical tests and procedures, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL974019 Perform chemical tests and procedures

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974003 Perform chemical tests and procedures. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely performed at least 3 different chemical tests involving several measurement steps including at least 1 of the following:
  - colorimetric techniques
  - infrared and ultraviolet-visible (UV-VIS) spectrophotometry
  - other spectrometric techniques
  - chromatographic techniques
  - electrochemical techniques
  - electrophoretic techniques
  - soil testing techniques
  - gravimetric analysis
  - titrimetric analysis
  - filtration, separation and solvent extraction techniques
  - corrosion testing, cement content and accelerated weathering.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- why chemical tests are performed
- relevant chemical principles and concepts, including:
  - elements, compounds, ions, atoms, molecules, bonding and links to chemical properties
  - periodic table and symbols of elements

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  - atomic mass and molecular weight
  - moles and molarity
  - chemical formulae and balancing equations
  - chemical reactions
  - energy levels and absorption/emission spectra
- purpose of the tests and/or procedures conducted
- international system of units (SI)
- principles and concepts related to equipment and instrument operation, tests and/or procedures
- requirements for cleaning up spills and reporting faulty or unsafe equipment, hazards and incidents.
- concepts of metrology, including:
  - all measurements are estimates
  - precision, accuracy and significant figures
  - sources of error, uncertainty and repeatability
  - traceability
- function of key components of the equipment and instrument and reagents and effects of modifying equipment and instrument variables
- common causes of analytical errors
- calibration requirements and basic equipment and method troubleshooting procedures
- sample preparation procedures for the tests and/or procedures conducted
- traceability requirements
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory equipped with appropriate sample preparation and test equipment, instruments, standards and reagents
  - workplace procedures and standard methods
  - records, including test and calibration results; equipment use, maintenance and servicing history, and faulty or unsafe equipment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL974021 Perform biological procedures

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974006 Perform biological procedures. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to interpret work requirements, prepare samples, and perform routine biological procedures. These procedures may involve several steps and are used to classify organisms and biologically active compounds by analysing their biological and/or chemical characteristics. This unit includes interpretation of results and troubleshooting obvious departures from standard procedures.

This unit of competency applies to technical assistants working in the biomedical, environmental, biotechnology and education industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret and schedule work requirements**	1.1	Review work request to identify samples, required procedures and materials/equipment/instruments involved
		1.2	Identify hazards and workplace control measures associated with the sample, preparation methods, reagents and/or equipment
		1.3	Plan parallel work sequences to optimise throughput of multiple sets of samples
2	**Receive and prepare biological samples**	2.1	Log samples using standard operating procedures (SOPs)
		2.2	Record sample description, compare with specification and note and report discrepancies
		2.3	Prepare samples in accordance with testing requirements
3	**Perform techniques that assist in the classification of organisms**	3.1	Identify characteristics used to classify organisms
		3.2	Use dichotomous keys to identify organisms
4	**Perform biological procedures**	4.1	Set up and use equipment and reagents in accordance with the method
		4.2	Perform techniques in accordance with the standard operating procedures
5	**Maintain a safe work environment**	5.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel
		5.2	Minimise the generation of waste
		5.3	Safely dispose of biohazardous wastes

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.4 Clean, care for and store equipment and reagents as required
6 **Maintain laboratory records**	6.1 Record entries on report forms or into a laboratory information management system, accurately calculating, recording or transcribing data as required
	6.2 Ensure traceability of sample from receipt to reporting of results

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL974006 Perform biological procedures, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL974021 Perform biological procedures

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974006 Perform biological procedures. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- classify 2 organisms from 2 different kingdoms to species level using a dichotomous approach
- safely and accurately performed 3 multistep biological procedures, using a minimum of 2 different techniques from the following list:
  - multistep staining:
    - haematological
    - histological
    - microbiological
  - preparation and examination of samples to demonstrate mitosis microscopically
  - preparation and enumeration of microscopic samples
  - colorimetry
  - spectrophotometry
  - chromotography
  - electrophoresis
  - electrochemistry
  - multistep molecular technique
  - multistep immunological technique.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

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- biological principles and concepts underpinning tests and procedures associated with job role:
  - basic classification and taxonomy of organisms including prokaryotes and eukaryotes, bacteria, viruses, fungi, plants, animals, parasites and prions
  - interrelationships of biological systems including the carbon cycle and energy cycle
  - basic structure and function of a plant and animal cell and the respective organelles (plant and animal)
  - cell membrane activity, including diffusion (passive, facilitated and active), osmosis, tonicity and plasmolysis
  - plant and animal tissue types
  - phases of the cell cycle including phases of mitosis
  - mendelian genetics including inheritance, meiosis, karyotypes, dominant and recessive traits, genotypes, phenotypes, and pedigrees
  - basic structure and function of chromosomes, nucleic acids and proteins
  - chemical and physical characteristics of organic molecules
  - basic structure and function of including carbohydrates, fats and amino acids
  - basic role of biologically significance of ions, including calcium, iron, magnesium, sodium, potassium, chloride and phosphate
- purpose of procedures implemented (why they are used and what they demonstrate)
- calculation steps to give results in appropriate units and precision
- importance and appropriate use of controls and certified reference materials
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all clinical information, and laboratory data and records.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory equipped with appropriate test equipment and instruments, safety equipment, reagents and materials
  - standard operating procedures (SOPs) and testing methods
  - records, including:
    - test calibration results
    - equipment use, maintenance and servicing history
    - faulty or unsafe equipment
    - batch number, catalogue number and use-by-date for analytical kits.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL974022 Undertake environmental field-based monitoring

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974007 Undertake environmental field-based monitoring. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to organise and undertake field monitoring programs that are primarily focused on the determination of physical and chemical parameters and/or observation and documentation of biological/ecological systems. It covers confirming the requirements of the monitoring activities, sampling, sample handling, physical and chemical monitoring, and simple field-based analysis, data collection and recording. It also covers field camp maintenance and field safety. All work would be performed under the guidance and supervision of a scientific officer.

This unit of competency applies to technical, field and environmental officers working in the construction materials, mining and environmental services industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm requirements for field monitoring activities**	1.1 Clarify the purpose, objectives and the defined site for the field monitoring activities with supervising staff
		1.2 Review all emergency plans, risk assessments, and safety and environmental requirements associated with the field activities
		1.3 Review and discuss the detailed work program with supervising staff
		1.4 Clarify the need for permits and any access restrictions or local concerns at field site
		1.5 Clarify details of all samples to be collected and field parameters to be measured
		1.6 Confirm final data formats will suit stakeholders who receive or use the data
		1.7 Review existing in-house protocols and/or associated in-house requirements that relate to field sampling, monitoring and data quality procedures
2	**Prepare for field monitoring activities**	2.1 Develop checklists, based on work program, to facilitate correct preparation of field activities
		2.2 Identify and implement all actions required under workplace emergency plan, risk assessment, and environment, safety and data quality procedures
		2.3 Complete all administrative requirements and obtain appropriate approvals/permits
		2.4 Prepare and check all instruments, equipment, materials and supplies required to implement field program
		2.5 Confirm correct and safe use of equipment and details of field activities with supervisor
		2.6 Arrange and check correct operation, packaging and transportation of all supplies and equipment

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
3	**Perform field activities**	3.1 Establish and maintain field camp in accordance with workplace procedures
		3.2 Perform field sampling, monitoring, data collection and recording in accordance with the agreed work program
		3.3 Label all samples and complete data sheets and field log book in accordance with workplace procedures
		3.4 Store samples/specimens in accordance with any special requirements for continued wellbeing, viability or integrity
		3.5 Perform all tests and operate all equipment according to workplace instructions
		3.6 Store and maintain equipment and, where appropriate, calibrate instruments during field activities
		3.7 Perform all activities safely with minimal impact on the environment
4	**Close down field monitoring activities**	4.1 Arrange and check final packaging and transportation of all samples, equipment and supplies back to home base
		4.2 Ensure that monitoring/camp site is left in accordance with workplace and environmental requirements
		4.3 Ensure all samples and data are stored safely
		4.4 Ensure dispatch of collected samples for subsequent analysis
		4.5 Test and, if required, decontaminate equipment before storage
		4.6 Report results, noting any anomalies with users, data analysers and/or supervisor

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Communication skills to effectively engage in face-to-face conversations and telephone interactions, complete written documents and participate in meetings

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974007 Undertake environmental field-based monitoring, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL974022 Undertake environmental field-based monitoring

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974007 Undertake environmental field-based monitoring. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- organised and undertaken at least 1 field monitoring program to accurately determine physical and chemical parameters, or
- observed and accurately documented at least 1 biological and ecological system.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- understanding of the purpose and objectives of field activities, such as information and analysis required, end users of information, and significance of outcomes for broader programs
- application of risk assessment to work programs and field activities
- technical capabilities and limitations of equipment and instruments used in field activities
- purpose of field monitoring activities:
  - single or multiple site sampling and monitoring, routine monitoring of physical/chemical parameters
  - biological/ecological surveys
  - requirement to comply with legislation, regulations or standards, industry sampling or monitoring protocols or codes of practice
- common issues and problems that may occur when organising and conducting field activities:
  - loss or failure of equipment
  - failure to bring critical equipment

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  - communication failure/difficulties
  - unexpected restriction access to site
  - unforeseen environmental impacts
  - contact with hazardous wastes.
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - equipment required for field activities: vehicles, navigation and communication equipment; survey and/or testing equipment, sampling equipment, containers, safety equipment and consumables
  - work program, workplace procedures, codes of practice and field protocols and manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL974024 Undertake field-based, remote-sensing monitoring

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974009 Undertake field-based, remote-sensing monitoring. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to organise and undertake defined field-based, remote-sensing monitoring activities. These may include assembling, setting up and checking appropriate monitoring equipment on-site, sampling, data collection and storage, equipment and system maintenance, and associated field testing and laboratory analysis. This unit of competency does not cover developing specific monitoring protocols or detailed design and/or construction of instruments, buildings, structures associated with the remote-sensing monitoring activities.

This unit applies to technical, field and environmental officers working in the environmental services, geotechnical, construction materials testing and mining industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm monitoring requirements with supervising staff**	1.1	Clarify the purpose, objectives and the preferred site for the remote-sensing activities
		1.2	Review all emergency and hazard/risk assessments, site safety and environmental requirements, and data quality procedures for the field activities
		1.3	Clarify details of all field parameters to be monitored and the preferred monitoring and data quality procedures
		1.4	Confirm final data formats will suit stakeholders who receive or use the data
		1.5	Clarify details of any statutory requirements that apply to the site and associated field activities
		1.6	Review existing remote-sensing monitoring protocols, and siting standards or associated in-house requirements which relate to the field activities
2	**Assemble remote-sensing field monitoring system**	2.1	Identify required instruments, equipment and consumables and associated maintenance and replacement procedures
		2.2	Identify site access, services and security requirements and any site constraints
		2.3	Complete all administrative requirements and obtain appropriate approvals
		2.4	Confirm required instrument calibration and data storage, handling and transfer systems
		2.5	Field-check site suitability for monitoring activities and define alternative sites as necessary
		2.6	Assemble remote-sensing monitoring system and check all components under laboratory conditions
3	**Organise and establish the**	3.1	Identify, and confirm with senior staff, all resources required for operation of monitoring system in the field

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	remote-sensing monitoring site	3.2	Confirm that all safety, emergency and risk assessment requirements and data quality procedures have been correctly applied to the field activities
		3.3	Ensure correct packaging and transportation of equipment and instruments to defined field site
		3.4	Establish remote monitoring station
		3.5	Test operation of total system under field conditions
4	**Operate and maintain monitoring site**	4.1	Undertake regular or emergency inspections of the site according to set procedures
		4.2	Undertake calibration checks according to written instructions
		4.3	Inspect and maintain all instruments, equipment and data systems and organise replacement of defective items
		4.4	Perform all field and laboratory activities safely and with minimal impact on the environment
		4.5	Document all site visits and associated actions
		4.6	Review the total monitoring activity on a regular basis and implement any required modifications or improvements
5	**Close down field monitoring activities**	5.1	Confirm decision to close down site and finalise all data requirements with supervising staff
		5.2	Dismantle monitoring system and arrange checking, packaging and transportation of all equipment and instruments back to base
		5.3	Close down site in accordance with workplace and environmental requirements
		5.4	Hand back site and inform all relevant authorities
		5.5	Test, decontaminate, if required, and store all equipment appropriately

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.6 Document all close-down actions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Problem solving skills to respond effectively to changed or unforeseen circumstances
- Oral communication skills to effectively consult with clients face-to-face and by telephone and to effectively participate in meetings.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974009 Undertake field-based, remote-sensing monitoring, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL974024 Undertake field-based, remote-sensing monitoring

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL974009 Undertake field-based, remote-sensing monitoring. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- organised and safely and effectively undertaken at least 2 defined field-based, remote-sensing monitoring activities to collect and store reliable data.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- terminology, protocols and statutory requirements relevant to field-based environmental monitoring activities conducted as part of job role
- purpose and objectives of the monitoring activities conducted as part of job role, including:
  - information and analysis required
  - end users of information
  - significance of outcomes for broader programs
- operating principles, technical capabilities and limitations of remote-sensing equipment and instruments used
- typical instruments and equipment
- typical purpose of field monitoring activities:
  - single or multiple site monitoring
  - component of workplace environmental management plan
  - remote-sensing monitoring of physical/chemical and mechanical/geotechnical parameters
  - monitoring of consolidation of soils and foundations

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  - monitoring the durability of structures (e.g. roads)
  - requirement to comply with statutory requirements
  - requirement to comply with industry sampling/monitoring protocols/codes of practice
- standard methods for sampling, remote-sensing/monitoring protocols, data quality procedures and site-specific requirements
- data quality, data storage, analysis and presentation procedures
- workplace and/or legal traceability requirements
- hazards and risks associated with field-based, remote-sensing monitoring
- field-based work health and safety (WHS) requirements, emergency plans and environmental requirements
- workplace and/or legal traceability requirements
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - work program, workplace procedures covering safety and risk assessment, first aid, survival and emergency procedures, environmental requirements, codes of practice and field protocols
  - vehicles, monitoring and communication equipment, consumables and manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL975042 Design and supervise complex environmental field surveys

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975011 Design and supervise complex environmental field surveys. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to design and supervise complex field surveys for a wide range of environmental systems. This unit covers confirming survey requirements, designing and organising field surveys to achieve their purpose, and supervising the field survey according to a defined plan.

This unit applies to technical officers working in the environmental industry sector. All operations must comply with relevant standards, appropriate procedures and/or workplace requirements.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

MSL974022 Undertake environmental field-based monitoring

Competency Field

Testing

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm survey requirements with senior staff**	1.1	Confirm the purpose and objectives of the field survey activities with senior management and details of information required
		1.2	Clarify the purpose and objectives of the field survey activities with all stakeholders within the context of the workplace's overall environmental program
		1.3	Identify and accurately interpret all external statutory requirements and workplace protocols that relate to the defined field survey activities
		1.4	Analyse drivers and constraints that may influence field survey activities
		1.5	Document the type, quantity and quality of data needed to meet the defined objectives
		1.6	Refine and document the detailed objectives of the field activities with senior management and stakeholders
2	**Design field survey activities**	2.1	Develop and document details of the field survey methodology
		2.2	Discuss and confirm survey methodology with senior staff and external experts or stakeholders
		2.3	Develop work program, including timetable and staff roles and responsibilities for the total field survey, and all related activities
		2.4	Ensure that work program conforms to workplace requirements covering risk management, data quality procedures, safety, environmental and emergency requirements
		2.5	Document work program
		2.6	Address all administration requirements and obtain appropriate approvals

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
3	**Identify resources and supervise pre-survey checks**	3.1 Identify and list all resources required to implement the agreed work program
		3.2 Arrange collection and checking of all equipment, field instruments and supplies required for implementation of the work program
		3.3 Supervise calibration of all appropriate field instruments
		3.4 Arrange correct packaging and transportation of equipment and instruments
		3.5 Arrange suitable access, transport, communication and emergency systems for all field locations and activities
4	**Supervise field survey activities**	4.1 Supervise all field survey and associated activities
		4.2 Monitor equitable duty rosters covering field survey activities in consultation with all staff
		4.3 Follow data quality procedures
		4.4 Perform survey work safely and with minimal impact on the environment
5	**Supervise close-down of field activities**	5.1 Arrange for the checking, packaging and transportation of all samples, equipment and instruments back to base
		5.2 Ensure that site is left in accordance with workplace and environmental requirements
		5.3 Monitor dispatch of collected samples for subsequent laboratory analyses
		5.4 Test and document all equipment and instruments before final storage, as required
		5.5 Store all field data appropriately for subsequent analysis
		5.6 Report results, any anomalies and recommendations to data analysers, users and/or supervisor

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Oral communication skills to interact and negotiate effectively with staff and stakeholders to resolve problems or conflicts.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL975011 Design and supervise complex environmental field surveys, Release 1.

Links

Training Package Companion Volumes - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL975042 Design and supervise complex environmental field surveys

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975011 Design and supervise complex environmental field surveys. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- effectively designed, organised and supervised at least 1 complex environmental field survey.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- general principles of environmental planning and assessment, and environmental protection
- environmental field survey terminology, principles, practices and techniques relevant to job role
- workplace data quality procedures, data recording and storage methods relevant to job role
- current developments in field instrumentation, survey equipment and communication systems relevant to job role
- typical purpose and objectives of the complex environmental field surveys:
  - part of workplace environmental management plan
  - statutory requirements
  - environmental impact assessment for major development
  - environment audit
  - pollution control activity
  - general environmental and ecological surveys
  - research studies

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- rights and responsibilities of employers and employees when conducting field activities, such as legal/regulatory requirements, risk management, safety and emergency management, and environmental protection
- types of field survey activities:
  - climate and meteorology
  - geology, soils and geomorphology
  - hydrology and water quality
  - noise
  - land resources, vegetation, wildlife and conservation
  - land uses, agriculture, forestry, mining and recreation
- typical clients of field surveys:
  - Commonwealth, state/territory and local government agencies
  - organisations with monitoring and/or survey responsibilities
  - regulatory authorities
  - private companies
  - developers
  - land owners and leaseholders
- typical field survey problems
- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - workplace procedures and field protocols, equipment/instrument manuals, calibration procedures, instrument fault-finding procedures, general maintenance and repair procedures
  - equipment required for field activities, such as vehicles, navigation and communication equipment, survey equipment, sampling/monitoring equipment, containers and animal cages, field test kits and instruments, consumables, safety equipment, first aid and/or survival kits
  - work program, workplace procedures, codes of practice and field protocols and manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

Training Package Companion Volumes - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL975045 Perform laboratory-based ecological techniques

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975017 Perform laboratory-based ecological techniques. Changes to elements and performance criteria. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to participate in laboratory investigations involving animals, plants and related environmental parameters. The animals or plants might be single specimens, parts of specimens or be in culture or under propagation. The investigations might also be part of experimental models that examine interactions of animals and/or plants and their environments. Investigations would generally relate to taxonomy, physiology and pathology, and would be oriented to scientific research, food production and manufacture, and to investigation of biological environments and ecosystems.

This unit applies to laboratory technicians and technical officers working in biological, biotechnology and environmental industry sectors. It is expected that all work would conform to statutory and work health and safety (WHS) codes of practice. This unit of competency assumes that personnel perform tests and procedures under the close supervision of scientific staff and that the workplace will equip its workers with relevant animal handling skills should they be required. The unit does not cover procedures related to the handling of vertebrates that are subject to national and state/territory animal care and ethics regulations.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

MSL974021 Perform biological procedures

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Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Process specimens and documentation**	1.1	Identify specimens and request forms that do not comply with minimum industry requirements for labelling, identification and test requests
		1.2	Record any discrepancies and indicate what action is required
		1.3	Log samples, recording details that allow accurate tracking and chain of custody
2	**Participate in the identification and classification of species**	2.1	Record macroscopic and/or microscopic details of specimens to assist in their identification and classification
		2.2	Use taxonomic keys to assist in the identification and classification of species
		2.3	Perform laboratory analyses that can assist in identification and classification of species
		2.4	Preserve specimens for future reference
		2.5	Label preserved specimens for storage and reliable retrieval from collections
3	**Maintain viability and integrity of specimens during experimentation**	3.1	Provide nutrients and environments to maintain viability of individual specimens and organisms being cultured or propagated
		3.2	Perform procedures and analyses to monitor the experimental environment
		3.3	Perform procedures and analyses to monitor the physiology of organisms in the experimental environment

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	3.4	Adjust nutrient requirements and environmental conditions as indicated by monitoring data
	3.5	Report (to supervisors) data and phenomena that may risk viability of individual specimens or cultures
	3.6	Report (to supervisors) data and phenomena that are incompatible with the experimental design parameters
4 **Integrate laboratory and field data**	4.1	Locate field data relevant to the study or experiment
	4.2	Match field and laboratory data codes for tracking, reporting and chain of custody requirements
	4.3	Log field and laboratory data into information systems
	4.4	Assist with writing reports of experiments and related field studies

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Oral communication skills to interact effectively and use appropriate scientific terminology and technical concepts to report data and phenomena that may risk viability of individual specimens or cultures, or are incompatible with the experimental design parameters.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL975017 Perform laboratory-based ecological techniques, Release 1.

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Links

Training Package Companion Volumes - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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Assessment Requirements for MSL975045 Perform laboratory-based ecological techniques

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975017 Perform laboratory-based ecological techniques. Changes to elements and performance criteria. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- effectively identified and classified at least 5 different animal and plant species for scientific and experimental purposes
- processed, labelled, preserved and stored at least 5 different kinds of specimens, taking care not to contaminate sterile environments or specimens
- performed procedures and analyses to monitor the physiology of 5 different organisms/specimens in the experimental environment and maintained their viability.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- growth requirements of organisms that are subjects of laboratory or greenhouse culture or propagation relevant to job role
- general anatomy of plants and animals that is useful as classification data
- processes that are essential for preservation of plant and animal material for use as reference material
- relationships between field and laboratory data that are useful in giving commentary on the integrity or distress in biological environments
- rationale for selection of techniques used to monitor the experimental environment and the effects of variables on organisms in the experimental environment
- uses of environmental impact statements that incorporate the results of field and laboratory analyses
- workplace and/or legal traceability requirements
- awareness of environmental sustainability issues as they relate to the work task

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- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - equipment and resources for investigating the physiology of plants and animals in the laboratory
  - workplace procedures, sampling plans, test methods and equipment manuals
  - computers and programs for simulated experiments or data analysis
  - items of equipment, reagents, specimens and systems for botanical and zoological techniques
  - laboratory information management systems (LIMS), databases, record and filing systems, including specimen accessioning.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Training Package Companion Volumes - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSL975051 Supervise geotechnical site investigations

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975023 Supervise geotechnical site investigations. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit of competency describes the skills and knowledge to supervise and direct geotechnical site investigations based on observation and testing. The unit involves confirming the scope of the investigation, liaising with site personnel and coordinating geotechnical sampling and testing activities, collecting reliable data and reporting results. Personnel are also expected to interpret results in the field, provide reliable advice to clients, recognise and rectify obvious errors or unexpected results and troubleshoot common problems.

This unit applies to technical officers working in the construction materials testing sector. This unit of competency is typically performed by experienced technicians or engineering paraprofessionals, who often supervise, or direct less experienced technical personnel.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

MSL974018 Conduct geotechnical site investigations

Competency Field

Testing

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Plan geotechnical investigation**	1.1	Identify the job, consult with stakeholders and obtain relevant information, including the purpose and scope of the investigation
		1.2	Conduct desktop study of existing site information
		1.3	Inspect the site to determine the characteristics of the project
		1.4	Design inspection, sampling and testing program in accordance with specifications
		1.5	Select human and physical resources required for the job
		1.6	Conduct risk assessment and control risk
		1.7	Brief support personnel on job-specific requirements
		1.8	Ensure ongoing liaison with stakeholders during project
2	**Establish on-site operations**	2.1	Consult with project personnel to determine methods of communication, roles, responsibilities and expectations of each party, including identification of potential problems and conflicts
		2.2	Arrange deployment of personnel and resources to site
		2.3	Arrange for the physical location of services, as required, and reconcile test locations
3	**Coordinate geotechnical sampling and testing**	3.1	Ensure sampling and testing is conducted in accordance with project requirements
		3.2	Ensure test data and observations are recorded in accordance with workplace practices
		3.3	Review the progress of sampling and testing against the project schedule and provide any feedback to client
		3.4	Review samples and field data and schedule testing

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	3.5	Ensure the finalisation of site operations according to project brief or relevant standard
4 **Analyse project data and report to client**	4.1	Report test results to site superintendent at specified intervals
	4.2	Analyse project data and provide regular reports to the client using the agreed format
5 **Maintain workplace records**	5.1	Record entries on report forms or into a laboratory information management system accurately calculating, recording or transcribing data as required
	5.2	Ensure traceability of sample from receipt to reporting of results
6 **Promote a safe work environment**	6.1	Promote the use of safe work procedures and personal protective equipment (PPE)
	6.2	Minimise environmental impacts of testing/sampling and generation of waste
	6.3	Promote the collection and disposal of all waste in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL975023 Supervise geotechnical site investigations, Release 1.

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Links

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Assessment Requirements for MSL975051 Supervise geotechnical site investigations

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975023 Supervise geotechnical site investigations. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- effectively supervised and directed at least 2 geotechnical site investigations.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- purposes and principles of geotechnical site investigations supervised and directed as part of job role
- principles of planning and project management
- identification and classification of materials
- engineering properties of soil and rock materials
- representative sampling and testing methods (both in situ and laboratory) conducted as part of geotechnical site investigations relevant to job role
- uses of engineering materials in civil construction
- civil construction techniques relevant to job role
- common site problems:
  - caving in of excavation walls
  - drilling difficulties
  - not knowing the requirements of the design engineer
  - not understanding the nature of the item being designed (e.g. retaining wall, piled structure and earthworks)
  - sample loss during retrieval
  - knowing when to stop a hole, or what and when to test and sample
  - misidentification of samples and sampling locations

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  - equipment breakdown and breakage
- environmental problems and issues, including site access, inclement weather, traffic, wildlife, vegetation and construction activities
- principles and purpose of test methods implemented (why they are used and what they demonstrate)
- technological advances that include automation
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - access to geotechnical sites and relevant site documentation
  - workplace procedures, site plans, sampling and test methods/programs and equipment manuals
  - consumables; hand tools; field sampling and test equipment, such as dynamic cone penetration (DCP) testing, standard penetration testing (SPT), shear vane, pocket penetrometer and water level indicator, and sand replacement apparatus
  - levelling equipment (dumpy and automatic levels)
  - still/video camera, communication equipment
  - excavation equipment, such as hand and power augers, powered excavators, generators and jack hammers
  - safety clothing and equipment, including helmets, boots, gloves, earmuffs and glasses.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Training Package Companion Volumes - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa

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MSMENV272 Participate in environmentally sustainable work practices

Modification History

Release 1. Supersedes and is equivalent to MSAENV272B Participate in environmentally sustainable work practices

Application

This unit of competency covers the skills and knowledge required to effectively find out current resource use and carry out improvements, in own work area, including those that reduce the negative environmental impacts of work practices.

This unit of competency applies to operators/team members who are required to follow procedures to work in an environmentally sustainable manner. This maximises the environmental performance of the process and the organisation, ensures regulatory compliance, and aims to minimise environmental risks and impacts.

This unit of competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office and warehouse. This unit will need to be contextualised for the industry sector, organisation and section.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

HSE

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Identify current resource use and environmental issues**	1.1	Identify workplace environmental and resource efficiency issues
		1.2	Identify resources used in own work role
		1.3	Find out current usage of resources
2	**Comply with environmental regulations**	2.1	Read and follow environmental policies and procedures to ensure compliance with federal, state/territory and local government laws, by-laws, regulations and mandated codes of practice, and codes and standards that the organisation applies voluntarily
		2.2	Ask questions and seek clarification relating to environmental work requirements
		2.3	Identify incidents, including breaches or potential breaches of environmental regulations and occurrences outside of standard procedures, and report to appropriate personnel
		2.4	Report environmental incidents using workplace forms and procedures
3	**Seek opportunities to improve environmental practices and resource efficiency**	3.1	Follow workplace procedures to improve environmental practices and resource efficiency
		3.2	Make suggestions for improvements to environmental workplace practices and work plans

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Environmental and resource efficiency issues

Environmental and resource efficiency issues include minimisation of environmental risks and maximisation of opportunities to improve business environmental performance and to promote more efficient

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production and consumption of natural resources. They include one or more of the following:

- minimisation of waste through implementation of the waste management hierarchy
- contribution to climate change and other macro threats that can arise from materials and work processes used
- efficient and effective use of energy and other resources
- seeking alternative sources of energy
- efficient use of materials and appropriate disposal of waste
- use of controls to minimise the risk of environmental damage from hazardous substances
- efficient water use
- reducing emissions
- life cycle analysis applied to issues, such as energy supply, materials, transport and production

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAENV272B Participate in environmentally sustainable work practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMENV272 Participate in environmentally sustainable work practices

Modification History

Release 1. Supersedes and is equivalent to MSAENV272B Participate in environmentally sustainable work practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and must include the ability to:

- find out resources used in own job, including one or more of:
  - making simple measurements, consistent with the job
  - counting the number of items entering/leaving a work area
  - reading indicators in the work area
  - obtaining relevant information from support personnel
- follow environmental policies and identify potential breaches of environmental regulations
- suggest improvements within the limit of own authority.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- a basic understanding of:
  - sustainability
  - the contribution to climate change and other macro threats that can arise from materials and work processes used
- the environmental hazards/risks, resource use and inefficiencies associated with own workplace and job
- the relevant environmental and resource efficiency policies and procedures for own work area
- the impact of laws and regulations at a level relevant to the work context.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations

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  - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor /third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - will typically include the use of appropriate tools, equipment and documents
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - pilot plant operation
  - demonstration of skills
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMENV472 Implement and monitor environmentally sustainable work practices

Modification History

Release 1. Supersedes and is equivalent to MSAENV472B Implement and monitor environmentally sustainable work practices

Application

This unit of competency covers the skills and knowledge required to effectively analyse the workplace in relation to environmentally sustainable work practices, and to implement improvements and monitor their effectiveness.

This unit of competency applies to those who have responsibility for a specific area of work or who lead a work group or team. It addresses the knowledge, processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools.

It includes identifying areas for improvement, developing plans to make improvements, and implementing and monitoring improvements in environmental performance.

This unit of competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office and warehouse. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

HSE

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Investigate current practices in relation to resource usage**	1.1	Identify environmental regulations applying to the enterprise
		1.2	Assess procedures for assessing compliance with environmental regulations
		1.3	Collect information on environmental and resource efficiency systems and procedures and provide to the work group, as required
		1.4	Measure and record current resource usage by members of the work group
		1.5	Analyse and record current purchasing strategies
		1.6	Analyse current work processes to access information and data, and assist in identifying areas for improvement
2	**Set targets for improvements**	2.1	Seek input from stakeholders, key personnel and specialists
		2.2	Access external sources of information and data as required
		2.3	Evaluate alternative solutions to workplace environmental issues
		2.4	Set efficiency targets
3	**Implement performance**	3.1	Source and use techniques/tools to assist in achieving targets

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	improvement strategies	3.2	Apply continuous improvement strategies to own work area of responsibility, and communicate ideas and possible solutions to the work group and management
		3.3	Integrate environmental and resource efficiency improvement plans for own work group with other operational activities and implement them
		3.4	Seek suggestions and ideas about environmental and resource efficiency management from stakeholders and act upon them where appropriate
		3.5	Implement costing strategies to fully value environmental assets
4	**Monitor performance**	4.1	Document outcomes and communicate reports on targets to key personnel and stakeholders
		4.2	Evaluate strategies and environmental performance, including breaches or potential breaches of regulations and occurrences outside of standard procedure which may lead to lower environmental performance
		4.3	Set new targets and investigate and apply new tools and strategies
		4.4	Promote successful strategies and reward participants where possible

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

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Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements
- *ISO 14001:2015 Environmental management systems*

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Unit Mapping Information

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMENV472 Implement and monitor environmentally sustainable work practices

Modification History

Release 1. Supersedes and is equivalent to MSAENV472B Implement and monitor environmentally sustainable work practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- investigate/analyse resource usage
- evaluate improvement alternatives and set targets
- implement improvements within the limit of own authority
- monitor the performance of improvements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant environmental and resource efficiency issues, specific to industry practices, including:
  - contribution to climate change and other macro threats that can arise from materials and work processes used
  - regulated environmental issues
  - issues relevant to licencing conditions
- best practice environmental approaches relevant to own area of responsibility
- methods for measuring and calculating resource usage.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations
  - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - will typically include the use of appropriate tools, equipment and documents

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  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - pilot plant operation
  - demonstration of skills
  - industry based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMENV672 Develop workplace policy and procedures for environmental sustainability

Modification History

Release 1. Supersedes and is equivalent to MSAENV672B Develop workplace policy and procedures for environmental sustainability

Application

This unit of competency covers the skills and knowledge required to develop and implement a workplace sustainability policy, including the modification of the policy to suit changed circumstances.

This unit of competency applies to team leaders/supervisors/managers who are required to develop approaches to environmental sustainability within workplaces, including the development and implementation of policy.

It includes communicating with relevant stakeholders, developing and monitoring sustainability policies and reviewing and improving sustainability policies.

This unit of competency applies to all sectors of the manufacturing industry. It may also be applied to all sections of an organisation, including the office and warehouse. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of

Pre-requisite Unit

Nil

Competency Field

HSE

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Develop workplace sustainability policy	1.1	Define the scope of sustainability policy
		1.2	Identify and consult with stakeholders during the policy development process
		1.3	Review the environmental sustainability strategies relevant to all stages of work covered by the policy
		1.4	Make recommendations for policy options based on likely effectiveness, timeframes and cost
		1.5	Develop policy that reflects the organisation's commitment to sustainability as an integral part of the business planning, and as a business opportunity
		1.6	Agree upon appropriate methods of implementation
2	Communicate the policy	2.1	Promote the policy, including its expected outcome to key stakeholders
		2.2	Inform those involved in implementing the policy as to outcomes expected, activities to be undertaken and responsibilities assigned
3	Implement the policy	3.1	Develop and communicate procedures to help implement the policy
		3.2	Employ strategies for implementation of policy in resource efficiency
		3.3	Establish recording systems for tracking changes in sustainability approaches and assign responsibilities
4	Review policy	4.1	Record outcomes and provide feedback to key personnel

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implementation		and stakeholders
	4.2	Investigate success or otherwise of policy
	4.3	Monitor records to identify trends that may require remedial action to implemented policy and procedures
	4.4	Modify policy and or procedures as required to ensure improvements are made

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements
- *ISO 14001:2015 Environmental management systems*

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAENV672B Develop workplace policy and procedures for environmental sustainability

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMENV672 Develop workplace policy and procedures for environmental sustainability

Modification History

Release 1. Supersedes and is equivalent to MSAENV672B Develop workplace policy and procedures for environmental sustainability

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- scope and develop an integrated sustainability policy and procedure within an enterprise
- raise awareness among stakeholders and those involved in implementing the policy of expected outcomes
- develop a workable implementation strategy
- ensure policy implementation is monitored, reviewed and modified where

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant policy development and implementation processes and practices
- principles, practices and available tools and techniques of sustainability management relevant to the particular industry context.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMSUP301 Apply HACCP to the workplace

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP301A Apply HACCP to the workplace

Application

This unit of competency covers the skills and knowledge required to apply the hazard analysis and critical control point (HACCP) principles to the manufacture of products to be used in contact with food, beverages, pharmaceuticals or similar situations.

It applies to senior operators who are required to use a HACCP-based approach to analyse food, beverage or pharmaceutical safety risks, define controls and corrective action procedures, and ensure the system is working effectively.

The operator will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

HACCP is an internationally recognised systematic approach to identifying and controlling food and related safety hazards.

Related acronyms are used in this competency:

- CCP - critical control points
- CCF - critical control factors
- CCL - critical control limits
- HAT - hazard analysis table.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator as appropriate.

This unit of competency applies to all work environments and sectors within the industry where the product comes into contact with food, beverages or pharmaceuticals or otherwise requires 'food standards' to be maintained.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

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Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Apply a HAT to an existing process	1.1	Identify CCPs
		1.2	Recognise CCFs which are outside of or approaching CCLs
		1.3	Describe hazard related to CCFs and CCLs
		1.4	Implement corrective action in accordance with HAT
2	Develop/modify a HACCP	2.1	Conduct a hazard analysis
		2.2	Determine the CCPs
		2.3	Establish critical limits
		2.4	Establish/modify a system to monitor control of the CCPs
		2.5	Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control
		2.6	Establish procedures for verification to confirm that the HACCP system is working effectively
		2.7	Establish/modify documentation concerning all procedures and records appropriate to these principles and their application.

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3	Interpret HACCP/HAT to another worker	3.1	Explain the purpose and rationale of HACCP
		3.2	Identify CCPs, CCFs and CCLs
		3.3	Describe indicators of CCFs not within their CCLs
		3.4	Describe impact of non-conformances
		3.5	Demonstrate corrective action
		3.6	Monitor worker implementing HACCP in their job

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- Codex Alimentarius
- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other

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form, and include one or more of the following:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Hazards

Hazards include one or more of the following:

- biological
- chemical
- physical
- product contamination
- material contamination
- methods/routes of exposure and contamination

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following

- recognising CCFs approaching the CCLs
- determining corrective action from HAT
- applying HACCP principles to situations not directly covered by HAT
- recognising the need for a new/modified HACCP/HAT
- modifying HACCP/HAT to meet changes circumstances

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications

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- remembered experience
- relevant knowledge obtained from appropriate people

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP301A Apply HACCP to the workplace

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP301 Apply HACCP to the workplace

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP301A Apply HACCP to the workplace

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- recognise HACCP/HAT issues and take appropriate corrective action
- analyse process and material variations in terms of the HACCP and determine appropriate actions
- apply HACCP principles to develop a new and/or modify and existing HACCP as part of a team
- communicate effectively with relevant personnel to convey technical information
- apply operational knowledge to non-routine problems
- write technical reports and HACCP/HAT tables
- interpret quantitative data, make comparisons and interpretations.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- 'seven principles' of HACCP
- importance of CCPs, CCFs and CCLs
- relevance of HAT to routine production
- impacts of variations in materials, process and product on HACCP.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operations
  - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the use of HACCP tools in the workplace

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  - may use industry-based simulation for part only of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - demonstration of skills
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMSUP390 Use structured problem-solving tools

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem solving tools

Application

This unit of competency covers the skills and knowledge required to use structured process improvement tools to solve process and other problems.

This unit of competency applies to experienced operators, team leaders, supervisors or people in similar roles who are required to identify improvements and/or solve problems beyond those associated directly with the process unit/equipment.

A 'problem' in this context should be interpreted as 'an opportunity for improvement', not just something causing faulty product, product faults or process irregularities/breakdowns.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

Problem-solving techniques are often applied as group processes. Where the competency is achieved in a group context the individual being assessed must meet all aspects of the competency.

This competency does NOT cover the planning and facilitation of group problem-solving activities.

Other units of competency, including MSMOPS units, may include a problem-solving element where problems specific to that competency are to be resolved. However, this unit of competency requires structured problem-solving techniques to be applied more broadly and/or with greater depth and rigour than is implied by the problem-solving element of the other units.

This unit of competency applies to all work environments and sectors within the industry.

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No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Identify the** problem	1.1	Identify variances from desired operating/output parameters and quality
		1.2	Define the extent, cause and nature of the problem by observation and investigation
		1.3	State and specify the problem clearly
2	**Determine fundamental cause of problem**	2.1	Select problem-solving tool appropriate to the problem and the context
		2.2	Identify possible causes based on experience and the use of problem-solving tools/analytical techniques
		2.3	Develop possible cause statements
		2.4	Determine fundamental cause
3	**Determine corrective action**	3.1	Consider all possible options for resolution of the problem
		3.2	Consider strengths and weaknesses of possible options

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		3.3	Determine corrective action to remove the problem and possible future causes
		3.4	Develop implementation plans identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures
		3.5	Develop recommendations for ongoing monitoring and testing
4	**Communicate recommendations**	4.1	Prepare report on recommendations
		4.2	Present recommendations to appropriate personnel
		4.3	Follow up recommendations if required

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

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Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Problem-solving tools/ analytical techniques

Problem-solving tools/analytical techniques include one or more of:

- basic techniques:
  - 5 why's
  - brainstorming
  - 6 hats (Edward de Bono)
  - similarity/difference analysis
- visual techniques:
  - Ishikawa/fishbone diagrams
  - logic tree
  - histograms/Pareto analysis
  - scattergrams
- process-based tools:
  - flow charts
  - process logic/process requirements
  - cause and effect diagrams/charts
  - divide and conquer
  - control charts and run charts (Shewhart charts)
- business/interpersonal techniques:
  - force field analysis
  - strengths, weaknesses, opportunities, threats (SWOT) analysis
  - plan, do, check, act (PDCA)/define, measure, analyse, improve, control (DMAIC)
- other structured processes defined in organisation procedures, (e.g. TapRoot)

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Corrective actions

Corrective actions will include one or more of the following:

- consideration of at least two alternative solutions
- benefit-cost analysis (at least semi-quantitative, need not be in $ terms)
- health, safety and environment (HSE) impacts and controls
- risk assessment (HSE, business and project)
- determination of the preferred solution or a priority ranked shortlist

Implementation plans

Implementation plans to solve problems will include:

- specific, measurable, achievable, relevant, timed (SMART) objectives
- resource requirements (people, finances, plant/equipment, materials/consumables, time, skills and knowledge)
- methods for reaching objectives
- timelines
- methods of checking and adjusting adherence to plan (e.g. communication and follow-up)

Problems

A 'problem' in this context should be interpreted as 'an opportunity for improvement', not just something causing faulty product, product faults or process irregularities/breakdowns and will include one or more of the following:

- intractable process difficulty
- observed process waste/inefficiency ('Muda')
- issue with materials/components
- procedures/practices/process conditions which might be improved

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem solving tools

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP390 Use structured problem-solving tools

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem solving tools

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- identify at least one (1) problem
- analyse problem using at least one (1) analysis tool drawn from each of two (2) different groups of tools (basic, visual, process, business and organisation specific)
- select the preferred solution
- develop and use an implementation plan
- communicate effectively with other personnel.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant organisation procedures
- risks, risk assessment and controls relevant to problem being analysed
- targets and measures for output and quality
- types and application of problem-solving tools/analytical techniques
- relevant equipment and operational processes.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operations
  - will typically include a supervisor/third-party report focusing on the significance of the problem being addressed. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - demonstration of skills
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMWHS200 Work safely

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS200A Work safely

Application

This unit of competency covers the skills and knowledge required to apply workplace policies and procedures to maintain a safe work environment for self and others.

The unit of competency covers identifying work health and safety (WHS) hazards, assessing risk and following safety procedures in the workplace with minimal supervision.

Compliance with legislative requirements and duty of care are embedded in this unit through workplace instructions and procedures. Workers will be provided with clear directions, information, instruction, training and appropriate supervision regarding the relevant state/territory WHS legislation, codes of practice, relevant industry standards, workplace procedures and work instructions.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other shift team members and the control room operator, as appropriate.

No other licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Identify hazards** and **assess risk**	1.1	Identify hazards in the work area before and during work
		1.2	Access and apply relevant material safety data sheets (MSDS)
		1.3	Assess risks for the identified hazards
		1.4	Identify controls for these hazards from procedures
		1.5	Review effectiveness of controls within the scope of authority
		1.6	Identify and report remaining risk
2	**Follow procedures for risk control**	2.1	Control risks when working under minimal supervision by following workplace procedures
		2.2	Follow safety signs and other safety indicators/zones
		2.3	Select, use and maintain relevant personal protective equipment (PPE)
		2.4	Handle and store items/materials relevant to job safely
3	**Follow emergency procedures**	3.1	Recognise emergency situations
		3.2	Take appropriate initial emergency action
		3.3	Follow procedures for dealing with a range of site/plant emergencies
4	**Initiate suggestions to enhance task/ job-specific safety**	4.1	Raise WHS issues with designated personnel in accordance with workplace procedures and relevant requirements of WHS legislation
		4.2	Contribute to participative arrangements for WHS management in the workplace within organisation procedures and the scope of responsibilities and competencies

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		4.3	Provide input to minimise hazards in work area in line with organisation WHS procedures
		4.4	Provide input to opportunities for development of work group's competencies in relation to WHS
		4.5	Support the implementation of procedures to control risks using the hierarchy of control and in accordance with organisation procedures
		4.6	Report to appropriate people in accordance with workplace procedures when non-routine hazards arise
5	**Apply knowledge of WHS legislation and the organisation WHS policies and procedures**	5.1	Follow workplace procedures to achieve a safe working environment in accordance with all relevant WHS legislation/regulation, including codes of practice relating to particular hazards within the workplace or industry
		5.2	Identify the rights and responsibilities of employees and employers under the relevant WHS legislation
		5.3	Complete (personally or with assistance) hazard, accident or incident reports as required by workplace procedures and relevant sections of WHS legislation/regulation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory	The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the

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framework local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards Hazards include one or more of the following:

- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- fire and explosion
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions

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- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Equipment and PPE

Equipment and PPE include one or more of the following:

- hard hats
- goggles/glasses/face shields
- hearing protection (ear muffs and plugs)
- dusk masks/canister masks/self-contained breathing apparatus(SCBA)/ long-range breathers
- gloves/gauntlets
- safety boots
- antistatic equipment
- overalls/aprons/acid jackets/pants
- handling aids
- other safety equipment

Appropriate personnel

Appropriate personnel include one or more of the following:

- employer
- supervisor
- employees elected as WHS representatives
- other personnel with WHS responsibilities

Recognising emergency situation

Emergency situations will be recognised from one or more of the following:

- visual (e.g. flashing lights)
- auditory (e.g. alarms)
- communication systems (e.g. radios and announcements)
- any other obvious mechanisms used in the workplace

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS200A Work safely

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS200 Work safely

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS200A Work safely

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- identify hazards
- follow procedures to:
  - assess risks associated with the hazards
  - identify and apply standard controls
  - check that controls are in place and operational
  - select and use personal protective equipment (PPE)
- identify and interpret signs and symbols, including emergency alarms
- correctly handle and store items/materials relevant to job
- interpret and apply relevant material safety data sheets (MSDS).

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational work health and safety (WHS) procedures, including procedures for reporting WHS problems and taking action
- rights and responsibilities of employees and employers under the relevant WHS legislation
- hazards that may arise in the job/work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- hierarchy of control
- types and application of PPE
- hazard and emergency signs, labels and alarms
- appropriate responses to non-standard situations.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.

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- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use of appropriate safety gear and systems requiring demonstration of preparation, operation, completion and responding to problems
  - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - demonstration of skills
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSS014008 Improve sustainability through readily implementable change

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to identify and implement changes to production or operation procedures to improve sustainability in an organisation or related value chain organisations. It applies to readily implementable changes and measuring the immediate impact of the changes on equipment or area of operation. The unit covers the identification and implementation of changes to operational procedures to improve sustainability. These changes can often be attempted without substantial prior analysis or planning.

This unit applies across organisations and the full extent of their value chains. It applies to individuals with work area responsibilities such as team leaders, maintenance staff, technicians and others who have some sustainability responsibility as part of their job.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Examine sustainability outcomes required**	1.1	Identify drivers of sustainability change
		1.2	Define sustainability problem or need
		1.3	Consult with stakeholders on ways of satisfying the need
		1.4	Agree acceptable outcomes with key stakeholders
2	**Examine operations for readily implementable changes to improve sustainability**	2.1	Read and interpret current operational and maintenance standard procedures
		2.2	Identify potential sustainability issues in process
		2.3	Short-list potential sustainability issues which may be able to be easily eliminated or improved
		2.4	Estimate costs and benefits of readily implementable changes to improve sustainability issues
		2.5	Rank short-listed sustainability issues by estimated benefit and cost
		2.6	Determine success factors to assess benefits of eliminating muda (waste)
3	**Implement change**	3.1	Develop implementation plan and schedule to deliver required outcomes
		3.2	Negotiate required resources with stakeholders
		3.3	Negotiate timelines, measures and indicators of success with change stakeholders
		3.4	Acquire and deploy resources required to achieve agreed outcome
		3.5	Monitor implementation and make required adjustments
		3.6	Communicate and renegotiate with stakeholders

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 **Review change**	4.1 Measure immediate impact of change
	4.2 Identify non-compliances with planned improvements
	4.3 Recommend further improvements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014001 Improve sustainability through readily implementable change.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014008 Improve sustainability through readily implementable change

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified, planned and implemented at least 1 readily implementable change to improve sustainability.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- value chain concept and value chain participants to work area and the organisation more generally
- value chain items where changes can be made
- concept of muda and the following **seven (7)** wastes used in lean:
  - overproduction
  - delay or waiting
  - transportation
  - over processing
  - excess inventory
  - unnecessary motion
  - defects and rework
- methods of quantifying both required outcomes and muda into comparable units of measure
- brainstorming techniques
- cost benefit analysis
- drivers of change
- project improvement planning and scheduling techniques
- sustainability problems.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS014009 Evaluate sustainability impact of a work or process area

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to evaluate the impact on sustainability of a work or process area or a stage of production or logistics. This may be undertaken as a stand-alone evaluation or as part of an overall evaluation of an entire process or a value chain.

This unit applies to establishing the overall or broad sustainability impact of processes undertaken in a work area and making recommendations for mitigating negative sustainability impacts. This includes evaluating the impact on products made, services offered, and use of sites by an organisation or value chain member. This unit covers only that portion of the value chain which is totally within the boundaries of the selected work area.

This unit applies to individuals with work area responsibilities, such as team leaders, maintenance staff, technicians and others who have some sustainability responsibility as part of their job.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Evaluate the**	1.1 Identify the boundaries of the process or work area to be

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	work or process area		evaluated
		1.2	Identify all process steps within this area
		1.3	Identify the change which occurs at each step
		1.4	Define sustainability interactions at each step
2	**Determine sustainability issues for the work or process area**	2.1	Identify sustainability goals of enterprise as they relate to the process or work area
		2.2	Identify environmental sensitivities at each step in the process or work area
		2.3	Identify sustainability issues at each step in the process or work area
		2.4	Short-list high priority sustainability issues
3	**Analyse sustainability issues for the work or process area**	3.1	Determine root cause of each short-listed sustainability issue
		3.2	Determine possible solutions to root causes
		3.3	Estimate resources required for solutions and alternative mitigation strategies
		3.4	Rank solutions strategies by desirability
		3.5	Recommend preferred solutions in accordance with organisational procedures and protocols

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014002 Evaluate sustainability impact of a work or process area.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014009 Evaluate sustainability impact of a work or process area

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- evaluated at least 1 work or process area to determine high priority issues and solutions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sustainability process mapping
- process and changes which occur within the process
- environmental impacts of materials and energy used and emitted
- environmental sensitivities of all areas impacted by the work and process area and related areas where impact spreads beyond immediate area or containment
- root cause analysis and problem solving
- mitigation strategies relevant to work and process area
- simple cost benefit analyses techniques
- sustainability issues relevant to the work and process area
- standards and regulations relevant to work and process area including AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement
- factors that could influence desirability ranking.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS014010 Optimise sustainability of a process or work area

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to optimise the sustainability performance of a complete work area in a plant or part of the manufacturing value chain. It includes ensuring that production systems comply with sustainability and environmental requirements and that optimal process, plant and equipment utilisation is planned and carried out. It also covers problem solving to fully meet sustainability needs and to ensure that production of finished goods meets customer requirements. The unit applies to products made, services offered, and use of sites by an organisation or manufacturing value chain member (supplier of goods or services or a customer).

This unit applies inside organisations and their value chains and has been developed with manufacturing operations as a focus, especially work areas that process materials or components to manufacture products.

This unit applies to senior operators, technicians, team leaders or frontline managers and other support staff who optimise process systems as part of their work function. The unit includes all items of equipment and unit operations which form part of the process of a complete area and assumes that the required production, technical, science or other operational skills and knowledge necessary to work in the process or work area have already been gained.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse and evaluate current sustainability performance of process or work area**	1.1	Identify sustainability goals of the enterprise as they relate to work area
		1.2	Compare actual with possible performance
		1.3	Identify abnormal or sub-optimal sustainability performance
		1.4	Identify hazards associated with process, plant and equipment relevant to work area
		1.5	Collect, read and evaluate records to determine possible causes for sub-optimal sustainability performance
		1.6	Rank possible causes from most to least probable cause
2	**Develop plan to optimise sustainable performance of process or work area**	2.1	Analyse causes to determine action
		2.2	Predict the impact of a change in one unit or area on other value chain components
		2.3	Predict the impact of a change on sustainability performance
		2.4	Develop measurable objectives and evaluate alternatives
		2.5	Identify requirements to implement change
		2.6	Consult with stakeholders regarding planned changes and impacts
		2.7	Write optimisation plan taking account of hazards identified and sustainability implications and communicate to appropriate personnel
		2.8	Determine measures of effectiveness and how optimisation action will be evaluated
3	**Coordinate sustainability optimisation**	3.1	Coordinate all appropriate process steps and operations to rectify causes in process, plant and equipment performance

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
action plan	3.2 Implement all required optimisation actions
	3.3 Evaluate optimisation actions
	3.4 Communicate optimisation outcomes to relevant personnel
	3.5 Implement procedures and systems to eliminate possible future causes
	3.6 Record information according to organisation requirements
4 **Develop continuous improvement strategies**	4.1 Review sources of information to identify possible factors causing sub-optimal performance
	4.2 Identify options for removing or controlling the risk of sub-optimal performance
	4.3 Assess the adequacy of existing control and quality methods and systems
	4.4 Identify opportunities to continuously improve performance
	4.5 Develop recommendations for continual improvement of process, plant and equipment effectiveness
	4.6 Consult with appropriate personnel and implement continuous improvement strategies
	4.7 Document implementation of continuous improvement strategies

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014003 Optimise sustainability of a process or plant area.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014010 Optimise sustainability of a process or work area

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- developed and implemented a plan to optimise sustainable performance of at least 1 process or work area, including:
  - identifying, analysing and addressing performance issues
  - recommending strategies for continuous improvement.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles and theory of the process, equipment and systems used in the work area
- support functions needed for effective functioning of the process or work area, including logistics, order processing, warehousing and storage, maintenance and administration
- regulatory requirements related to sustainability, work health and safety (WHS), risk control, and process and work area optimisation
- starting quantity and quality of materials
- efficiency maximisation processes relevant to work area
- throughput maximisation processes relevant to work area
- energy efficiency concepts relevant to work area
- potential ecological impacts of work area processes or products
- building management system
- use of utilities
- air conditioning plant
- basic comfort parameters and psychrometrics
- labour utilisation concepts relevant to work area
- minimisation of waste and rework
- potential of improved workplace layout and workflow.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS014011 Facilitate team to develop and implement sustainability strategies

Modification History

Release 1. Unit title changed. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to lead teams in developing and implementing strategies for more sustainable use of resources. The team may be in operations, an operational support function or along the value chain.

This unit applies where a team leader needs to integrate a range of skills and knowledge covering process skills and knowledge and sustainability. The team leader must lead and assist team members to understand and apply a holistic view of their job and the team's role within the organisation, and the objectives that the team must meet as part of the sustainability impacts made by the enterprise.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Facilitate the development of process and sustainability**	1.1	Identify sustainability goals of enterprise as they relate to work area
		1.2	Assess capability of the team

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	knowledge	1.3	Develop mentoring processes for team members in process and sustainability related skills
		1.4	Structure team activities to facilitate the ongoing development of team members
		1.5	Arrange workforce development for team members in sustainability processes
		1.6	Encourage and support team members to apply technical knowledge to the process
2	**Facilitate team improvements to sustainability**	2.1	Make sustainability requirements, operating procedures and other relevant documents available to the team
		2.2	Assist team members apply relevant information to the sustainability requirements of the team
		2.3	Encourage team members to identify sub-optimal sustainability performance and make improvement suggestions
3	**Resource a proactive approach to sustainability**	3.1	Develop communications between specialists outside the team and team members
		3.2	Develop strategies to monitor and deal with key sustainability issues in work area
		3.3	Arrange for resources for team members to identify and take action on sustainability issues
		3.4	Arrange workforce development for team members in proactive sustainability techniques
4	**Implement sustainability improvements for work area**	4.1	Plan the implementation of team suggested and externally directed sustainability improvements
		4.2	Facilitate team member commitment to and involvement in the implementation and monitoring of improvements
		4.3	Encourage the application of the Plan, Do, Check, Act

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	(PDCA) approach to the job
	4.4 Arrange for ongoing workforce development to facilitate continued team involvement in sustainability improvement

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014004 Develop team strategies for more sustainable use of resources.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014011 Facilitate team to develop and implement sustainability strategies

Modification History

Release 1. Unit title changed. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- led and mentored at least 1 team to develop competencies in identifying and acting on sustainability issues.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- techniques to assess skills and knowledge of team members
- procedures relevant to jobs and processes in work area
- methods of making and recommending improvements
- environmental impacts of materials and energy used and emitted
- environmental sensitivities of all areas impacted by the work, process area or containment
- root cause analysis and problem solving
- mitigation strategies as relevant to work or process area
- sustainability issues relevant to the work or process area
- standards and regulations relevant to work or process area.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS014012 Apply proactive maintenance strategies to sustainability

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to use a proactive maintenance strategy to improve the sustainability outcomes of equipment, plant or process. This unit includes the interaction between maintenance worker and operator as appropriate.

This unit applies where an organisation has decided to adopt or is implementing total preventative maintenance or total productive maintenance (TPM), reliability centred maintenance (RCM) or similar strategies (jointly referred to as 'proactive maintenance' in this unit) to improve their sustainability outcomes as well as their maintenance outcomes.

The unit applies to processes and operations, products made, internal and external support services and the services offered, and use of sites by another organisation.

The unit applies to individuals who have maintenance related responsibilities, including but not limited to, mechanical, electrical, fabrication and other tradespersons, technicians and operators with maintenance related responsibilities.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Define sustainability issues for work area**	1.1	Identify sustainability goals of enterprise as they relate to work area
		1.2	Identify actual or possible sustainability issues in work area
		1.3	Identify current maintenance strategy for work area
		1.4	Identify changes to maintenance strategy which may improve sustainability outcomes
		1.5	Consult with stakeholders about sustainability issues and maintenance changes
2	**Assess current maintenance practice for sustainability implications**	2.1	Evaluate current maintenance procedures for plant and equipment sustainability implications
		2.2	Discuss current maintenance practices with stakeholders to determine any plant and equipment sustainability issues
		2.3	Recommend changes to improve plant and equipment sustainability impact in accordance with procedures
3	**Implement the sustainable maintenance strategy and practices for the work area**	3.1	Arrange for approved changes to be incorporated into procedures and work plans
		3.2	Identify training needs in liaison with relevant personnel
		3.3	Support personnel to develop required competencies
		3.4	Collect data according to own work plan
		3.5	Develop required information and compare with performance indicators
		3.6	Recommend sustainability improvements in accordance with procedures
		3.7	Monitor implementation of improvements and recommend any further required changes

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014005 Apply proactive maintenance strategies to sustainability.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014012 Apply proactive maintenance strategies to sustainability

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- developed and implemented proactive maintenance strategies for at least 1 work area to improve sustainability outcomes.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- requirements of the proactive maintenance strategy being implemented
- principles of operation of the equipment and plant
- operations personnel's current inspections and servicing abilities
- maintenance procedures relevant to jobs, equipment and processes
- methods of identifying and recommending improvements
- environmental impacts of materials and energy used and emitted
- environmental sensitivities of all areas impacted by the work, process area and containment
- root cause analysis and problem solving
- mitigation strategies as relevant to work and process area
- sustainability issues relevant to the work and process area.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS014013 Contribute to sustainability related audits

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to contribute to sustainability related audits either as an audit team member or through specifically nominated research and investigations for the audit team. It includes understanding the context of the sustainability audit; concepts of resource usage and waste and how they can be expressed as carbon and carbon equivalents.

This unit applies to sustainability related audits of a part or whole organisation or its value chain. The audits may be conducted to assist in regulatory compliance or as part of a strategy to improve the sustainability of an organisation's operations.

This unit applies to team leaders, technicians or others who may be required to assist in such an audit as part of their work role. It does not cover the skills needed to lead sustainability related audits.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify scope of audit**	1.1	Identify target area of audit within the organisation or value chain

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.2	Identify sustainability related activities to be audited
		1.3	Identify and confirm own role in audit
		1.4	Identify and confirm own timelines and reporting processes
2	**Identify work areas, processes and equipment covered by own audit responsibility**	2.1	Identify inputs to processes or area being audited
		2.2	Identify material changes or other relevant changes that occur in the work area
		2.3	Identify key items of equipment and their purpose and relevance to the audit
		2.4	Identify measurable outputs of work area and the extent that they are relevant to the audit
3	**Undertake measurement tasks**	3.1	Identify need for technical assistance from colleagues
		3.2	Measure specified inputs to process or work area
		3.3	Measure specified outputs for process or work area
		3.4	Calculate difference between input and output
		3.5	Calculate measurable sources of waste for process or work area
		3.6	Determine difference between measurable and theoretical waste for process or work area
		3.7	Compare results to external targets
		3.8	Communicate results to audit team
4	**Assist in developing strategies for reducing the use**	4.1	Rank equipment or processes by use of specified input and waste generation
		4.2	Calculate current minimum input use by unit of product

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	of specified input	4.3 Develop strategies to reduce input use for processes
		4.4 Develop strategies to minimise waste for processes
		4.5 Identify strategies that may have regulatory implications
5	**Prepare recommendations for consideration by audit team and stakeholders**	5.1 Consult with key stakeholders in area or processes subject to audit
		5.2 Rank strategies by cost benefit ratio
		5.3 Short-list strategies
		5.4 Prepare recommendations for consideration by audit team and stakeholders

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014006 Contribute to sustainability related audits.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014013 Contribute to sustainability related audits

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- contributed to at least 1 sustainability related audit, including:
  - assisting in identifying improvement strategies
  - assisting in providing recommendations
  - consulting with stakeholders.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of material and energy muda (waste)
- balancing techniques for process and process steps
- methods of measuring actual process amount and flows
- concepts of carbon and carbon equivalence as it applies to sustainability
- muda (waste) reduction strategies and methods along with costs, effectiveness and alternative strategies
- cost-benefit analysis
- legislation, regulation and protocols relevant to work area
- sustainability related process mapping
- process and changes which occur within the process
- environmental impacts of materials and energy used and emitted in both actual and carbon equivalents
- environmental sensitivities of all areas impacted by the work, process area and containment
- root cause analysis and problem solving
- sustainability issues relevant to the work and process area
- AS/NZS ISO 14000 Environmental Management Systems or its authorised replacement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS014014 Implement social sustainability in work practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to analyse the workplace to identify work practices that support social sustainability. It applies to identifying and implementing changes to improve social sustainability and using predetermined metrics to monitor and measure the effectiveness of those changes. It also involves promoting social sustainability and engaging with a range of stakeholders.

This unit applies to team leaders or supervisors and those in similar roles who support social sustainability by making changes in their own area of responsibility and encouraging awareness in other parts of the organisation.

This unit applies to organisations in all sectors of the manufacturing industry and the associated value chains. It may also be applied to all sections of the organisation including, the office, warehouse and factory.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Investigate social sustainability**	1.1 Identify social sustainability issues that may affect the work area

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	issues and practices	1.2 Identify current industry practice to address social sustainability issues
		1.3 Identify legislative and regulatory requirements that relate to social sustainability issues and how they apply to the work area
		1.4 Identify voluntary codes and standards that relate to social sustainability issues
		1.5 Collect and read information on systems, procedures and work practices that have social sustainability implications
		1.6 Identify how the organisation's stated values, strategies and goals relate to social sustainability
		1.7 Determine the relevance of the social sustainability issues and practices to the work area or work group
2	**Engage stakeholders to identify social sustainability improvements**	2.1 Identify stakeholders and their interest in social sustainability in the work area or work group
		2.2 Facilitate activities to review current systems, procedures and work practices, and identify areas for improvement
		2.3 Determine changes that are likely to achieve desired improvements
		2.4 Evaluate the feasibility, benefits and costs of making the changes
		2.5 Prioritise changes for action
		2.6 Report suggestions for improvements that are beyond own area of responsibility to appropriate people
3	**Implement and update changes**	3.1 Source techniques and tools to assist in implementing the priority changes
		3.2 Plan for budget, personnel, other resources and approvals requirements

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	3.3 Seek approval to make changes
	3.4 Allocate tasks and responsibilities to team or work group members
	3.5 Implement and update the approved changes
	3.6 Monitor progress and implement strategies to address barriers and resistance to changes
4 **Analyse and interpret social sustainability data**	4.1 Use predetermined social sustainability metrics to identify current performance and track changes
	4.2 Read and interpret data to identify the implications for social sustainability activities
	4.3 Document outcomes and communicate them to stakeholders
5 **Promote engagement with social sustainability**	5.1 Encourage equitable participation from all stakeholders
	5.2 Use behaviours and work practices that support social sustainability in own work and communications
	5.3 Encourage application of procedures that support engagement
	5.4 Use change management strategies to promote change
	5.5 Present accurate information targeted to stakeholder interests and needs
	5.6 Identify achievements and promote them throughout the organisation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014007 Implement social sustainability in work practices.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS014014 Implement social sustainability in work practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified the social sustainability implications of systems, procedures and work practices for at least 1 organisation and promoted and implemented changes to improve social sustainability.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- social sustainability issues that may affect the work area or work group
- current industry practices to address social sustainability issues
- legislative and regulatory requirements that have social sustainability implications
- voluntary codes and standards that have social sustainability implications
- the organisation's processes for implementing initiatives, amending procedures, making recommendations and reporting
- procedures that support participation
- change management strategies
- factors that contribute to lack of engagement, discrimination and poor participation in the workplace
- approaches to measuring social sustainability.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015006 Report to Global Reporting Initiative guidelines

Modification History

Release 1. Supersedes and is equivalent to MSS015006A Report to Global Reporting Initiative guidelines.

Application

This unit of competency covers drafting reports to meet the Global Reporting Initiative (GRI) guidelines and to self declare the application level.

This unit applies to individuals who seek to report on an organisation's compliance against the GRI guidelines. The GRI provides an international and widely used sustainability reporting framework that many organisations choose to use.

This unit applies inside organisations and their value chains. The unit has been developed with manufacturing operations as a focus. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit. However, there is a requirement to present and organise data. The complexity of this requirement will vary according to the type and scale of the organisation's processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine GRI report content, quality and boundary**	1.1	Identify appropriate report scope.
		1.2	Identify appropriate report boundaries.
		1.3	Identify appropriate application level.
		1.4	Identify any appropriate supplements to the report.
		1.5	Determine the implications for scope, boundaries, application level and supplements of the report.
		1.6	Confirm the adoption of GRI factors with relevant stakeholders.
2	**Draft GRI standard disclosures**	2.1	Identify data required to complete standard disclosures.
		2.2	Negotiate with relevant stakeholders to obtain any required data not currently available.
		2.3	Ensure systems are in place to convert data to required information.
		2.4	Ensure the timely availability of the required information.
		2.5	Draft standard disclosures.
3	**Draft any GRI supplements**	3.1	Identify data required to complete supplements.
		3.2	Negotiate with relevant stakeholders to obtain any required data not currently available.
		3.3	Ensure systems are in place to convert data to required information.
		3.4	Ensure the timely availability of the required information.

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		3.5	Draft supplements.
4	**Validate report meets application level requirements**	4.1	Compile GRI report.
		4.2	Audit report for compliance with requirements.
		4.3	Review and adjust report as required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

GRI sustainability reporting guidelines include one or more of

- content, including materiality, stakeholder inclusiveness, sustainability context and completeness
- report quality, including reliability, clarity, balance, comparability, accuracy and timelines
- report boundary
- profile disclosures on strategy and analysis, organisation profile, report parameters and governance
- management approach
- performance indicators
- sector requirements listed in GRI sector supplements.

Data includes one or more of

- information on past and current performance
- performance indicator trends over time
- information from along the value chain, both internal and external to the organisation.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015006A Report to Global Reporting Initiative guidelines.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015006 Report to Global Reporting Initiative guidelines

Modification History

Release 1. Supersedes and is equivalent to MSS015006A Report to Global Reporting Initiative guidelines.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one or more reports, to:

- demonstrate knowledge of Global Reporting Initiative (GRI) sustainability reporting guidelines also known as the G3 guidelines
- match GRI guidelines to an organisation's operations
- produce report(s) according to GRI guidelines.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to draft reports to meet the GRI guidelines including knowledge of:

- GRI guidelines
- related regulatory and other compliance reporting requirements
- related commercial reporting requirements
- possible organisational benefits from GRI reporting
- internal and external data sources
- organisational protocols and procedures for obtaining and using data
- data manipulation and interpretation
- project planning and control
- editing and reviewing of report inputs by others.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where a report is drafted to meet the GRI guidelines for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015011 Conduct a sustainability energy audit

Modification History

Release 1. Supersedes and is equivalent to MSS015011A Conduct a sustainability energy audit.

Application

This unit of competency covers conducting an audit for the specific resource of energy in an organisation or part or all of its value chain and to prepare recommendations for a reduction of, and more efficient use of, energy.

This unit applies inside organisations and their value chains. The unit has been developed with manufacturing operations as a focus. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations (e.g. supplier of goods or services or a customer).

The energy audit may be conducted to assist in regulatory compliance or as part of a strategy to improve the sustainability of manufacturing operations. The emphasis in the unit is on informing decision making in regards to energy use in a value chain or site.

A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit. However, there is a requirement to present and organise data. The complexity of this requirement will vary according to the type and scale of the organisation's processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify all sources and uses of energy in process**	1.1	Identify all sources of energy external to the site.
		1.2	Identify all sources of energy within the site.
		1.3	Identify all uses of energy by process unit.
		1.4	Identify energy type and intensity required by each process unit.
2	**Calculate theoretical use of energy**	2.1	Calculate theoretical net use of energy by type and intensity for each process unit.
		2.2	Calculate overall energy balance for process/site.
		2.3	Evaluate the need for energy consumption by process and units within the process compared to alternative processes/units.
3	**Measure actual use of energy**	3.1	Determine actual net energy use for overall process/site.
		3.2	Determine actual net energy use for each process unit.
		3.3	Calculate difference between theoretical and actual energy use by unit and overall.
		3.4	Identify actual energy type used by each process unit.
4	**Develop strategies for**	4.1	Rank units by difference between theoretical and actual energy use.

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	reducing the use of energy	4.2	Rank units by actual energy use.
		4.3	Identify units using higher intensity energy than required.
		4.4	Develop strategies to reduce energy consumption and/or use lower intensity energy.
5	**Prepare a recommendation for an energy use reduction strategy**	5.1	Consult with key stakeholders.
		5.2	Identify strategies required to meet regulatory or similar requirements.
		5.3	Rank strategies by benefit/cost ratio.
		5.4	Short-list preferred energy reduction strategies.
		5.5	Prepare recommendation for improving energy usage.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Energy/energy type includes one or more of	• operational heating and cooling • motive energy • lighting • waste energy.
Energy intensity includes one or more	• temperature • power

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of required

- pressure.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015011A Conduct a sustainability energy audit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015011 Conduct a sustainability energy audit

Modification History

Release 1. Supersedes and is equivalent to MSS015011A Conduct a sustainability energy audit.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one or more processes, to:

- define appropriate boundaries for the sustainability energy audit
- conduct energy balance analyses for a site, value chain or process
- identify high energy use/waste units/areas
- undertake benefit/cost ratio analyses
- ensure improvement strategies proposed reflect stakeholder needs and regulatory environment.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to audit energy usage including knowledge of:

- nature of energy wastage
- energy balancing techniques for process and process steps (sometimes known as heat balancing)
- methods of measuring actual process amount/flows
- waste reduction/energy efficiency strategies and methods along with costs, effectiveness and alternative strategies (e.g. efficient lighting, efficient window glass and efficient motors)
- cost-benefit analysis
- relevant legislation, regulation and protocols.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where a sustainability energy audit is conducted for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015014 Develop response to sustainability related regulation

Modification History

Release 1. Supersedes and is equivalent to MSS015014A Develop response to sustainability related regulation.

Application

This unit of competency covers identifying responsibilities and developing an appropriate response to schemes regulating sustainability, including carbon and carbon equivalent use and emission. It includes the ongoing monitoring and adjusting of responses to the regulatory environment and organisational situation.

This unit applies in organisations that are/may be impacted by sustainability regulation. Some possible applications are carbon containment/reduction schemes/regulations or incentives or other schemes that may be implemented. The application of the unit includes Australian and overseas schemes where the organisation is part of an export value chain or is a subsidiary required to report against a scheme covering an overseas parent.

A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret regulation**	1.1	Determine emissions/sustainability issues as defined by the relevant regulation.
		1.2	Compare organisation's profile with regulatory definitions/descriptions.
		1.3	Determine impact on the organisation in its current state.
2	**Develop possible organisation responses to impact**	2.1	Determine 'no change' cost of compliance.
		2.2	Facilitate the suggestion of alternative responses.
		2.3	Determine benefit/cost for feasible alternative responses.
		2.4	Compare alternative response to current state impact.
		2.5	Rank responses by desirability.
3	**Select appropriate responses**	3.1	Short-list ranked responses.
		3.2	Discuss short-listed responses with key stakeholders.
		3.3	Determine responses to be implemented and timelines for implementation.
		3.4	Develop an overall strategic plan to implement agreed responses.
4	**Implement agreed responses**	4.1	Develop implementation plan for agreed responses.
		4.2	Negotiate required resources with relevant stakeholders.
		4.3	Negotiate timelines and measures/indicators of success with change stakeholders.

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		4.4	Acquire and deploy resources required to achieve agreed responses.
		4.5	Monitor implementation and take action as required to achieve required responses.
		4.6	Renegotiate with relevant stakeholders as necessary.
5	**Recommend further improvements**	5.1	Measure improvements actually obtained.
		5.2	Identify non-compliances with planned improvements.
		5.3	Determine additional improvements desirable.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulation includes one or more of	• regulations and legislation as may be in force to regulate emissions or similar • standards (such as AS/NZS ISO 14001 Environmental Management Standards), codes of practice and other sustainability related regulation arrangements.
Alternative responses include one or more of	• process, procedural and practice changes to reduce carbon emissions • value chain changes to reduce carbon emissions • carbon trading responses modify cost of compliance • other market operations where relevant • material, component and product changes to reduce

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emissions/improve compliance.

Desirability ranking includes one or more of	• regulatory required changes • direct dollar benefit/cost • customer benefit • stakeholder perception • life cycle improvements.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015014A Develop response to sustainability related regulation.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015014 Develop response to sustainability related regulation

Modification History

Release 1. Supersedes and is equivalent to MSS015014A Develop response to sustainability related regulation.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or section/department, to:

- determine sustainability regulatory environment for an organisation
- identify a range of possible responses to regulation
- analyse and rank possible responses according to benefit/cost to organisation
- consult with stakeholders to identify agreed response
- implement and monitor agreed response consistent with regulation and stakeholder purpose.

Knowledge Evidence

- Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop an appropriate response to schemes regulating sustainability including knowledge of:
- relevant regulations/legislation
- stakeholders and methodology required to determine organisation's current state and fit compared to regulations/legislation
- brainstorming techniques
- cost-benefit analyses techniques
- methods of dealing with regulatory requirements and the benefits arising from each
- project/improvement planning/scheduling techniques
- process monitoring and critical measures

AS/NZS ISO 14001 Environmental Management Standards (or its authorised replacement or other relevant standard).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where a response to the sustainability regulatory environment is developed for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015017 Develop regulated sustainability reports

Modification History

Release 1. Supersedes and is equivalent to MSS015017A Develop regulated sustainability reports.

Application

This unit of competency covers drafting reports required to meet government schemes or regulations or similar sustainability regulatory reporting requirements. These may include the interpretation of technical data into the information required. It includes the development of formats or internal reporting templates to meet the public needs of the organisation.

This unit applies in organisations that are impacted by sustainability related legislation and regulations, such as environmental legislation and carbon pollution regulations, incentives or schemes. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility.

Information required for the report may be gathered by the individual or as part of a team. The unit does not cover undertaking environmental or other technical analysis to gain required information. However, there is a requirement to present and organise data. The complexity of this requirement will vary according to the type and scale of the organisation's processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine data requirements**	1.1	Identify current thresholds required for reporting in each category.
		1.2	Locate sources of required data.
		1.3	Identify measurement and calculation techniques required to meet reporting obligations.
		1.4	Establish systems to collect and process required data and information.
2	**Monitor data collection and processing**	2.1	Develop procedures and templates for data collection and processing.
		2.2	Identify key indicators of data collection and processing proceeding according to plan.
		2.3	Identify data collection/processing which is not to requirements.
		2.4	Take appropriate action to bring data collection/processing back to requirements.
3	**Draft report**	3.1	Determine regulatory report requirements.
		3.2	Negotiate other organisation requirements for report.
		3.3	Develop a report format which complies with requirements.
		3.4	Determine required information from available data.
		3.5	Collate all required data and information.
		3.6	Prepare any required charts, tables and other graphics.
		3.7	Draft report to meet agreed needs and standards.
		3.8	Discuss draft report with key stakeholders.
		3.9	Identify key action items arising from report.

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4	**Complete regulatory report**	4.1	Complete the regulatory report.
		4.2	Obtain required authorisations and submit report according to procedures.
		4.3	Prepare recommendations for improvements to regulatory reporting process.
		4.4	Prepare improvement recommendations for identified action items.
		4.5	Submit recommendations for implementation in accordance with organisation's procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Reporting category includes one or more of	• greenhouse gas emissions • energy production • energy consumption • waste generation and disposal • water use, sources and disposal • other information specified under legislation.
Sources of data include one or more of	• existing reports (internal and external) • process metrics • purchasing, sales and accounting data • test results and other measurements specifically undertaken to

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produce the required data.

Measurement and calculation techniques are defined by one or more of	• regulations • Australian (or other) Standards • industry codes and protocols • standard mathematical, statistical, science or other techniques for converting raw data into the required information.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015017A Develop regulated sustainability reports.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015017 Develop regulated sustainability reports

Modification History

Release 1. Supersedes and is equivalent to MSS015017A Develop regulated sustainability reports.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one or more sustainability reports, to:

- identify information required for regulated report, including sources and any additional measurement or calculation required to meet report content requirements
- establish data collection procedures
- draft regulated report and obtain appropriate stakeholder approvals
- complete report to requirements

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to draft reports that meet sustainability regulatory reporting requirements including knowledge of:

- National Greenhouse and Energy Reporting (NGER) Act 2007 and other current reporting requirements (or their equivalent)
- graphics and other means of presenting data
- report writing and grammar
- data sources both internal to and external from the organisation
- AS/NZS ISO 14001 Environmental Management Standards (or its authorised replacement or other relevant standard).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where a report(s) required to meet government schemes or regulations or similar sustainability regulatory reporting requirements is drafted for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015019 Establish/review metrics for social sustainability

Modification History

Release 1. Supersedes and is equivalent to MSS015019A Establish metrics for social sustainability.

Application

This unit of competency covers determining what aspects of social sustainability are to be measured and how to quantify them; then implementing/updating and improving the metrics system. This unit covers quantifying the social aspects of sustainability which are typically hard to measure by converting them to numerical data using indicators and estimations in order to monitor changes.

This unit applies to team leaders/supervisors/managers that are developing systems to support the organisation's social sustainability, including the development and implementation of policy.

This unit applies where qualitative data is to be collected and converted into quantitative data in order to monitor the effectiveness of social sustainability activities. Qualitative data is converted to quantitative data using simple proxies, indicators or estimations.

The person establishing the system is not required to undertake complex calculations or statistical analysis. However, where these form part of the metrics system they will be allocated to appropriate personnel and/or suitable software solutions used as part of implementing the system.

This unit assumes that a range of social sustainability interactions have already been identified within the organisation and their identification does not form part of this unit.

This unit applies to organisations in all sectors of the manufacturing industry and the associated value chains. It may also be applied to all sections of an organisation including, for example, the office, warehouse, transport, logistics and factory.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

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Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Define/review the scope of metrics for social sustainability**	1.1	Identify the organisation's values, strategies and goals in social sustainability to define the purpose of monitoring social sustainability issues.
		1.2	Consult with stakeholders to identify the social sustainability issues, impacts or sensitivities to be monitored.
		1.3	Consult with stakeholders to identify the social sustainability goals to be quantified.
		1.4	Identify relevant legislative/regulatory requirements.
		1.5	Determine reporting requirements.
2	**Identify and evaluate options for quantifying the priority aspects of social sustainability**	2.1	Source statistical assistance/advice if required.
		2.2	Identify how existing approaches to quantifying social sustainability can be applied/adapted to be relevant to the goals.
		2.3	Determine options for quantitative proxies and/or indicators relevant to the goals.
		2.4	Evaluate options against the purpose and goals and select appropriate metrics.
		2.5	Identify the benefits and limitations of the selected proxies and/or indicators for the goals and purpose.

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		2.6	Ensure adequate resources are available to implement the system.
3	**Implement/review the metrics system**	3.1	Establish/review methods for data collection and analysis to fit the selected metrics.
		3.2	Set parameters for implementing the selected metrics.
		3.3	Provide tools and procedures for data collection and documentation.
		3.4	Allocate tasks and responsibilities for data collection and analysis.
		3.5	Identify the need for competency development to implement the system and take action.
4	**Review social sustainability data**	4.1	Collate baseline and follow up data.
		4.2	Review the data against the purpose and goals.
		4.3	Identify the implications for social sustainability activities taking into account the limitations of the metrics used.
5	**Apply continuous improvement to the metrics system**	5.1	Review the effectiveness of the metrics system in relation to the purpose and goals.
		5.2	Identify current industry practices in metrics for social sustainability.
		5.3	Engage stakeholders in providing feedback on the metrics system and identifying improvements.
		5.4	Evaluate opportunities for improving the metrics system and recommend improvements.
6	**Communicate to support the metrics system**	6.1	Identify stakeholders and their information needs.
		6.2	Provide information targeted to stakeholder needs to support the development and implementation of the metrics system.

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6.3 Record and report on the implications for social sustainability and the limitations of the metrics used.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Purpose for monitoring social sustainability includes one or more of

- supporting core values
- enacting the organisation's social purpose
- implementing social sustainability strategy
- being a good corporate citizen
- supporting policies, such as corporate social responsibility (CSR) or environmental, social and corporate governance (ESG)
- improving the organisation's reputation, handling of complaints and worker retention
- supply chain or tender requirements
- applying voluntary standards or codes, e.g. Global Reporting Initiative (GRI) reporting and ISO 26000:2010 Guidance on social responsibility.

Resources include one or more of

- organisational and individual capacity
- individual skills
- budget
- access to people and information.

Parameters include one or more of

- frequency of data collection and reports
- locations
- volume of data to be collected
- sampling methods

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- tools and documentation to be used.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015019A Establish metrics for social sustainability.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015019 Establish/review metrics for social sustainability

Modification History

Release 1. Supersedes and is equivalent to MSS015019A Establish metrics for social sustainability.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or section/department, to:

- establish/review processes for quantifying social sustainability to meet organisational goals
- consult with and provide information to stakeholders to facilitate development and implementation of the metrics system
- collect and interpret quantitative data on social sustainability
- apply continuous improvement processes.

Knowledge Evidence

- Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to establish/review metrics for social sustainability including knowledge of:
- social sustainability issues
- legislative/regulatory requirements that have social sustainability implications
- voluntary codes and standards that have social sustainability implications
- current industry practices, approaches, metrics and indicators that relate to social sustainability, such as social return on investment, social license to operate, corporate social responsibility, human capital and shared value
- methods of quantification and quantitative estimating
- the limitations of using proxies/indicators and estimations to quantify social sustainability

methods and tools for collecting social sustainability data.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where aspects of social sustainability are to being measured and quantified for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015020 Facilitate an energy audit

Modification History

Release 1. New unit.

Application

This unit describes the skills and knowledge required to project manage an energy audit within a business environment, to provide a quantitative overview of energy performance and determining opportunities for improvement.

This unit applies to employees who apply knowledge of the industry being audited to procure a team with specialised theoretical and technical expertise. Employees will need well-developed skills to work autonomously with discretion and judgement. Sustainability may be the employee's primary work responsibility or part of a broader role.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Prepare for energy audit**	1.1 Determine the relevant standards and requirements for the facility type and audit type
		1.2 Define the purpose, scope and boundaries of the energy audit
		1.3 Estimate appropriate investment requirement based on annual energy costs

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Seek management commitment, funding and resources
		1.5	Determine objectives, timeframes and schedules for audit process
		1.6	Conduct start up meeting with stakeholders
2	**Form the energy audit team**	2.1	Identify knowledge or skills gaps in audit team and specialist requirements
		2.2	Identify potential suppliers of procurement requirements
		2.3	Establish selection process and selection criteria
		2.4	Write project brief and forward to suppliers
		2.5	Read and assess supplier proposals against selection criteria and make selection
		2.6	Negotiate and finalise contract with supplier
		2.7	Develop and agree on data collection plan and checklists
3	**Facilitate site access and the collection and handover of data**	3.1	Facilitate the collection and handover of data in accordance with data collection plan and checklists
		3.2	Arrange site access, inductions and security and provide notification of workplace disruptions
		3.3	Arrange for meetings with key personnel as required by auditor
		3.4	Facilitate the collection of energy use data for site
		3.5	Facilitate the collection of data on operations, infrastructure, equipment and systems to be audited
		3.6	Facilitate the collection of information on recent or proposed energy efficiency audits, studies, reports, projects or upgrades

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 **Facilitate post audit activities**	4.1 Collate project team findings and read and interpret audit report
	4.2 Present results and recommendations to stakeholders and answer audit related questions
	4.3 Generate questions and discussions to progress implementation decisions
	4.4 Finalise and document decisions made on implementation using participative techniques
	4.5 Collaborate with stakeholders to identify items requiring follow up or further analysis
	4.6 Communicate audit outcomes to internal and external stakeholders

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Numeracy skills to analyse energy use data and to quantify savings, costs and benefits of opportunities for energy use improvements.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015020 Facilitate an energy audit

Modification History

Release 1. New unit.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- facilitated an energy audit for at least 1 organisation or part of organisation, including:
  - data on operations, infrastructure, equipment and systems
  - direct and indirect emissions
- used oral and written communication and presentation skills to present audit findings.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- local and international regulations, standards, codes and protocols relating to facility, energy and audit type
- principles and application of AS/NZS 3598 series or equivalent relevant to facility type and audit type, including requirements for:
  - auditor competencies
  - organisation's engagement with the audit
- site level energy use data
- data collection methods
- mechanical and electrical systems
- energy management strategies and opportunities
- energy performance indicators (EnPIs), energy benchmarks and best practice targets
- purpose and benefits of energy and GHG audits
- Greenhouse Gas (GHG) concept, background, environmental impact and reduction schemes
- Principles of Carbon Management, offset and funding
- reductions versus offset approaches
- cost benefit analysis
- facilitative, collaborative and participative approaches and techniques
- continuous improvement concept and techniques
- legislative, organisation and site requirements, including:
  - work health and safety

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- site access
- security
- confidentiality.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
- operations, infrastructure, equipment, systems or actual site to be audited
- AS/NZS 3598 series or equivalent relevant to facility and audit type
- direct and indirect emission data.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015021 Measure and report carbon footprint of a product or product class

Modification History

Release 1. Updated unit code. Unit title changed. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to determine the carbon footprint of a product or product class across the value chain (which may be internal or external to the enterprise). It includes determining the carbon dioxide (CO_2) equivalent tonnes and calculating the embodied carbon of a product.

This unit applies to the requirement to measure the carbon footprint as part of an enterprise's regulatory obligation, market or social response or for other purposes.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role or sustainability may be their primary work responsibility.

Skills covered by this unit may be applied individually or in a team context.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Map carbon**	1.1 Select portion of the value chain for analysis

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	sources and sinks along the value chain	1.2	Identify process steps along the chain
		1.3	Identify the carbon-related change which occurs at each step
2	**Determine nature and source for carbon emissions**	2.1	Determine carbon emissions from each step
		2.2	Determine source of each emission
		2.3	Identify measurements available for each emission and each source
3	**Quantify carbon**	3.1	Quantify each emission
		3.2	Determine CO_2 equivalent tonnes for each emission
		3.3	Determine total carbon embodied in product
4	**Recommend strategies for reducing carbon footprint**	4.1	Short-list high carbon sources
		4.2	Determine root cause of emissions
		4.3	Identify relevant carbon sinks
		4.4	Investigate methods for reducing emissions
		4.5	Prepare recommendation for improvement
5	**Report carbon footprint**	5.1	Identify purpose of report and key stakeholders
		5.2	Compile data, implications and recommendations
		5.3	Write report and communicate with stakeholders

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015001 Measure and report carbon footprint.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015021 Measure and report carbon footprint of a product or product class

Modification History

Release 1. Updated unit code. Unit title changed. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- measured and reported the carbon footprint of at least 1 product or product class.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- types of carbon emissions, including:
  - gases, vapours and fumes
  - liquids
  - solids
  - assumed emissions through material balancing
  - assumed emissions through energy loss, including heat, friction and other energy conversion yield losses
  - greenhouse gases, including those defined under the Kyoto protocol
- carbon emission sources
- root cause analysis
- methods of reducing carbon emissions and embodied carbon
- carbon equivalence of different emissions
- environmental legislation, regulation and protocols, including greenhouse gas protocols and associated ISO standards.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

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MSS015022 Develop strategies for more sustainable use of resources

Modification History

Release 1. Updated unit code. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to identify strategies for more sustainable uses of resources. The unit includes the identification of waste (muda) as part of a strategy for achieving better sustainability outcomes in a process as well as quantifying theoretical and actual resource (including energy) consumption.

This unit applies inside organisations and their value chains and specifically applies to the use of resources as part of an overall response to improving sustainability.

Where the carbon footprint (or water footprint or similar) of an organisation or value chain is known, the unit can be applied to developing strategies for the reduction of that footprint. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Quantify**	1.1 Identify all significant resources used by process

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	resource consumption	1.2	Identify consumption measurements available for each resource
		1.3	Quantify consumption for each resource
2	**Quantify resource loss**	2.1	Determine theoretical consumption of each resource
		2.2	Compare theoretical consumption with actual consumption
		2.3	Quantify loss (emission) for each resource
3	**Recommend strategies for reducing muda (waste)**	3.1	Short-list high emission process steps
		3.2	Analyse process to identify emission steps or locations
		3.3	Determine root cause of emission
		3.4	Investigate methods for reducing emission
		3.5	Develop strategies and recommendations for improvement
4	**Prepare resources use audit report**	4.1	Identify purpose of report and key stakeholders
		4.2	Compile data, implications and recommendations
		4.3	Consult with stakeholders
		4.4	Write and present report

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015002 Develop strategies for more sustainable use of resources.

Links

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Assessment Requirements for MSS015022 Develop strategies for more sustainable use of resources

Modification History

Release 1. Updated unit code. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- quantified significant resource consumption and emission using materials balancing for at least 1 organisation or value chain, including developing strategies for reducing emissions and preparing and presenting a resources use audit report.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the concept of muda (waste) and muda categories
- muda reduction methods and strategies
- methods and uses of material balancing
- methods and uses of energy balancing
- methods of comparing theoretical with actual resource consumption
- methods for mapping processes and resources consumed
- methods of measuring actual resource usage
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015023 Design sustainable product or process

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to redesign an existing, or design a new, product or process to achieve optimal sustainability outcomes.

This unit applies inside organisations and their value chains. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this unit, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Define parameters of new or improved product**	1.1 Consult with stakeholders to determine required function, performance and aesthetics of new product
		1.2 Identify market, expected time to market and cost constraints of product and production process
		1.3 Identify requirements with possible high sustainability impacts

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Negotiate requirements to achieve desired sustainability impacts
		1.5	Develop agreed definition of product requirements
2	**Develop alternative product and process designs**	2.1	Identify alternative resource requirements
		2.2	Identify alternative processes
		2.3	Determine the possible sustainability impacts of different combinations of resources and processes
		2.4	Test alternative product and process designs against original product requirement definitions
		2.5	Identify product requirements which may be causing significant sustainability impacts
		2.6	Renegotiate product requirements to lessen sustainability impacts
		2.7	Short-list preferred resources and processes
3	**Evaluate life cycle impacts**	3.1	Estimate life cycle sustainability impacts for each short-listed alternative
		3.2	Identify process steps with greatest sustainability impact
		3.3	Evaluate process steps for alternatives and modifications with lower impact
		3.4	Select alternative which best meets requirements and has the lowest sustainability impact
4	**Confirm design**	4.1	Develop selected design
		4.2	Confirm life cycle sustainability impacts
		4.3	Review design against product requirements
		4.4	Obtain required authorisations

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.5 Document design in the required form
5 **Prepare for implementation**	5.1 Consult with key stakeholders
	5.2 Identify key measures for monitoring implementation of design
	5.3 Identify data sources required by key measures
	5.4 Organise for data to be captured and manipulated

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015004 Design sustainable product or process.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015023 Design sustainable product or process

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- redesigned an existing, or designed a new, product or process for optimal sustainability outcomes.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sustainability impacts from using different materials and different processes and to produce products of different specifications and life cycle outcomes
- alternative sources of materials and components and the sustainability differences of each
- alternative processes and the sustainability differences of each, including expression in terms of carbon equivalence
- product and process design
- new product parameters
- design documentation
- methods of monitoring of product development and manufacture.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS015024 Develop required sustainability reports

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to develop reports required to meet regulatory or other sustainability reporting requirements. The reports may require the inclusion or interpretation of technical data. It includes the development of formats or internal reporting templates to meet the public reporting needs of the organisation.

This unit applies to sustainability reports that may be required for regulatory, Board, employee, shareholder or community reporting purposes. Reports may relate to all aspects of an organisation's sustainability or may focus on aspects, including energy reduction, carbon footprint, waste generation and control, environmental, ecological and community impacts.

Reports may be completed by an individual or be prepared by a team.

This unit applies to a manager, team leader or technical specialist who has a major responsibility for sustainability as part of a broader work role, or sustainability may be their primary work responsibility.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Determine**	1.1 Establish purpose of report

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	requirements of sustainability report	1.2	Read and interpret compliance requirements of report
		1.3	Identify any commercial requirements which may be impacted by these requirements
		1.4	Determine benefits of report for the organisation
2	**Locate data sources and processes needed to generate required information**	2.1	Identify internal sources of data
		2.2	Identify external sources of data
		2.3	Identify any data gaps and develop strategies for obtaining required data
		2.4	Obtain authority to access external data sources
		2.5	Negotiate with stakeholders to obtain data
3	**Develop templates, protocols and procedures needed for report**	3.1	Develop data collection and information reporting templates and procedures
		3.2	Implement systems and procedures for obtaining required information from collected data
		3.3	Develop templates and protocols for required report sections and appendices
		3.4	Check other report contributors have the required competencies and resources to draft their input
		3.5	Agree on timelines for preparation of report components
4	**Compile required report**	4.1	Monitor the development of report components
		4.2	Check components are completed within timeframes and to requirements
		4.3	Assemble components and complete report
		4.4	Review and adjust completed report

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015005 Develop required sustainability reports.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015024 Develop required sustainability reports

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- produced at least 1 sustainability report for an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sustainability related reporting requirements of organisation, regulation, or standards
- possible organisational benefits from sustainability reporting
- internal and external data sources
- organisational protocols and procedures for obtaining and using data
- data manipulation and interpretation
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement.
- formal report styles and formats, including:
  - introduction
  - executive summary
  - findings
  - recommendations
  - conclusions.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS015025 Develop a business case for sustainability improvements

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to develop an appropriate business case for proposed changes which will deliver improvements to the sustainability of a process or organisation. It includes cost benefit and return on investment (ROI) analyses. The business case may be required for sustainability related improvements in response to regulatory, Board, employee, shareholder or community requests or pressure.

This unit applies inside organisations and their value chains.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Define the**	1.1 Define the purpose of the project

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	intended sustainability improvement project	1.2	Determine the project goals
		1.3	Read and interpret regulatory requirements
		1.4	Determine stakeholders for project
		1.5	Clarify the critical success factors for the project
		1.6	Quantify the current state
2	**Quantify expected benefits from the project**	2.1	Calculate cost of any capital improvements from the project
		2.2	Determine production improvements
		2.3	Determine maintenance improvements
		2.4	Determine product life cycle improvements
		2.5	Determine regulatory health, safety and environment (HSE) improvements
		2.6	Estimate total benefit of proposed project
3	**Determine costs required to implement project**	3.1	Estimate fixed capital costs required
		3.2	Estimate personnel costs required
		3.3	Estimate financial costs required
		3.4	Estimate time required for project and time-related costs
		3.5	Estimate total costs of project
4	**Prepare a proposal justifying project**	4.1	Estimate return on investment (ROI), sustainability and other project benefits
		4.2	Estimate costs of not proceeding with the project
		4.3	Compare benefits to costs using financial modelling methods

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.4 Write proposal for project

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015007 Develop a business case for sustainability improvements.

Links

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Assessment Requirements for MSS015025 Develop a business case for sustainability improvements

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- developed at least 1 business case proposal for a sustainability improvement project for an organisation or process.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- characteristics of good project purposes, goals, critical success factors and key performance indicators
- regulatory environment and requirements for sustainability related project, including health, safety and environment (HSE) aspects
- concept of capital versus operational improvements
- internal and external data sources
- methods of quantifying project benefits across the life cycle
- project costing methods for capital, personnel, financial and time related costs
- financial modelling for business cases, including:
  - ROI calculations
  - cost-benefit analysis
- types of improvements, including:
  - capital improvements:
    - the purchase, installation, construction and commissioning of new equipment
    - alterations to existing equipment designed to improve the sustainability of the organisation's operations and which will be classed as capital in the organisation's balance sheet
  - production improvements
  - maintenance improvements
- accounting conventions and requirements and the alternative lean view and when it is appropriate
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS015026 Develop strategic sustainability plans

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to develop strategic plans for sustainability related improvements. The sustainability related improvements often affect all or major parts of an organisation and its value chain and as a result detailed strategic planning is usually required to ensure the support of all stakeholders to minimise disruption to the organisation's business.

The need for a strategic approach to sustainability may be in response to regulatory, Board, employee, shareholder or community requests or pressure, International agreements, reporting requirements, codes of practice, business efficiency, energy cost reduction, waste reduction goals and consumer demand and expectations.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine current sustainability status of the organisation**	1.1	Determine main organisational motivations and drivers for improved sustainability
		1.2	Determine current regulatory environment
		1.3	Determine current availability of data required for sustainability indicators
		1.4	Arrange for sustainability related audits
2	**Identify priority areas for improvement**	2.1	Identify strategic goals of the organisation and how these are impacted by sustainability
		2.2	Determine suggestions for major improvement
		2.3	Rank suggestions by need, cost-benefit and strategic impact
		2.4	Short-list improvements to be progressed
3	**Establish project team**	3.1	Arrange for a team leader to be allocated for each short-listed suggestion
		3.2	Establish a project team for each suggestion
		3.3	Define expected outcomes and performance indicators for each suggestion
		3.4	Ensure project plans are developed
4	**Design potential improvement**	4.1	Arrange for project designs to be developed
		4.2	Ensure evaluation is undertaken of each project
		4.3	Select suggestions to be implemented

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
5 **Develop strategic plan**	5.1 Identify implications of strategic sustainability plan for the organisation
	5.2 Write an action plan for the implementation of priorities including, costs, task allocations and timetable
	5.3 Identify strategic approvals for implementation
	5.4 Identify required documentation
	5.5 Write plan to guide proposal to sanction

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015008 Develop strategic sustainability plans.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015026 Develop strategic sustainability plans

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- developed at least 1 strategic sustainability plan to improve one or more of the following:
  - products
  - processes
  - employee, health, safety and environment (HSE) or amenity
  - impact on the community
  - impact on the environment
  - energy use
  - greenhouse gas reduction
  - efficiency and profit
  - waste management
  - emergency and incident response
  - facility or building design and management.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- strategic directions of the organisation
- strategic planning tools, including strengths, weaknesses, opportunities, threats (SWOT) analysis
- strategic approvals for implementation
- sustainability status of organisation
- sustainability indicators
- methods of identifying sustainability improvements
- risk analysis
- cost-benefit analysis
- planning principles
- evaluation methods
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement
- sustainability codes, schemes, legislation and regulation.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS015027 Implement sustainability plans

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to implement pre-existing sustainability plans. It also includes gaining support, monitoring and measuring the implemented changes and recommending further improvement or modifications. The improvements may be in response to planned or current regulatory requirements or may be related to organisation generated improvement proposals.

This unit applies inside organisations and their value chains.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish required support for proposed**	1.1	Read sustainability plan
		1.2	Identify key stakeholders

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	sustainability related improvements	1.3	Identify benefits of proposal for each stakeholder
		1.4	Identify causes of resistance to proposal
		1.5	Negotiate with key stakeholders and gain support
2	**Establish systems for monitoring implementation**	2.1	Agree on implementation timelines
		2.2	Develop agreed indicators of progress
		2.3	Establish data collection systems and responsibilities for each indicator
		2.4	Validate data collection against indicators
3	**Implement sustainability plan**	3.1	Update sustainability plan
		3.2	Implement plan activities
		3.3	Monitor progress using agreed indicators
		3.4	Analyse progress to plan
		3.5	Take control actions
		3.6	Modify sustainability plan
		3.7	Report on progress
4	**Recommend further improvements**	4.1	Measure improvements obtained
		4.2	Identify non-compliances with planned improvements
		4.3	Determine desirable additional improvements
		4.4	Obtain approvals for improvements
		4.5	Implement improvements to sustainability plan

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015009 Implement sustainability plans.

Links

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Assessment Requirements for MSS015027 Implement sustainability plans

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- implemented, monitored and updated at least 1 sustainability plan, including identifying and negotiating with stakeholders.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- methods of determining benefits of sustainability improvement projects
- causes of resistance and methods of dealing with resistance
- sources of data
- data validation techniques
- techniques to analyse data for trends, aberrations and factors requiring action
- project planning and monitoring
- improvement measures
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - sustainability plan.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS015028 Conduct a sustainable water use audit

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to conduct a water audit in an organisation, or part or all of a value chain.

This unit applies to a water use audit conducted to assist in regulatory compliance or as part of a strategy to improve the sustainability of operations. The emphasis in the unit is on informing decision making regarding water use.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify all sources and uses of water in**	1.1	Identify and categorise by quality all sources of water external to the site
		1.2	Identify and categorise by quality all sources of water

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	process		within the site
		1.3	Identify all uses of water by process and category
		1.4	Identify water quality required by each process unit
2	**Calculate theoretical use of water**	2.1	Calculate theoretical net use of water for each process unit
		2.2	Calculate overall water balance for process or site
		2.3	Evaluate the need for water consumption and water quality by process and units within the process compared to alternative processes or units
3	**Measure actual use of water**	3.1	Calculate actual net water use for overall process or site
		3.2	Calculate actual net water use for each process unit
		3.3	Calculate difference between theoretical and actual water use by unit and overall
		3.4	Identify actual water quality used by each process unit
4	**Develop strategies for reducing the use of water**	4.1	Rank units by difference between theoretical and actual water use
		4.2	Rank units by actual water use
		4.3	Identify units using higher quality water than required
		4.4	Develop strategies to reduce water consumption and use lower quality water
5	**Prepare a report for a water use reduction strategy**	5.1	Consult with key stakeholders
		5.2	Identify strategies required to meet regulatory requirements
		5.3	Rank strategies by cost-benefit ratio

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.4 Short-list preferred water reduction strategies
	5.5 Write report to provide recommendation for improving water usage

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015010 Conduct a sustainable water use audit.

Links

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Assessment Requirements for MSS015028 Conduct a sustainable water use audit

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- conducted a water use audit and prepared audit report for at least 1 organisation, or part or all of a value chain.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- water sources
- typical water usage on a site
- specific water usages within production or operational processes undertaken by the organisation
- water quality categorisation
- 'grades' of water and characteristics and typical applications for water of different qualities
- strategies and methodologies for determining water quality
- strategies and sources of advice for determining impact of changes to water usage or quality with products or processes.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS015030 Conduct an emissions audit

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to conduct an audit of emissions related to product or process in an organisation, or part or all a value chain, with the emphasis on using material balancing techniques to inform decision making.

The audit may be conducted to assist in regulatory compliance or as part of a strategy to improve the sustainability of operations.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify all sources and uses of materials in**	1.1	Identify all sources of materials external to the site
		1.2	Identify all sources of materials within the site

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	process	1.3	Identify all uses of materials by the process overall
		1.4	Identify all uses of materials by each process unit
2	**Calculate theoretical use of the materials**	2.1	Calculate theoretical net consumption of material for each process unit
		2.2	Calculate overall material balance for process or site
		2.3	Evaluate the need for material consumption by process and units within the process compared to alternative processes or units
3	**Measure actual use of materials**	3.1	Calculate actual net material consumption for overall process or site
		3.2	Calculate actual net material consumption for each process unit
		3.3	Calculate difference between theoretical and actual material consumption by unit and overall
		3.4	Identify actual emissions by each process unit
4	**Develop strategies for reducing emissions**	4.1	Rank units by difference between theoretical and actual material consumption
		4.2	Rank units by actual material consumption
		4.3	Develop strategies to reduce material consumption
5	**Prepare a recommendation for an emissions reduction strategy**	5.1	Consult with key stakeholders
		5.2	Identify strategies required to meet regulatory requirements
		5.3	Rank strategies by cost benefit ratio
		5.4	Short-list preferred emission reduction strategies

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.5 Write report to provide recommendation for reducing emissions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015012 Conduct an emissions audit.

Links

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Assessment Requirements for MSS015030 Conduct an emissions audit

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- conduct at least 1 emissions audit for one or more products, processes, value chain or part of value chain.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- type and nature of emissions
- types of materials
- material balancing techniques for process and process steps (also known as mass balancing)
- methods of measuring actual process amount and flows
- emission reduction strategies and methods along with costs, effectiveness and alternative disposal strategies caused
- cost-benefit analysis
- legislation, regulations and protocols relevant to emissions audit.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015031 Conduct a sustainability related transport audit

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to conduct an audit for the specific resource of transport and to develop recommendations to improve the sustainability of transport operations.

This unit applies to organisations and their value chains that are seeking to determine their current and desirable future use of transport resources as part of a sustainable strategy.

The transport audit may be conducted individually or as part of a team. The need for a transport audit may be the result of an organisation's own decisions to increase the sustainability of its operations or be required for regulatory or other purposes. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Identify all transport used**	1.1 Define boundaries of value chain or part of value chain to be analysed

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.2	Identify all transport to a site
		1.3	Identify all transport within a site
		1.4	Identify all transport from a site
2	**Analyse transport requirements**	2.1	Identify current specifications for required transport
		2.2	Identify transport that is not essential to product or process as defined from the perspective of a customer
		2.3	Identify transport arrangements used which are inefficient
		2.4	Determine transport required to increase utility
3	**Determine total cost of transport**	3.1	Calculate direct financial cost of transport
		3.2	Determine emissions from transport
		3.3	Calculate working capital costs of transport
		3.4	Calculate cost impost of transport which does not meet requirements
		3.5	Calculate costs of transport which does not increase utility
4	**Develop strategies for reducing the use of the resource/material**	4.1	Rank transport by total costs
		4.2	Rank unnecessary transport by total costs
		4.3	Develop strategies to reduce total transport costs
5	**Prepare a recommendation for a resource use reduction**	5.1	Consult with key stakeholders
		5.2	Identify strategies required to meet regulatory requirements

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
strategy	5.3 Rank strategies by cost benefit ratio
	5.4 Short-list preferred transport improvement strategies
	5.5 Prepare recommendations for improving transport

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015013 Conduct a sustainability related transport audit.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015031 Conduct a sustainability related transport audit

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- conducted at least 1 sustainability related transport audit across one or more organisations or value chains and prepared recommendations for improved transport.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- value chain and transport within the value chain
- modes of transport used within and external to site
- alternative modes of transport which could achieve same outcomes
- requirements of transport to meet required outcomes (transport specifications)
- muda (waste) as used in competitive systems and practices
- utility as a concept and as applied to transport
- transport emissions
- working capital, including inventory costs of transport
- methods of calculation of costs
- transport inefficiencies
- strategies for reducing transport and transport costs
- cost benefit calculation.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015033 Implement and monitor reengineering for sustainability

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to identify, implement and monitor a reengineering process to achieve a sustainability improvement of a process or product family. This includes the identification of the process for reengineering, the development of the sustainability objectives of the reengineering project, establishment of project objectives, implementation and evaluation. The reengineering project may involve consultations and participation by customers and suppliers in the value chain.

This unit applies to production operations that have identified reengineering as a potential strategy for improving sustainability.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine the need for reengineering**	1.1	Identify a process requiring improvement
		1.2	Analyse process performance
		1.3	Compare reengineering approach with other process improvement methodologies
		1.4	Confirm the need for reengineering
2	**Determine process objectives**	2.1	Identify stakeholders in the process
		2.2	Research and define perceived stakeholder benefit from process
		2.3	Translate perceived benefits into product and process specifications
		2.4	Collect current available metrics on process performance
		2.5	Determine metrics for monitoring future sustainability related and other process performance
3	**Facilitate reengineering study**	3.1	Organise appointment of reengineering team
		3.2	Determine impact on suppliers and customers during and after reengineering
		3.3	Acquire required resources and authorities to proceed
		3.4	Develop descriptions of alternative processes which will deliver required specifications
		3.5	Short-list most likely alternatives
		3.6	Evaluate short-listed alternatives
		3.7	Rank evaluated short-listed alternatives by desirability
4	**Implement preferred option**	4.1	Select preferred option
		4.2	Write implementation plan for preferred option

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	4.3	Negotiate required resources with stakeholders
	4.4	Negotiate timelines and measures and indicators of success with change stakeholders
	4.5	Acquire and deploy resources required to achieve agreed responses
	4.6	Monitor implementation and take action to achieve required responses
	4.7	Renegotiate with stakeholders to achieve required responses
5 **Recommend further improvements**	5.1	Measure improvements obtained
	5.2	Identify non-compliances with planned improvements
	5.3	Determine additional improvements desirable

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015016 Implement and monitor reengineering for sustainability.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS015033 Implement and monitor reengineering for sustainability

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified at least 1 process or product family for reengineering for sustainability and implemented and monitored a reengineering process.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process performance analysis techniques
- process improvement methodologies:
  - kaizen
  - kaizen blitz
  - technical optimisation approaches
  - reengineering, including new plant and equipment, modification of existing plant and equipment and changes to specification of product or process
- brainstorming techniques
- cost benefit analysis techniques
- project improvement planning and scheduling
- process monitoring and critical measures
- root cause analysis and other problem-solving techniques.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS015034 Inform and educate organisation and community representatives on sustainability issues

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to explain and provide advice on sustainability issues and processes to organisation and community representatives, including employees, managers, clients, suppliers and the local and wider community.

This unit applies to a manager or technical specialist who has a major responsibility for sustainability as part of a broader work role or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine sustainability information or advice**	1.1	Determine need for sustainability information dissemination
		1.2	Assess type and level of information required to be communicated

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
requirements	1.3 Determine if information release is covered by special provisions
	1.4 Determine timing and distribution requirements for communication of information
2 **Provide sustainability related information**	2.1 Acquire or produce required information according to organisational requirements
	2.2 Confirm information sources are current and accurate
	2.3 Include information regarding options for improving sustainability
	2.4 Use appropriate forums and media to provide information
	2.5 Seek feedback from representatives to confirm understanding
3 **Provide clarification on sustainability issues**	3.1 Determine if assistance or advice is required from a specialist
	3.2 Undertake an inspection of site or equipment to clarify concerns or issues raised
	3.3 Assist organisation or community representatives to interpret sustainability information
	3.4 Advise representatives on development and implementation of sustainability improvement strategies

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015018 Inform and educate organisation and community representatives on sustainability issues.

Links

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Assessment Requirements for MSS015034 Inform and educate organisation and community representatives on sustainability issues

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- informed and educated at least 2 groups on sustainability issues.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sustainability principles
- value chain concepts
- sustainability issues, including climate change, carbon pollution, waste generation and control
- principles of energy and water conservation
- precautionary principle
- sustainability and environmental legal context
- principles of biological and ecological diversity
- methods of interpreting and presenting data
- sources of data and information in own organisation and from public sources
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS017009 Analyse and determine organisational risk areas in sustainability

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to analyse an organisation's interactions with its environment, the specifics of the local situation and determine risks and vulnerabilities (hot spots) for close monitoring or action. This includes the analysis of an organisation's interactions with its environment through an application of the principles of sustainability and an understanding of climate change and other significant sustainability issues, such as resource depletion. The organisation's environment, for the purpose of this unit, is considered to include the ecology it impacts, the economic impacts on the organisation and the social impacts of the organisation.

This unit covers the identification of items which have the potential for a major sustainability impact, and so require some response from the organisation.

This unit applies to an entire organisation; part of a large organisation or part or all of a value chain. A manager or senior technologist who has significant responsibility for sustainability in their work role would typically undertake this unit. Skills covered by this unit may be applied individually or in a team context.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse interactions with organisation's environment**	1.1	Identify and map processes for chosen portion of organisation
		1.2	Determine ecological interactions for each process step
		1.3	Determine social interactions for each process step
		1.4	Determine economic interactions for each process step
		1.5	Analyse overall interactions for chosen portion of organisation
2	**Determine the significance of each impact**	2.1	Determine sustainability issues relevant to the chosen portion of organisation
		2.2	Analyse ecological impacts of sustainability issues
		2.3	Analyse social impacts of sustainability issues
		2.4	Analyse economic impacts of sustainability issues
		2.5	Analyse for interactions between individual impacts
		2.6	Rank each impact by significance
3	**Develop an response for each interaction**	3.1	Analyse the causal tree for each significant impact
		3.2	Analyse mitigation methods available
		3.3	Determine a response for each significant impact
		3.4	Determine aggregate impact of all 'non-significant' impacts
		3.5	Determine if additional response is required
4	**Communicate with stakeholders**	4.1	Identify stakeholders
		4.2	Determine stakeholder information needs and wants

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.3 Read and interpret data to communicate with stakeholders
	4.4 Prepare and disseminate information to stakeholders
	4.5 Negotiate solutions with stakeholders
5 **Communicate required responses**	5.1 Identify what communications are required and to whom
	5.2 Prepare reports and recommendations
	5.3 Pitch reports and recommendations
	5.4 Brief stakeholders as required by determined responses
	5.5 Finalise recording

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017001 Analyse and determine organisational risk areas in sustainability.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017009 Analyse and determine organisational risk areas in sustainability

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- analysed sustainability susceptibilities for at least 1 organisation, part of organisation or a portion of a value chain to identify sustainability issues and root causes.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- process mapping techniques
- principles of sustainability
- causes of climate change, impacts of greenhouse gases
- sources and impacts of pollution and other ecological degradation and methods of eliminating, controlling or reducing them
- causes of adverse social impacts and methods of eliminating, controlling or reducing them
- causes of adverse economic impacts and methods of eliminating, controlling or reducing them
- significance of impacts and response when impacts cannot be prevented
- root cause analysis (RCA) and causal tree
- hierarchy of hazard control and its application to sustainability hazards
- sustainability legislation, regulation and protocols, incentives
- risk analysis and its application to sustainability risks.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

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MSS017010 Determine process loss through mass or energy balancing

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for the analysis of a process to determine loss of resources by the application of the first law of thermodynamics (more commonly known as mass and energy balancing). It includes the selection of mass or energy balancing or both as appropriate to the type of processes being examined and may be applied to an entire process, part of a large process, or part or all of a value chain.

This unit applies to the analysis of a mass (material) and energy (usually heat or motive force) flows through a process to determine overall mass and energy efficiency, losses which occur through the process and how much loss occurs in each part of the process. This is achieved by the application of the techniques of mass balancing, energy balancing and combined mass and energy balancing. The application of this unit is especially suitable where high volumes of materials or large amounts of energy are used in a production process. The unit may also apply to other large energy or materials use processes in the value chain, such as logistics and transport.

This unit will lead to the identification of parts of the process which have the greatest resource loss or lowest resource use efficiency and so provides the basis for eliminating or reducing this loss and improving this efficiency.

This unit applies to a manager or senior technologist who has significant responsibility for sustainability in their work role. Skills covered by this unit may be applied individually or in a team context.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Acquire required data**	1.1	Identify system to be analysed
		1.2	Define boundaries for this system
		1.3	Identify and acquire data which is available for the system and its subsystems
		1.4	Identify required data which is not currently available
		1.5	Negotiate with stakeholders and obtain data which is not currently available
2	**Calculate resource efficiency or loss**	2.1	Undertake mass and energy balance over system
		2.2	Identify subsystems making greatest contributions to loss by mass and energy balances over selected subsystems
		2.3	Calculate sustainability impact of identified losses
		2.4	Calculate mass and energy efficiencies of system and analysed subsystems
3	**Prepare recommendations**	3.1	Investigate subsystems responsible for significant loss
		3.2	Determine currently available responses
		3.3	Determine required longer term responses
		3.4	Draft recommended responses in appropriate form
4	**Communicate with stakeholders**	4.1	Identify stakeholders and information needs and wants
		4.2	Analyse data which may be appropriate to communicate with stakeholders

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.3 Prepare and disseminate information to stakeholders
	4.4 Negotiate solutions with stakeholders
5 **Communicate required responses**	5.1 Identify what communications are required and to whom
	5.2 Prepare reports and recommendations
	5.3 Pitch reports and recommendations
	5.4 Brief relevant persons as required by determined responses
	5.5 Finalise recording in accordance with organisational requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017002 Determine process loss through mass or energy balancing.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017010 Determine process loss through mass or energy balancing

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- undertaken a mass and an energy balance (which may be on different systems) or a combined mass and energy balance for 1 or more systems, each of which contains 5 or more subsystems or plant units.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- principles of sustainability
- root cause analysis
- sustainability legislation, regulation and protocols, government incentives and initiatives
- first law of thermodynamics
- defining boundaries for systems subject to mass and energy balancing
- required data, sources of data from process, and use of data proxies
- mass balancing as an analysis technique which allows for the calculation of mass flows and consumption through a process and losses of mass from the system or product
- energy balancing as an analysis technique which allows for the calculation of energy flows and consumption through a process and the losses of energy from the system or product
- mass balancing techniques
- energy balancing techniques, including the use of tables of thermodynamic properties (steam tables), and the use of specific heat capacity and specific latent heat
- combined mass and energy balancing techniques, including the use of heats and reaction and dissolution
- methods of reducing resource losses for process and equipment.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS017011 Identify and respond to external sustainability factors for an organisation

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for the recognition of external sustainability related factors which influence an organisation and its environment; identifying those which require a response and then developing and communicating an appropriate response. The organisation's environment, in the context of this unit, is considered to include the ecology it impacts, the economic impacts on the organisation and the social impacts of the organisation.

This unit applies to an entire organisation, part of a large organisation, or part or all of a value chain.

This unit applies to individuals or a team context and would typically be undertaken by a manager or senior technologist who has a significant sustainability responsibility work role.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Monitor external environment for sustainability**	1.1	Monitor government legislation and regulation
		1.2	Monitor government initiatives and programs

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	related factors	1.3	Monitor customer expectations
		1.4	Monitor market trends and competitor actions
		1.5	Monitor expectations of communities impacted by organisation
		1.6	Identify factors which are relevant to the organisation
		1.7	Rank factors by significance
2	**Develop alternative responses to external factors**	2.1	Agree which factor or factors should be responded to now
		2.2	Determine minimum response required
		2.3	Compare impact of factors with organisation's strategic direction
		2.4	Develop alternative responses which fit organisation's strategic direction
		2.5	Analyse sustainability impacts for each practical response
		2.6	Identify and consult stakeholders
		2.7	Rank responses by preference
3	**Communicate with stakeholders**	3.1	Determine stakeholder information needs and wants
		3.2	Analyse data which may be appropriate to communicate with stakeholders
		3.3	Prepare and disseminate information to stakeholders
		3.4	Negotiate solutions with stakeholders
4	**Prepare response**	4.1	Agree on response to be progressed now

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	for factor or factors	4.2	Write business case for response
		4.3	Agree possible future action for other factors
5	**Communicate required responses**	5.1	Identify what communications are required and to whom
		5.2	Prepare reports and recommendations
		5.3	Pitch reports and recommendations
		5.4	Brief appropriate persons as required by determined responses
		5.5	Finalise recording according to organisation requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017003 Identify and respond to external sustainability factors for an organisation.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017011 Identify and respond to external sustainability factors for an organisation

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified and responded to external sustainability factors relevant to at least 1 organisation or part of an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- principles of sustainability
- current actual and possible sources of external sustainability factors relevant to the organisation
- possible responses for improving sustainability
- root cause analysis
- sustainability legislation, regulation and protocols, government incentives and initiatives
- risk analysis and its application to sustainability risks
- hierarchy of hazard control and its application to sustainability hazards.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS017012 Lead sustainable strategy deployment

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for leading the deployment of sustainable strategy for an entire organisation; part of a large organisation; or part or all of a value chain. It includes the linking of sustainability strategy with business strategies and the planning, communication and deployment of the strategy.

This unit covers the integration of recommendations for sustainability improvements into the organisations strategic sustainability goals and plans and then the facilitation of the implementation of sustainability improvements. The organisation's environment, in the context of this unit, is considered to include the ecology it impacts, the economic impacts on the organisation and the social impacts of the organisation.

Strategy deployment as described by this unit is also known as 'hoshin kanri' in enterprises following lean principles and is a process that ties senior leadership and business strategy to enterprise-wide business improvement practices.

This unit applies to individuals or a team context and would typically be undertaken by a manager or senior technologist who has a significant sustainability responsibility work role.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop sustainability strategy**	1.1	Determine existing organisation vision and strategy for impact on sustainability, including any currently identified sustainability goals and objectives
		1.2	Identify external sustainability best practice
		1.3	Examine current operations for economic, social and environmental factors relevant to sustainability for the organisation
		1.4	Liaise with stakeholders
		1.5	Develop sustainability vision and goals
		1.6	Develop sustainability strategy
		1.7	Obtain required approvals
2	**Examine proposals for sustainability improvement**	2.1	Communicate sustainability strategy and request improvement proposals
		2.2	Examine fit of proposals with sustainability strategy
		2.3	Determine synergies between proposals
		2.4	Request modifications to achieve better strategic outcomes
		2.5	Facilitate the development of integrated implementation plans for selected proposals
		2.6	Facilitate the provision of resources required for implementation
3	**Facilitate implementation of selected proposals**	3.1	Check project plans have been developed
		3.2	Check metrics are identified and will be collected
		3.3	Facilitate capability development
		3.4	Organise for controls and feedback
		3.5	Facilitate the implementation of improvement processes

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 **Lead periodic review of sustainability improvements**	4.1 Check data is available
	4.2 Convene review process
	4.3 Validate current strategy
	4.4 Validate current tactics
	4.5 Review progress and impacts of current projects
	4.6 Develop required changes
	4.7 Facilitate implementation of required changes.
5 **Communicate with stakeholders**	5.1 Identify what communications are required and to whom
	5.2 Prepare communications according to procedures
	5.3 Provide information to stakeholders
	5.4 Finalise recording according to organisation requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017004 Lead sustainable strategy deployment.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017012 Lead sustainable strategy deployment

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- led the development and deployment of sustainability strategy (including scope, timeline, key performance indicators and budget) for at least 1 organisation or part of an organisation
- led at least 1 periodic review of sustainability strategy.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- principles of sustainability
- causes of adverse social, economic and ecological impacts and methods of controlling or reducing them
- principles of strategy deployment and hoshin kanri
- development of vision, mission and strategy
- root cause analysis
- hierarchy of hazard control and its application to sustainability hazards
- sustainability hierarchy
- project management principles and the management of multiple related projects
- sustainability legislation, regulation and protocols, government incentives and initiatives
- risk analysis and its application to sustainability risks.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS017013 Manage a major sustainability non-conformance

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for the response to, and management of, a major sustainability non-conformance which may have arisen through the action, or non-action, of the organisation or its value chain members, or due to a change in the external environment. A major non-conformance is one which could have severe business impacts. It may be applied to an entire organisation, part of a large organisation, or part or all of a value chain.

This unit covers the recognition of a major non-conformance and then the devising and implementation of a strategy and tactics to contain the situation, not allowing it to accelerate or cascade and minimise the adverse consequences while doing what can be done to remedy the situation. The organisation's environment, for the purpose of this unit, is considered to include the ecology it impacts, the economic impacts on the organisation and the social impacts of the organisation.

Typical situations might include a:

- process or equipment failure somewhere along the value chain which has the potential to cause adverse sustainability impacts
- change in legislation or regulation which will see the organisation in breach
- change in requirements from a customer
- change in supply quality from a supplier
- social attitude change that affects in either a positive or negative manner business prospects or the business operating environment.

A manager or senior technologist who has a significant sustainability responsibility work role would typically undertake it. Skills covered by this unit may be applied individually or in a team context.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine extent and nature of non-conformance**	1.1	Determine commencement, type and expected duration of non-conformance
		1.2	Liaise with internal stakeholders to determine impact
		1.3	Liaise with value chain members to determine impact
		1.4	Determine impact on current operations and order fulfilment
		1.5	Determine impact of non-conformance on local community and other stakeholders
		1.6	Determine regulatory implications of non-conformance
		1.7	Summarise impact on organisation and value chain member's viability
2	**Determine priorities and actions**	2.1	Develop responses to the situation
		2.2	Determine timing of responses
		2.3	Identify required resources for the responses developed
		2.4	Evaluate responses and short-list responses
		2.5	Select response and organise resources
3	**Identify information needs**	3.1	Determine regulatory compliance needs
		3.2	Determine the information needs of other stakeholders
		3.3	Identify the sources of required information
		3.4	Arrange to collect required information
		3.5	Report information to stakeholders

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.6	Arrange for updating of information disseminated on a timely basis
4	**Implement immediate response**	4.1	Initiate responses and establish data and other information collection procedures
		4.2	Analyse data and other information as it comes to hand
		4.3	Determine progress of responses to achieving required outcomes
		4.4	Modify responses to better achieve desired outcomes
5	**Plan for conformance**	5.1	Determine root cause of non-conformance
		5.2	Determine impacts on sustainability strategy and tactics
		5.3	Develop plan to ensure continued conformance
		5.4	Initiate implementation of plan
		5.5	Monitor implementation of plan and take action
6	**Conclude and review response**	6.1	Conduct a debrief and complete required reports
		6.2	Evaluate and review response and procedures
		6.3	Evaluate and document effectiveness of the response function; its interaction and communication with stakeholders
		6.4	Recommend improvements to prevent a recurrence and improve response for other non-conformances
		6.5	Communicate reports to internal and external stakeholders

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017005 Manage a major sustainability non-conformance.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017013 Manage a major sustainability non-conformance

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- managed at least 1 major sustainability non-conformance for an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- methods to identify non-conformances
- impact of non-conformances on organisation
- methods of prioritising business impacts based on key indicators:
  - effect on error rates and defects
  - loss of or delay in supply of materials or components
  - loss or severe restriction of process capability
  - loss of transport from or to operational centre or process facility
  - unplanned increases in costs of materials or services
  - increases in the cost of finance or capital
  - sudden change in regulatory requirements
- methods of prioritising responses based on business and customer needs:
  - customer requirements
  - the philosophies and strategies of the organisation, health, safety and environment (HSE) requirements
  - delivery of products/services
  - statutory and contractual requirements
- negotiation methods
- external stakeholders
- stress management techniques
- root cause analysis.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS017014 Identify and improve sustainability interactions with the community

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for the identification of the impacts on the community of current or future sustainability related actions of the organisation and its value chain and the implementation of measures to make those interactions more positive. It also includes assessing the sustainability impact back on the organisation and its value chain members of actions by the community. The unit may be applied to an entire organisation; part of a large organisation; or part or all of a value chain.

This unit covers the identification of key communication channels and people, and an understanding of sustainability issues from their perspective. The organisation's environment, in the context of this unit, is considered to include the ecology it impacts, the economic impacts on the organisation and the social impacts of the organisation.

This unit applies to a manager or senior technologist who has significant responsibility for sustainability in their work role. Skills covered by this unit may be applied individually or in a team context.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine sustainability interactions with the community**	1.1	Process map operation for the chosen portion of value chain
		1.2	Determine sustainability related impacts on the community for each process step
		1.3	Determine overall impacts on the community from the portion of the value chain
		1.4	Determine overall impacts on the community from the complete value chain
2	**Engage with the community**	2.1	Determine any known community issues and actions which may be relevant to value chain
		2.2	Determine impact of community issues and actions on the sustainability of the organisation and its value chain
		2.3	Identify key community groups, representatives and opinion influencers
		2.4	Determine best strategy for engagement with the community on sustainability issues
		2.5	Implement strategy to define community sustainability issues with the organisation and value chain
		2.6	Rank issues by importance to the community and organisation
		2.7	Report issues and rankings back to internal stakeholders
3	**Compare issues raised with impacts determined**	3.1	Select issues for action based on rankings and internal stakeholder feedback
		3.2	Determine root cause of selected issues
		3.3	Determine regulatory impact of issues and responses
		3.4	Develop a response for selected issues
		3.5	Explore alternative methods of addressing selected issues

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.6	Categorise alternative methods
4	**Negotiate acceptable solutions**	4.1	Negotiate solutions acceptable to the community, the organisation and value chain members
		4.2	Agree a timeline for action and indicators of progress
		4.3	Identify issues where no short-term resolution is achievable
		4.4	Establish agreed mechanism for ongoing monitoring of progress by the community
		4.5	Record outcomes and communicate to stakeholders
5	**Monitor and report progress of agreed solutions**	5.1	Facilitate the initiation of projects as agreed
		5.2	Collect agreed metrics or other indicators
		5.3	Take action if solutions are not delivering as anticipated
		5.4	Maintain dialogue with community as agreed

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017006 Identify and improve sustainability interactions with the community.

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Assessment Requirements for MSS017014 Identify and improve sustainability interactions with the community

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified sustainability related interactions with the community for at least 1 organisation and all or part of the value chain and defined and analysed impact of the interactions, including:
  - developing and implementing at least 1 solution targeting reduced adverse impacts and improved interactions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- principles of sustainability
- causes of adverse ecological, social, economic impacts and methods of controlling or reducing them
- root cause analysis
- risk assessment and hierarchy of control and its application to sustainability hazards and risks
- sustainability hierarchy
- sustainability legislation, regulation and protocols, government incentives and initiatives
- sustainability interactions with community
- community benefits offered by the organisation or its value chain.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS017015 Design for sustainability

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for the designing or redesigning of a product or service for sustainability. This unit will lead to the design specification for a sustainable or more sustainable product or service.

This unit applies to a manager or senior technologist who has a significant sustainability responsibility work role. Skills covered by this unit may be applied individually or in a team context.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Define the benefit received by the customer**	1.1 Identify an existing or potential new product or service to design or redesign for sustainability
		1.2 Identify customers and determine how they will use the product or service
		1.3 Analyse the benefits received by the customer

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Define and rank the benefits received
		1.5	Validate benefits according to organisation requirements
2	**Develop alternative ways of delivering benefit**	2.1	Brainstorm alternative methods of delivering required benefits
		2.2	Brainstorm related benefits which may also be delivered
		2.3	Analyse sustainability impacts of each alternative
		2.4	Consult with stakeholders
		2.5	Rank alternatives by sustainability
		2.6	Write an initial business case for top ranked alternatives
3	**Develop product or service and process design**	3.1	Develop product or service design specification for alternatives most likely to be implemented
		3.2	Determine likely process for alternatives most likely to be implemented
		3.3	Analyse life cycle sustainability for alternatives most likely to be implemented
		3.4	Select alternative to develop
		3.5	Consult with stakeholders
		3.6	Confirm selected alternative does deliver key customer benefits
4	**Confirm design for selected alternative**	4.1	Develop and document product or service specification
		4.2	Develop and document key process parameters
		4.3	Consult with stakeholders
		4.4	Write business case for implementing selected alternative

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	4.5	Negotiate solutions to value chain issues caused by changed design
5 **Communicate required responses**	5.1	Identify what communications are required and to whom
	5.2	Prepare reports and recommendations
	5.3	Pitch reports and recommendations
	5.4	Brief appropriate persons as required by determined responses
	5.5	Finalise recording according to organisation requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017007 Design for sustainability.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017015 Design for sustainability

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- designed or redesigned at least 1 new or existing product or service for sustainability.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- principles of sustainability
- sustainability impacts at different points in the value chain
- principles of sustainable design
- the sustainability hierarchy
- sources and transport of materials and components and alternatives
- processes for producing products, and alternatives
- life cycle analysis techniques
- risk assessment and hierarchy of hazard control and its application to sustainability
- sustainability legislation, regulation and protocols, government incentives and initiatives.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS017016 Develop a proactive social sustainability strategy

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge for researching current and emerging issues and approaches to social sustainability to determine strategic opportunities for the business and how they can be implemented.

This unit applies to managers who are able to drive the direction of social sustainability to support an organisation's long-term sustainability. It assumes that the organisation has some awareness of and commitment to social sustainability.

This unit applies to organisations in all sectors and the associated value chains.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

	Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Determine purpose of social sustainability**	1.1	Review existing business values, vision, strategies and goals for social sustainability implications

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	Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	strategy		
		1.2	Research proactive approaches to social sustainability and how they might be relevant to the organisation
		1.3	Identify internal stakeholders at all levels of the organisation and how they will contribute to the strategy
		1.4	Identify legislative and regulatory requirements
		1.5	Consult with internal stakeholders to determine the purpose of the social sustainability strategy
2	**Define strategic direction**	2.1	Identify external stakeholders and how they will contribute to the strategy
		2.2	Facilitate processes to determine strategic opportunities that support the purpose of the strategy
		2.3	Facilitate processes to evaluate the strategic opportunities
		2.4	Select strategic opportunities that will define the strategic direction
		2.5	Facilitate processes to amend purpose of the strategy based on the strategic opportunities
3	**Facilitate development of the strategy**	3.1	Facilitate processes to identify activities to support the strategic direction
		3.2	Facilitate processes to determine key operational requirements for implementing the activities
		3.3	Facilitate processes to evaluate the impact on resources and systems of implementing the activities
		3.4	Analyse risks to successful implementation of the activities and prepare risk management strategies

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	Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
		3.5	Develop protocols and mechanisms to ensure that implementation of activities aligns to social sustainability purpose
		3.6	Determine next steps for progressing the strategy
4	**Facilitate stakeholder engagement**	4.1	Facilitate equitable participation from all stakeholders
		4.2	Determine the information needed to enable stakeholders to contribute to the development of the strategy
		4.3	Prepare communications that target stakeholder information needs
		4.4	Identify any barriers to communication and participation
		4.5	Apply strategies to address barriers to communication and participation
5	**Document the strategy**	5.1	Document the purpose of the strategy, the proposed activities and implications for the organisation
		5.2	Use suitable format, structure and supporting information for the strategy to meet stakeholder and organisational requirements
		5.3	Confirm with stakeholders that the strategy reflects the outcomes of strategic planning processes
		5.4	Develop recommendations for progressing the strategy
6	**Evaluate and improve the strategy**	6.1	Determine evaluation criteria relevant to the social sustainability strategy
		6.2	Determine processes and activities for evaluating the strategy

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
		and identifying improvements
	6.3	Determine documentation and reporting requirements
	6.4	Engage stakeholders in the evaluation
	6.5	Provide information and resources to facilitate the evaluation
	6.6	Facilitate the evaluation
	6.7	Review the outcomes of the evaluation to identify opportunities for improvement
	6.8	Document and report on recommendations for improvement

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS017008 Develop a proactive social sustainability strategy.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS017016 Develop a proactive social sustainability strategy

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- facilitated the development, documentation and evaluation of at least 1 social sustainability strategy across the whole or part of an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- purpose of social sustainability strategy
- social sustainability issues, practices and approaches in the organisation and its value chain that may provide strategic opportunities for the business
- stakeholders and their roles in the organisation
- strategies for equitable stakeholder participation
- strategic analysis and planning techniques
- processes for risk management
- processes for planning and managing change
- legislative and regulatory requirements that have social sustainability implications
- voluntary codes and standards that have social sustainability implications including Global Reporting Initiative (GRI) reporting and ISO 26000:2010 Guidance on social responsibility or equivalent.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS024013 Work and communicate effectively as an environmental technician

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to work effectively within Australia's framework for environmental management and the culture of the organisation; safely perform environmental technical services and interact effectively with a diverse range of people in many industry and community settings.

This unit applies to the induction of environmental technicians into an organisation working in a range of industry sectors, including environmental services; environmental compliance, auditing and inspection; groundwater and clean water; water treatment, storm and wastewater management; solid and hazardous waste management, and site remediation; management of contaminated sites; geotechnical services and civil engineering; and natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Induction

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Work in accordance with organisation's agreements and legislative requirements**	1.1	Identify organisation's business goals, ethics, products and environmental services relevant to role
		1.2	Follow environmental management requirements, including sustainable energy principles and work practices relevant to role
		1.3	Read and follow organisation's policy and procedures relating to employment, security, confidentiality and reporting lines
		1.4	Read and follow work health and safety (WHS) and regulatory requirements, codes of practice, standards, hazards and risks, and control measures relevant to environmental technical services provided
2	**Provide environmental technical services**	2.1	Identify workplace roles and responsibilities of personnel working within the environmental function
		2.2	Identify typical tasks and calendar of events in work area
		2.3	Recognise and locate the equipment and resources required for everyday work
		2.4	Read and follow work instructions to perform environmental technical tasks correctly, safely and efficiently
		2.5	Seek clarification on work instructions
		2.6	Maintain own work area, equipment and materials in a safe and organised manner according to workplace procedures
3	**Organise daily work efficiently**	3.1	Assess and prioritise workload according to level of responsibility
		3.2	Advise supervisor if additional resources or support are required to improve performance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.3	Undertake duties in a positive manner to enhance workplace cooperation and efficiency
4	**Communicate and liaise effectively with customers, contractors and stakeholders**	4.1	Listen actively and use appropriate language when communicating with other people
		4.2	Respond appropriately to verbal and written messages
		4.3	Record and convey information so that it is clearly understood
		4.4	Respect the values, concerns and diverse views of people involved in, or impacted by, organisation's activities
		4.5	Resolve conflict through meaningful negotiation and compromise
		4.6	Redirect inquiries or disputes beyond own area of responsibility to relevant personnel for action
		4.7	Adhere to site agreements and protocols to maintain credibility and trust
5	**Accept responsibility for quality of own work**	5.1	Monitor and adjust work practices to ensure that the quality of outputs is maintained
		5.2	Identify and report opportunities for improvements in procedures, processes and equipment in work area
6	**Identify own learning needs**	6.1	Identify career options and training opportunities in the organisation
		6.2	Consult appropriate personnel to identify own learning needs for future work requirements and career options

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024001 Work and communicate effectively as an environmental technician.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024013 Work and communicate effectively as an environmental technician

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- interpreted workplace information, including at least 1 of the following types of information: legislative, employment, security, confidentiality and reporting requirements; site agreements and protocols; and work instructions
- communicated effectively with customers, contractors and stakeholders on at least 2 occasions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- key features of Australia's environmental management framework; legislation, industry codes of practice and Australian Standards relevant to job role
- organisation's business objectives, sites, product and service range, structure and reporting lines
- role of the organisation's environmental function (including services, products, technology and compliance)
- features of job role statements and position descriptions for environmental technicians
- rights and responsibilities of employer and employees
- ethical values and principles, including respect for the law, responsibility, courtesy, diligence and confidentiality
- name and function of equipment, materials and other resources used to perform environmental technical tasks in job role
- workplace policies and procedures that govern own employment and personal work; health, safety and environment
- hazards, safe work practices and use of personal protective equipment (PPE) for job role
- communication strategies and techniques to give and receive information, address differing opinions and avoid or resolve work conflicts

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS024014 Implement environmental management plans and procedures

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to implement environmental management plans and procedures to minimise the environmental impact of work activities and ensure legislative compliance. It includes identifying environmental requirements, issues and risks for projects and/or sites; recognising environmental incidents and applying the specified procedures or actions to control and minimise their impacts.

This unit applies to environmental technicians working in a range of industry sectors, such as environmental monitoring, sampling and field testing; geotechnical services; natural resource management; occupational hygiene monitoring; groundwater and clean water; water treatment, storm and wastewater management; solid and hazardous waste management; site remediation; and resource efficiency.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Compliance

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify environmental management obligations**	1.1	Read and interpret environmental legislative, regulatory and licensing requirements that apply to work activities
		1.2	Read and interpret the organisation's environmental management plans that apply to specific sites and projects
		1.3	Confirm scope of responsibility for achieving environmental outcomes for specific sites and projects
		1.4	Confirm reporting requirements
2	**Implement specified management plans and procedures**	2.1	Access and read site and project history and environmental management issues, objectives and procedures that have been documented for specific sites and projects
		2.2	Plan work, incorporating control measures, to minimise identified risks and achieve specified environmental outcomes
		2.3	Undertake all work activities safely and in accordance with environmental requirements
3	**Respond to potential and actual environmental issues and incidents**	3.1	Recognise and assess environmental issues, risks, impacts and incidents arising during work activities
		3.2	Identify the triggers and response procedures for complaints, cultural heritage finds and other environmental incidents
		3.3	Apply established workplace procedures for dealing with complaints, cultural heritage finds and other environmental incidents
		3.4	Record details of observations, assessments and any actions taken in accordance with workplace procedures
		3.5	Notify specified personnel in accordance with organisation procedures

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 Report the application of environmental plans and procedures	4.1 Monitor the effectiveness of environmental controls relating to work activities
	4.2 Complete environmental reporting requirements for specific sites and projects
	4.3 Maintain environmental management documentation
	4.4 Identify and report opportunities for improving environmental procedures
	4.5 Contribute to regular reviews of environmental management plans and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024002 Implement environmental management plans and procedures.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024014 Implement environmental management plans and procedures

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- implemented environmental management plans, actions and procedures on at least 2 occasions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- technical terms, including environmental protection, risk, hazard, control, impact, assessment and management
- environmental management concepts, including conservation, cultural heritage and biodiversity
- legislative and regulatory processes, requirements and responsibilities relevant to environmental plans and procedures, including how to search for and access relevant acts, regulations, standards and guidelines
- environmental management plans and procedures and standard operating procedures (SOPs) relevant to job role
- site characteristics and environmental issues, risks and impacts
- specified control measures and environmental management actions relevant to work activities
- workplace procedures for:
    - work health safety (WHS) including using personal protective equipment (PPE), identifying and responding to hazards and assessing risks associated with work activities at sites
    - responding to complaints, cultural heritage finds and other environmental incidents
    - environmental reporting.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS024015 Apply an understanding of environmental principles to a site

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to read the landscape in terms of the physical and biological components of the environment and the ecological linkages in operation at a site. Personnel are required to apply basic principles of geomorphology, hydrology and ecology in a systematic, scientific appraisal of site condition. This requires sufficient knowledge of chemistry, physics, geology and biology to support a scientific approach to field ecology.

This unit of competency is applicable to environmental technicians working in a range of industry sectors, such as environmental monitoring, and sampling; environmental compliance, auditing and inspection; groundwater and clean water; water treatment, storm and wastewater management; solid and hazardous waste management; site remediation; management of contaminated sites; geotechnical services and civil engineering; and natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Environmental monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Prepare for site**	1.1 Read and use maps, photos and related documentation to

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	inspection		gain a preliminary understanding of site features
		1.2	Collect site-specific or regional data on expected flora, fauna, soils and climate
		1.3	Access and read site history and previous environmental or ecological studies
		1.4	Access and read all emergency plans, risk assessments, and safety and environmental management requirements associated with the field activities
		1.5	Access and read legislative and planning instruments applicable to current and future site usage
		1.6	Confirm site access requirements and identify potential site hazards
2	**Conduct initial site survey**	2.1	Sketch, map or photograph the site
		2.2	Observe and record the surface geology and geomorphology of the site
		2.3	Observe and record hydrology of the site
		2.4	Observe and record the major flora of the site
		2.5	Observe and record evidence of site fauna
		2.6	Observe and record infrastructure and other modifications to the site
		2.7	Assess the potential for presence of cultural and indigenous heritage items and record findings
		2.8	Check for evidence of illegal or inappropriate activities
3	**Make an initial assessment of site condition**	3.1	Use geomorphological and hydrological observations to describe surface condition and infer potential future impacts
		3.2	Make inferences on apparent ecological health of the site to plan for an initial ecological study of the site

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.3	Determine the physical, chemical and biological parameters that would need to be measured and sampled during subsequent ecological appraisal of the site
4	**Prepare for field study**	4.1	Identify and describe the biological and chemical components of interest, sampling areas and field techniques to be used
		4.2	Identify, obtain and check required equipment and materials required for field study
		4.3	Securely stow all field equipment in vehicle to prevent damage in transit
		4.4	Safely transport all field equipment to site and prepare it for use
5	**Perform a basic ecological field study of the site**	5.1	Perform ecological sampling for abundance and diversity parameters using the general techniques of transects and quadrats
		5.2	Record descriptions of the habitat structure
		5.3	Perform sampling for simple population, demographic and age structure parameters
		5.4	Perform simple sampling and measurements on abiotic components
		5.5	Perform simple targeted species sampling
		5.6	Comply with legislation, policy, codes of practice and accepted workplace procedures
6	**Finalise field study**	6.1	Store all samples and data safely
		6.2	Rehabilitate sampling sites to render them safe and minimise environmental impacts
		6.3	Clean all equipment, containers, work area and vehicles according to workplace procedures

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	6.4 Pack and safely transport all samples, equipment and supplies back to home base
	6.5 Ensure dispatch of collected samples for subsequent analysis
	6.6 Check serviceability of all equipment before storage
7 **Process and present field data**	7.1 Summarise field data using simple calculations, graphs, tables and maps
	7.2 Write reports that include simple conclusions and interpretations based on raw or summarised data
8 **Maintain a safe work environment**	8.1 Use defined safe work practices and personal protective equipment (PPE)
	8.2 Minimise the generation of waste
	8.3 Collect and dispose of all hazardous wastes safely

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024003 Apply an understanding of environmental principles to a site.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024015 Apply an understanding of environmental principles to a site

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- planned and conducted at least 1 site appraisal that involves an initial survey and assessment of site condition and a basic ecological field study.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific terminology for environmental and ecological systems relevant to job role
- fundamental concepts and principles in chemistry, physics, geology and biology to support a scientific approach to basic field ecology, including:
  - structure of earth systems, including lithosphere, hydrosphere, atmosphere and biosphere (ecosphere)
  - geomorphology, climate and hydrology
  - energy and material flows and cycles, including biogeochemical cycles
- fundamentals of ecology, including:
  - ecosphere, biome and major ecosystem types
  - trophic structure of ecosystems, and hierarchies
  - organism, population, community, ecosystem hierarchy; habitat and biodiversity
  - abiotic and biotic components and their interrelationships and dependencies
  - ecological systems and dynamics; stability, succession and disruption
- specific legislation, policies and codes of practice related to ecological field activities
- ecological, chemical and physical field monitoring procedures relevant to job role
- procedures for maintaining, storing and transporting samples and specimens to ensure their wellbeing, viability and integrity
- site hazards; health, safety and environment requirements, including field safety and survival principles.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - access to sites and vehicle transport
  - survey equipment, sampling and monitoring equipment, cameras, consumables, maps and flora and fauna keys
  - documentation, including site information, environmental management plans, codes of practice and field protocols, equipment manuals, workplace procedures and test or survey methods.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS024016 Process and present environmental data

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to retrieve environmental data; evaluate formulae; perform scientific calculations; present and interpret information in tables, graphs and simple maps; and keep accurate records.

This unit applies to environmental technicians working in all industry sectors. The unit requires personnel to solve problems of limited complexity where the information may not be obvious, but not contradictory, and can be determined by direct reasoning.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Data

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Retrieve and check environmental data**	1.1	Read and interpret workplace procedures for processing data
		1.2	Store and retrieve data using appropriate files and application software

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Verify the quality of data using workplace procedures
		1.4	Rectify errors in data using workplace procedures
2	**Calculate scientific quantities**	2.1	Calculate statistical values for given data
		2.2	Calculate scientific quantities using given formulae and data and estimate uncertainties
		2.3	Ensure calculated quantities are consistent with estimations and expectations
		2.4	Report all calculated quantities using the appropriate units and correct number of significant figures
3	**Present data**	3.1	Present data in clearly labelled tables, charts and simple maps
		3.2	Graph data using appropriate scales to span the range of data or display trends
		3.3	Report all data using the appropriate units and number of significant figures
4	**Read and interpret data variations and trends**	4.1	Compare data with reference values or expected ranges
		4.2	Recognise and report significant variations and trends in data
		4.3	Interpret significant features of graphs, including gradients, intercepts, maximum and minimum values, and limit lines
5	**Keep accurate written records and maintain confidentiality**	5.1	Transcribe information accurately
		5.2	Verify the accuracy of records
		5.3	File and store workplace records in accordance with workplace procedures

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.4 File all reference documents logically and keep them up-to-date and secured
	5.5 Observe workplace confidentiality standards

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024004 Process and present environmental data.

Links

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Assessment Requirements for MSS024016 Process and present environmental data

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- retrieved, coded, recorded and checked environmental data and calculated scientific and statistical quantities with or without a calculator or computer software, including at least 8 of the following items:
  - converting units involving multiples and submultiples
  - scientific notation, significant figures, round off, estimate and approximate
  - transposing and evaluating formulae
  - fractions, decimals, proportions and percentages
  - percentage and absolute uncertainties in measurements and test results
  - statistical values of data, including mean, median, mode and standard deviation
  - perimeters, angles, areas (m^2) and volumes (mL, L, m^3) of regular shapes
  - dose (mg), average mass, mass percentage, density, specific gravity, moisture, relative and absolute humidity, viscosity and permeability
  - ratios
  - concentration
  - average count, colonies per swab surface and cell counts
  - variables
  - biological oxygen demand (BOD), chemical oxygen demand (COD) and total organic carbons (TOC)
  - % content of moisture, sulphur dioxide and trace metals
- prepared and presented accurate results in the required format and included data in at least 1 of the following forms:
  - tables, graphs, histograms, pie charts, bar charts, maps
- interpreted data to identify:
  - significant data points
  - variations
  - trends
  - anomalies.

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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific and technical terminology relevant to job role
- procedures for coding, entering, storing, retrieving and communicating data
- international system of units (SI)
- concepts of metrology, including:
  - all measurements are estimates
  - repeated measurements belong to a sample of the measured parameter
  - repeatability, precision, accuracy, significant figures
  - sources of error, uncertainty associated with measurement steps
  - traceability
- procedures for verifying data and rectifying mistakes
- procedures for maintaining and filing records, and maintaining security of data
- variations and trends in data (including seasonal, diurnal, location and non-conformance).

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - calculator, computer and relevant software or laboratory information system
  - environmental data sets and records
  - documentation, including user manuals; workplace procedures for recording, processing, storing and reporting environmental data; test or survey methods.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS024017 Collect spatial and discrete environmental data

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to obtain and store spatial and discrete environmental data using handheld global positioning system (GPS) equipment.

This unit applies to environmental technicians working in a range of industry sectors, including environmental monitoring, sampling and field testing; geotechnical services; natural resource management; occupational hygiene monitoring; groundwater and clean water; water treatment, storm and wastewater management; site remediation and rehabilitation.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for data collection**	1.1	Read and interpret legislative and regulatory, workplace requirements and background information for site or project
		1.2	Locate, read and interpret specifications for spatial and environmental data collection
		1.3	Write a data collection plan in accordance with

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			specifications
		1.4	Establish codes for environmental attributes
		1.5	Assemble equipment and check that it is fit for purpose
		1.6	Confirm plan with supervisor
2	**Safely collect GPS and environmental data**	2.1	Set up environmental measuring instruments on site and perform pre-use or calibration checks
		2.2	Set up GPS equipment with correct datum and projection settings
		2.3	Operate instruments and equipment in accordance with manufacturer specifications and workplace procedures
		2.4	Determine conditions for obtaining optimum GPS positions
		2.5	Collect point positional data in accordance with data collection plan
		2.6	Attribute environmental data for each location
		2.7	Ground truth GPS data using maps, aerial photos or satellite imagery
		2.8	Verify environmental data, identify atypical results and review procedures and troubleshoot equipment
3	**Report data and finalise documentation**	3.1	Use GPS software to download and process GPS and environmental data and extract required information
		3.2	Use specified quality tests and workplace procedures to check acceptability of environmental data
		3.3	Complete all required documentation
		3.4	Maintain the security and confidentiality of data and documentation in accordance with workplace requirements

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024005 Collect spatial and discrete environmental data.

Links

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Assessment Requirements for MSS024017 Collect spatial and discrete environmental data

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- collected spatial and discrete environmental data that meets specifications on at least 2 occasions, including:
  - completed required documentation including at least 1 of the following:
    - map of GPS data locations
    - sampling, monitoring or in-field test data and results
    - records of vehicle or equipment use
    - records of time spent and approved expenditure
    - emails and correspondence
    - records of site consultations.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental terms, concepts and principles relevant to data collection
- environmental data verification including comparison with expected or reference values, conducting repeat tests, and using duplicate samples or locations
- legislative requirements, standard methods and workplace procedures governing data collection, processing and reporting
- sources of background information
- uncertainty, accuracy and precision of measurements and data quality requirements
- data formats
- methods for data processing, manipulation and management
- hazards, health and safety and site environmental management requirements for work role.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

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- use of facilities, equipment and resources, including:
  - access to sites and vehicle transport
  - sampling or monitoring equipment and instruments, GPS receivers and related GPS software, camera; consumables; calculator, computer and relevant software or laboratory information system
  - documentation, including site information and history, maps, aerial photos; site environmental management plans, codes of practice and field protocols; equipment manuals, workplace procedures, specifications and test or survey methods.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSS024018 Perform sampling and testing of water

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to sample natural, polluted and process water for both chemical and microbiological parameters and perform field measurements on them.

This unit applies to environmental technicians working in a range of industry sectors, including environmental services; clean water; natural resource management; water treatment, storm and wastewater management; environmental compliance, auditing and inspection; solid and hazardous waste management; site remediation; management of contaminated sites; geotechnical services and civil engineering.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm sampling and testing requirements**	1.1 Read the sampling plan to confirm the timing and frequency of sampling and the location, number and type of samples
		1.2 Check that all sampling and testing procedures are in accordance with client or workplace requirements, standards and codes

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
2	**Prepare for water sampling**	2.1 Identify site and sampling hazards and safety requirements
		2.2 Liaise with personnel to arrange site access, clearances and permits
		2.3 Select sampling equipment and conditions to achieve representative samples and preserve sample integrity during collection, storage and transit
		2.4 Ensure all reagents, solutions, standards and blanks are obtained and prepared ready for field use
		2.5 Select field test equipment and instruments and check operation and calibration in accordance with procedures and manufacturer instructions
		2.6 Assemble and check all sampling equipment, field test equipment, materials, containers and safety equipment
		2.7 Arrange suitable transport to, from and around site
3	**Conduct sampling of water**	3.1 Locate sampling sites and services at the site
		3.2 Conduct representative sampling in accordance with sampling plan and defined procedures for field and laboratory testing
		3.3 Ensure all controls, blanks and replicate samples are correctly integrated into the sampling process
		3.4 Record all information and label samples in accordance with traceability requirements
		3.5 Record environmental conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity
		3.6 Transport all samples back to base according to workplace procedures and codes

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.7	Distribute samples or sub-samples to required destinations for testing, maintaining sample integrity, traceability and chain of custody requirements
4	**Conduct field testing of water**	4.1	Obtain sample or sub-sample for designated field test, or locate testing location for in-situ testing
		4.2	Check equipment and instrument set-up and reagents and calibrate to ensure safe operation and valid results
		4.3	Run quality control (QC) samples to check method validity
		4.4	Operate equipment and instruments in accordance with test method requirements
		4.5	Perform tests, procedures, observations on all samples, and standards in accordance with specified methods
		4.6	Record all field observations and results and ensure that they are accurately transferred to workplace information database
5	**Maintain a safe work environment**	5.1	Use defined safe work practices and personal protective equipment to ensure personal safety and that of others
		5.2	Minimise the generation of waste
		5.3	Rehabilitate sampling site to render it safe and minimise environmental impacts
		5.4	Clean all equipment, containers, work area and vehicles according to workplace procedures
		5.5	Check serviceability of all equipment before storage
		5.6	Safely collect all hazardous wastes for disposal

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024006 Perform sampling and testing of water.

Links

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Assessment Requirements for MSS024018 Perform sampling and testing of water

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- sampled natural, polluted or process water for both chemical and microbiological parameters
- conducted field tests of at least 2 water samples.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific terminology used in job role covering water chemistry, biology and microbiology
- hydrologic cycle
- fundamentals of aquatic chemistry, including:
  - physical and chemical properties of water
  - chemical equilibria in natural, polluted and process waters
  - biogeochemical processes in freshwater and marine systems
  - water analytical environmental chemistry
  - environmental contaminants in water (fate, transport and bioaccumulation)
- fundamentals of hydrobiology, including:
  - aquatic and benthic flora and fauna
  - aquatic microorganisms
  - marine, estuarine and freshwater ecosystems
  - stratification and eutrophication in water bodies
  - aquatic microbiology
- principles of representative sampling
- principles and procedures for random, systematic and stratified sampling, including consistency of sampling procedures
- laboratory and field test parameters and measurements
- preservation of the integrity of samples
- maintaining identification of samples relative to their source
- workplace and legal traceability requirements

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- cost-effectiveness of sampling
- common characteristics of water to be sampled and likely contaminants
- links between quality control, quality assurance, quality management systems and sampling procedures
- workplace procedures dealing with legislative requirements for the handling, labelling and transport of hazardous goods
- hazards for role
- health and safety and site environmental management requirements
- importance of personal and environmental safe work procedures particularly at high risk sites
- field test equipment

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - vehicle transport, survey or test equipment, water sampling and monitoring equipment, camera, consumables
  - documentation, including work program, maps and field protocols, codes of practice, user manuals, workplace safety procedures and sampling, test or survey methods.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS024019 Collect and evaluate meteorological data

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to set up basic, ground level meteorological equipment and collect and record reliable data. It also includes the ability to assess data quality, interpret significant data features and use the data to assist with analysing or processing other environmental monitoring measurements.

This unit applies to environmental technicians working in a range of industry sectors, including environmental services; environmental compliance, auditing and inspection; solid and hazardous waste management, and site remediation; management of contaminated sites; geotechnical services and civil engineering; natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Environmental monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for field work**	1.1	Review job request to identify the equipment required and the meteorological parameters to be measured
		1.2	Identify hazards and read safe work procedures associated with the site, test methods and equipment used

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
		1.3 Confirm site location, access, timing and any client requirements
		1.4 Assemble all required equipment and materials and check that they are fit for purpose
		1.5 Stow equipment and materials to ensure their safe transport
		1.6 Arrange transport to site
		1.7 Liaise with appropriate personnel on arrival at site to ensure safety and minimise disruption to others
2	**Perform basic meteorological measurements**	2.1 Select a location for the meteorological equipment at the site to achieve valid readings for the required parameters
		2.2 Install and check instrumentation and any recording or data logging equipment to ensure it is functioning correctly
		2.3 Confirm calibration status of meteorological equipment
		2.4 Perform measurements using ground level meteorological equipment
		2.5 Collect meteorological data using physical or electronic methods
		2.6 Ensure wind direction sensors are aligned or corrected to true north rather than magnetic north
3	**Verify meteorological data**	3.1 Ensure that quality requirements for data are met
		3.2 Perform any required corrections, calculations and data manipulations and identify significant trends in data
		3.3 Check for anomalous data and take corrective action
		3.4 Verify that processed data meets requirements

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
4	**Interpret and apply meteorological information**	4.1 Relate meteorological data to weather maps and other sources of meteorological data
		4.2 Associate meteorological conditions with related weather maps
		4.3 Compare weather patterns and data for different time periods and geographic locations
		4.4 Read and interpret meteorological data in terms of local atmospheric conditions
		4.5 Use meteorological data to interpret and assist with processing air and noise monitoring data
5	**Maintain a safe work environment**	5.1 Use safe work procedures and protective equipment to ensure personal safety and that of others
		5.2 Minimise environmental impacts of meteorological measurements and generation of waste
		5.3 Collect and dispose of all waste in accordance with environmental and quarantine requirements and workplace procedures
6	**Report data and finalise documentation**	6.1 Report field data in the required formats and expected timeframe
		6.2 Complete all required documentation
		6.3 Maintain the security and confidentiality of data and documentation in accordance with workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024007 Collect and evaluate meteorological data.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024019 Collect and evaluate meteorological data

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- sighted and set up basic ground level meteorological monitoring equipment and collected reliable field data on at least 2 occasions
- analysed, interpreted and summarised the key features of at least 2 sets of meteorological data.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- site and meteorological instrumentation installation considerations, including:
  - topography
  - vegetation and built structures
  - exposure
  - availability of services
  - site security
- purpose and objectives of meteorological monitoring tasks, including:
  - information and analysis required
  - end users of information
  - significance of outcomes for broader programs
- operation, calibration and maintenance of meteorological equipment and instruments.
- distinction between weather and climate and an awareness of climate change science
- composition and structure of the atmosphere, especially the lower atmosphere
- solar energy spectrum and link to atmospheric conditions
- seasonality, effects of latitude and continental geography
- atmospheric motion (horizontal and vertical)
- lifting (orographic, convective and frontal)
- principles of pressure, temperature and volume
- high and low pressure cell formation
- weather effects (including precipitation, temperature and wind strength and direction)
- local wind effects (including sea breeze, city breeze, katabatic winds and anabatic winds)

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- forms of atmospheric moisture and humidity
- atmospheric conditions related to wind direction
- measurement of atmospheric conditions (including precipitation, temperature, humidity, wind speed and direction)
- interpretation of weather maps (including symbols used, terminology, interpretation and forecasts)
- historical and geographic comparison of weather data
- scalar and vector wind speed and direction calculations
- wind run
- effects of instrument set-up, including different sampling intervals and averaging times.
- meteorological data collection hazards.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - access to sites and vehicle transport
  - meteorological monitoring equipment and instruments
  - site information and history, maps, aerial photos; workplace procedures governing siting and operation of meteorological monitoring equipment and data collection; and equipment manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS024020 Recognise common geological landforms and samples

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to recognise common geological landforms and relate these to basic geological processes and other ecosystem components. Personnel are also expected to obtain near surface samples of common rocks, minerals and soils and identify them using classification tables and charts.

This unit applies to environmental technicians working in a range of industry sectors, such as environmental services; environmental compliance, auditing and inspection; groundwater and clean water; solid and hazardous waste management; management of contaminated sites; site remediation or rehabilitation; geotechnical services and civil engineering; natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for field work**	1.1	Review job request to identify the equipment involved, samples to be collected and test methods
		1.2	Identify hazards and read workplace safe work procedures associated with the site, samples, test

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			methods and equipment used
		1.3	Confirm site location, access, timing and any client requirements
		1.4	Assemble all required equipment and materials and check that they are fit for purpose
		1.5	Stow equipment and materials to ensure their safe transport
		1.6	Arrange transport to site
		1.7	Liaise with appropriate personnel on arrival at site to ensure safety and minimise disruption to others
2	**Recognise geological structures and processes**	2.1	Recognise common landforms and relate these to geological processes
		2.2	Read and interpret simple geological maps, diagrams and aerial photos
		2.3	Apply principles of geological processes and the geological timescale to explain the formation and occurrence of common rocks, minerals, soils and aquifers
3	**Identify common rocks and minerals**	3.1	Sort handheld specimens of common sedimentary, igneous and metamorphic rocks by observing their textural, structural and mineralogical properties
		3.2	Identify handheld specimens of common rocks and minerals by comparing their physical properties with classification charts and tables
4	**Identify common soil types and their properties**	4.1	Obtain soil samples using specified sampling equipment and methods
		4.2	Examine soil colour, texture and properties of soil components to classify common soils

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
		4.3 Identify and describe simple soil profiles at field sites
		4.4 Recognise influences of rock type, drainage, age and climate on development of soil profiles
		4.5 Recognise common forms of soil degradation
5	**Relate local geology to flora and fauna and land use**	5.1 Apply the basic relationships between parent material, climate, topography, soils and living ecosystem components to interpret sites
		5.2 Recognise how local geology can influence the revegetation or rehabilitation of sites
6	**Maintain a safe work environment**	6.1 Use safe work procedures and protective equipment to ensure personal safety and that of others
		6.2 Minimise environmental impacts of sampling and/or testing and generation of waste
		6.3 Collect and/or dispose of all waste in accordance with environmental and quarantine requirements and workplace procedures
7	**Report data and finalise documentation**	7.1 Report field data in the required formats and expected timeframe
		7.2 Complete all required documentation
		7.3 Maintain the security and confidentiality of data and documentation in accordance with workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024008 Recognise common geological landforms and samples.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024020 Recognise common geological landforms and samples

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- recognised and accurately described the geological landforms and associated geological processes for at least 2 different sites
- identified and accurately described the common rocks, minerals and soil types associated with at least 2 different sites.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- an overview of major fields of geology
- structure of the earth's core, crust and major components
- geomorphology and landforms, including agents of erosion and transportation, stability of rocks and minerals in different environments and depositional processes
- regolith, including physical and chemical weathering, climactic effects, stability of minerals, weathering processes, soil formation, common soil types and composition
- rock cycle
- fundamentals of:
  - igneous rocks, including origin of magma, movement of magma, volcanic, plutonic, types of volcanoes and simple tectonic setting
  - sedimentary rocks, including clastic, chemical, organic types, grain size and composition, sorting, roundness, lithification, sedimentary structures and environments of deposition
  - metamorphic rocks, including regional, contact, dynamic metamorphic zones, rock textures and fabrics
- structural geology concepts including: folds, faults, tilts and uplifts
- overview of geological time, including eras, periods, relative time, stratigraphic methods for establishing relative ages of strata, and radiometric dating
- fundamentals of palaeontology, including preservation of fossils and their role in dating strata
- links between local geology, climate, topography and living components of ecosystems
- equipment

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- geological sampling and in-field test methods routinely used in job role, including:
  - pre-use checks and safe operating procedures for sampling and test equipment
  - sampling procedures
  - purpose, principles and measurement steps of test
  - calculation steps to give results
  - expected values for sample type
- hazards; health, safety and environment requirements for work role.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - access to sites and vehicle transport
  - suitable survey, sampling and testing equipment
  - documentation including: maps and aerial photos; classification charts and tables for rocks, minerals and soils; user manuals, workplace safety procedures, test or survey methods, workplace procedures governing geological sampling and in-field testing

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS024021 Assist with assessing and monitoring stormwater systems

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to inspect and/or monitor small-scale urban or semi-urban drainage systems. Personnel will plan and conduct survey, inspection and/or audit activities; collect and interpret information about the characteristics and condition of the catchment; and identify environmental issues and possible causes. This work assists engineers and planners to develop stormwater management plans and/or assess the environmental impacts of existing conditions or activities.

This unit applies to environmental technicians working in a range of industry sectors, such as stormwater management, clean water; environmental services, environmental compliance, auditing and inspection.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Environmental monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm details of assigned activities with**	1.1 Clarify the scope and objectives of the assessment, constraints, stormwater components involved and stormwater management techniques already in use

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	supervisor	1.2 Identify regulations, standards, guidelines and workplace procedures that apply to assigned activities
		1.3 Clarify the required outputs, timeframe, available resources and stakeholder involvement
2	**Source and assess available stormwater system data**	2.1 Locate and obtain existing stormwater system information and review its relevance and accuracy
		2.2 Locate external sources of data sets and assess their availability, price, value and limitations
		2.3 Obtain selected data sets in accordance with workplace procedures
		2.4 Use available data to identify (sub)catchment boundaries and modifications, hydrologic range, major land use categories, areas of potential pollution and environmental issues relevant to the study
		2.5 Identify the underlying geological landforms
		2.6 Collect data on the local meteorological conditions
3	**Plan and organise assigned field activities**	3.1 Confirm data collection points and data quality requirements
		3.2 Analyse field activities to identify related tasks and plan efficient sequences
		3.3 Identify risks, safety and environmental requirements associated with field activities
		3.4 Assemble required field equipment and materials and check that they are fit for purpose
		3.5 Liaise with relevant personnel to explain the scope and purpose of field activities, organise site access and obtain permits
		3.6 Review work plan in response to new information, changed circumstances or instructions from relevant personnel

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.7	Update work plan and communicate changes to relevant personnel
4	**Safely collect global positioning system (GPS) and environmental data**	4.1	Set up and optimise GPS equipment with correct datum and projection settings
		4.2	Set up measuring instruments on site and perform pre-use, calibration checks
		4.3	Operate GPS equipment and measuring instruments in accordance with manufacturer specifications and workplace procedures
		4.4	Collect point positional data and attribute environmental data for each location in accordance with data collection plan
		4.5	Verify GPS and environmental data, identify atypical results and review procedures and troubleshoot equipment
5	**Perform field work**	5.1	Visually inspect stormwater systems to determine the degree of erosion or sediment transport along drainage channels
		5.2	Assess the apparent effectiveness of current stormwater control devices
		5.3	Assess the state of riparian vegetation associated with earth formed channels, ponds and basins
		5.4	Assess the diversity of vertebrate and invertebrate fauna in stormwater channels and receiving bodies
		5.5	Collect representative water, soil and sediment samples using specified sampling methods and equipment
		5.6	Obtain valid and reliable in-situ measurements using specified test methods and equipment
		5.7	Identify litter generation areas and visually inspect the effectiveness of gross pollutant traps

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		5.8	Identify and promptly report any illegal discharge to the stormwater system
		5.9	Inspect the condition of flood mitigating structures along drainages
6	**Finalise field work**	6.1	Pack and safely transport all samples, equipment and supplies back to home base
		6.2	Ensure all samples and data are stored safely
		6.3	Ensure dispatch of collected samples for subsequent analysis
		6.4	Clean and test equipment before storage
7	**Report current stormwater system conditions**	7.1	Review field measurements and results of laboratory analyses to identify significant trends and problems with data
		7.2	Analyse data relating to catchment characteristics, existing conditions and management values
		7.3	Identify environmental issues that may impact on current stormwater management objectives and practices
		7.4	Report findings using a format and style that suits the intended use and in accordance with workplace guidelines
		7.5	Communicate results within the specified time and in accordance with workplace confidentiality and security guidelines
8	**Maintain a safe work environment**	8.1	Use safe work procedures and protective equipment to ensure personal safety and that of others
		8.2	Minimise environmental impacts of testing and sampling and generation of waste
		8.3	Collect and dispose of all waste in accordance with

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

environmental requirements and workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024009 Assist with assessing and monitoring stormwater systems.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024021 Assist with assessing and monitoring stormwater systems

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- planned and safely conducted surveys, inspections or audits of at least 2 stormwater systems and reported current system conditions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- terminology and principles of stormwater management
- basic design of stormwater transport systems, constructed wetlands and flood mitigation structures
- sources of stormwater system information
- specific legislation, policies and guidelines relevant to stormwater survey, inspection and audit activities
- stormwater management purpose, plan and techniques
- catchment physical, social, waterway and ecological characteristics
- catchment values
- fundamental principles of ecology and assessment of site environmental indicators
- environmental factors that impact on soils, water quality, population and diversity of flora and fauna
- specified procedures, methods and equipment for collecting soil, water and (micro) biological samples
- procedures and equipment for maintaining, storing and transporting samples and specimens to ensure their wellbeing, viability and integrity
- procedures and equipment for basic water flow and quality measurements
- calculation of simple flow rates, scientific quantities, estimated uncertainties and unit conversion factors
- workplace procedures for recording field data and reporting requirements
- protocols for the confidentiality and security of information and communicating with the community and media
- hazards, health, safety and environment requirements for work role.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - access to natural and constructed drainage systems and combinations of these
  - relevant sampling equipment, field instruments and materials
  - documentation, including stormwater system information, environmental data sets, user manuals, workplace safety procedures and test or survey methods

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS024022 Perform environmental biological techniques

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to collect and examine biological samples using microscopes, keys and biochemical tests to identify and enumerate environmentally significant organisms. Personnel are expected to prepare aseptic media and solutions, set up equipment for microbiological testing and identify basic microorganisms of environmental significance.

This unit applies to environmental technicians working in a range of industry sectors, including environmental services; clean water; water treatment, storm and wastewater management; and natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Obtain biological samples**	1.1	Locate and read background information for site or project
		1.2	Review work request to identify required samples and the procedures, materials and equipment involved

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Identify hazards and workplace control measures associated with collecting the sample, preparation methods, reagents and equipment
		1.4	Assemble required materials, reagents and equipment and check they are fit for purpose
		1.5	Collect samples in accordance with legislative requirements, codes of practice and workplace procedures
		1.6	Log samples using workplace procedures
		1.7	Record sample description, compare with specification and note and report discrepancies
		1.8	Ensure traceability from receipt of sample to reporting of results
2	**Prepare samples and grow cultures**	2.1	Use aseptic techniques to prepare media for microbiological analysis
		2.2	Obtain samples for microbiological analysis
		2.3	Identify contamination pathways for both samples and media
		2.4	Perform simple chemical tests to identify morphology of environmentally significant bacteria
		2.5	Use aseptic techniques to manipulate samples and bacterial cultures
		2.6	Use standard techniques to grow cultures of environmentally significant microorganisms
		2.7	Use disinfection and sterilisation to control the growth of microorganisms
3	**Prepare microscope for use**	3.1	Select microscope and attachments for examination and measurements
		3.2	Check that all microscope components are clean and fit

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			for purpose
		3.3	Mount sample in accordance with specified method
		3.4	Adjust settings and alignment of optical and mechanical components to optimise performance
4	**Perform microscopic examination in accordance with test methods**	4.1	Identify microorganisms, cell structures and components of animal and plant tissues in environmental samples
		4.2	Measure organisms and structures
		4.3	Enumerate microorganisms in environmental samples
5	**Classify organisms**	5.1	Classify organisms into hierarchical structures using appropriate keys
		5.2	Record all observations and measurements used to determine classifications
6	**Relate cell structures and their functions to environmental adaptation**	6.1	Identify cell structures from examination of biological specimens
		6.2	Associate biological functions with cell structures
		6.3	Associate cell physiology and enzyme cycles to environmental adaptation
		6.4	Identify important biochemical pathways associated with environmentally significant organisms
7	**Maintain a safe work environment**	7.1	Use personal protective clothing and safety equipment to ensure safety and minimise cross-contamination
		7.2	Handle all samples and equipment in accordance with workplace safety procedures
		7.3	Clean up spills using techniques to protect personnel, work area and environment

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	7.4	Minimise generation of waste and environmental impacts
	7.5	Collect and dispose of all wastes safely
	7.6	Report hazards and incidents to designated personnel using workplace procedures
8 **Maintain workplace records**	8.1	Record approved data into workplace system
	8.2	Maintain confidentiality and security of workplace information and data

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024010 Perform environmental biological techniques.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024022 Perform environmental biological techniques

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- performed each of the following environmental biological techniques on at least 2 occasions:
  - collecting biological samples in accordance with work request and procedures
  - using aseptic techniques to obtain and manipulate samples and prepare media
  - using standard techniques to grow cultures of environmentally significant microorganisms
  - setting up, cleaning and optimising the performance of light microscopes
  - conducting tests and microscopic examination of samples to identify and enumerate environmentally significant (micro)organisms and important components of plant and animal tissues

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- principles and terminology used in elementary microbiological testing, organism classification, microscopic examination
- sampling techniques for air, water, soil in terrestrial and aquatic habitats
- types of samples
- relationship between sterile practices, hygiene procedures and the ability to obtain growth of microorganisms free of contamination
- importance of pure culture techniques and aseptic transfer to successful microbiological investigation and correct interpretation of results
- aseptic techniques
- growth requirements of microorganism cultures (including bacteria, fungi and yeasts)
- principles of infection control related to work health and safety (WHS), sampling and transfer of materials in microbiological investigations
- disinfection and sterilisation procedures used in the collection, processing and safe disposal of samples and materials
- cleaning and sanitising requirements of equipment and work area and effects of physical and chemical agents on microbial growth and death

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- parts and functions of common microscopes, set-up procedures and common causes and solutions for sub-optimal performance
- microscopy techniques
- cell theory, basic structure and function of cells and organelles
- cell physiology and processes, including simple and facilitated diffusion, plasmolysis, osmosis, tonicity, active transport, energy production, mitosis, motility, phagocytosis and pinocystosis
- purposes and mechanisms of staining (including Gram +ve and -ve)
- equipment, materials and systems used
- artefacts or image aberrations attributable to misalignment or obstruction of light paths or condensers used in bright field, dark ground, and phase contrast microscopy, or with other steps in microscopic examinations
- workplace and legal traceability requirements
- hazards, controls and safety procedures associated with handling microorganisms.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - standard microbiology laboratory
  - sampling and testing equipment, materials and reagents
  - work request, workplace procedures, sampling and test methods, equipment manuals, safety procedures
- modelling of industry operating conditions, including:
  - biological samples and organisms must be of a risk category that is compatible with laboratory as defined in AS/NZS 2243.3 Safety in laboratories - Microbiological safety and containment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS024023 Navigate in urban, regional and remote areas

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to read and interpret maps, plans and photos to locate position and navigate safe and efficient routes to urban and regional and remote destinations.

This unit applies to environmental technicians working in all industry sectors as well as a wide range of other technicians, paraprofessionals, operators and drivers.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Data

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Navigate in urban areas**	1.1 Access relevant street directories and road maps
		1.2 Read and interpret map symbols
		1.3 Use the directory index to locate departure and destination points on map
		1.4 Trace the pre-determined or most efficient route on map and estimate distance and duration of journey

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.5	Identify significant intersections and landmarks along route to assist with navigation
		1.6	Identify alternate routes in case of emergencies or significant traffic delays
		1.7	Follow selected route correctly
2	**Plan routes in regional and remote areas**	2.1	Locate and read relevant legislative and regulatory, workplace requirements and background information for site or project
		2.2	Select suitable maps, aerial photos, guides and charts and check their currency and accuracy
		2.3	Select navigational equipment, check that it is fit for purpose and service or replace
		2.4	Read and interpret map symbols and navigation data to identify departure and destination points, potential hazards and select an appropriate traverse route
		2.5	Estimate distance and duration of journey using map scale and available information about the terrain and vehicle
3	**Navigate in regional and remote areas**	3.1	Correctly orientate map with surroundings
		3.2	Identify field position and destination on map using landforms, landmarks and navigation equipment
		3.3	Correctly use navigation aids, equipment and maps to follow planned route and schedule
		3.4	Use alternate routes to avoid hazards, safely bypass obstacles or improve efficiency of route
		3.5	Maintain communication in accordance with workplace procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024011 Navigate in urban, regional and remote areas.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS024023 Navigate in urban, regional and remote areas

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- read and interpreted maps, plans and photos to locate own position and navigated safe and efficient routes to at least 2 different locations (urban and non-urban).

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types of maps, charts, aerial photos and advantages and disadvantages of their use
- use and manipulation of scales used on maps and plans
- symbols and representation of topographical features on maps and plans
- navigational equipment and aids
- functional components of a compass and global positioning system (GPS) and factors affecting compass and GPS accuracy
- techniques for estimating distance and taking bearings
- hazards, health, safety and environment requirements for work role, including:
  - basic survival
  - dehydration
  - biohazards (including animals, insects and plants)
  - unsealed roads.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - navigational equipment and aids
  - maps

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS024024 Undertake simple environmental project activities

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to carry out straightforward aspects of environmental projects, including researching basic site information and performing routine sampling, monitoring and data management. Personnel may work individually, or as part of a team. They are expected to confirm the project brief or plan with supervisor, carry out the assigned project activities and monitor progress through to the project's completion. The unit does not cover procurement of project resources and contract management.

This unit applies to environmental technicians working in all industry sectors.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Project management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Read and interpret project documentation and requirements**	1.1	Read and clarify details of project brief and plan with supervisor
		1.2	Identify regulations, standards, codes and workplace procedures that apply to project activities
		1.3	Analyse the project plan to confirm outputs, timeframe,

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			risks and controls, roles and responsibilities and stakeholder involvement
		1.4	Confirm performance indicators, milestones, deliverables and available resources for assigned project activities
2	**Plan and organise assigned activities**	2.1	Locate and read background information for site or project
		2.2	Prioritise project activities as directed
		2.3	Break down project activities into small achievable components and efficient sequences
		2.4	Identify and assemble required resources
		2.5	Liaise with relevant personnel to organise site access and permits
		2.6	Review work plan in response to new information, changed circumstances or instructions from relevant personnel
		2.7	Update work plan and communicate changes to relevant personnel
3	**Complete assigned activities**	3.1	Cooperate with stakeholders and team members to achieve agreed outcomes and timelines
		3.2	Apply technical knowledge and skills to safely conduct assigned tasks in accordance with project requirements
		3.3	Collect, verify and store project data in accordance with workplace procedures
		3.4	Seek assistance from relevant personnel when difficulties are beyond scope of role
4	**Monitor and maintain project**	4.1	Monitor and record completion of activities and progress towards milestones

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	progress	4.2 Identify problems and opportunities for improved work performance
		4.3 Use agreed strategies to tackle challenges and solve problems
		4.4 Identify and access sources of help
		4.5 Provide progress reports in accordance with project requirements
5	**Finalise project activities**	5.1 Provide project deliverables on time and at the required quality standard
		5.2 Evaluate the project process and identify any issues and opportunities for continuous improvement
		5.3 Write project reports containing the required information and using the agreed style, voice and format
		5.4 Complete and store all project documentation
		5.5 Brief supervisor about project process and outcomes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024012 Undertake simple environmental project activities.

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Assessment Requirements for MSS024024 Undertake simple environmental project activities

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- planned, completed, monitored and finalised at least 2 simple environmental project activities.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental terms, concepts and principles relevant to assigned project activities
- workplace project planning, management and reporting requirements
- workplace and regulator sampling, monitoring and testing procedures that apply to assigned project activities
- workplace procedures for identifying, assessing and controlling hazards and risks associated with project activities
- hazards, health and safety requirements and safe work procedures for work role.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025005 Produce site maps

Modification History

Release 1. Supersedes and is equivalent to MSS025005A Produce site maps.

Release 2. Prerequisite code updated. Equivalent outcome.

Application

This unit of competency covers the ability to map the environmental features of a site using sketch maps, computer rendered graphics or geographic information systems (GIS) software. Personnel are required to identify sources of existing environmental data and assess its availability/suitability; collect field data as necessary; assess data quality; and format, present data and incorporate it onto maps. Producing maps to display environmental data requires knowledge of environmental management processes, relevant legislative and regulatory requirements, mapping principles and the use of mapping software and hardware. Personnel will require additional units of competency to manage spatial data sets or undertake complex modelling, data manipulation and analysis using GIS.

This unit of competency is applicable to environmental technicians working in a range of industry sectors, such as environmental monitoring, sampling and field testing (e.g. air, odour, water, soil and noise); groundwater and clean water (e.g. catchments, supply and environmental flows); water treatment, storm and wastewater management; solid and hazardous waste management; management of contaminated sites; site remediation or rehabilitation; geotechnical services; occupational hygiene monitoring (e.g. air, noise and radiation); natural resource management; resource efficiency (e.g. energy, water and waste auditing).

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSS024017	Collect spatial and discrete environmental data

Competency Field

Data

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Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Source and assess existing site information and data**	1.1 Confirm the client's information needs, timeframe and site map specifications.
		1.2 Locate and obtain existing workplace site information and review its relevance and accuracy.
		1.3 Locate external sources of relevant data sets and assess their availability, value and limitations.
		1.4 Confirm ownership, access arrangements and price of required data sets.
		1.5 Obtain selected data sets in accordance with workplace procedures.
		1.6 Build a detailed description of the site using existing information and data and identify any gaps.
2	**Collect field data about the site**	2.1 Establish information needs and identify appropriate field techniques.
		2.2 Confirm details of field work, site permits/access restrictions and legislative/regulatory requirements with supervisor, as necessary.
		2.3 Confirm data format and quality requirements.
		2.4 Assemble required field equipment and supplies and check that all items are fit for purpose.
		2.5 Ensure that all required equipment and supplies are transported safely to and from the site.
		2.6 Take sufficient and accurate measurements of the site and its features to ensure data reliability.

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3	**Prepare data and supporting information**	3.1	Assess the integrity of all data to ensure its suitability.
		3.2	Recognise and resolve any disparities between data sets.
		3.3	Identify compatible formats for data.
		3.4	Select data to meet client needs.
		3.5	Assemble relevant data elements.
		3.6	Ensure data format meets client needs.
		3.7	Prepare supporting information using media and format that meet client needs.
4	**Produce maps to meet information needs**	4.1	Transfer data accurately from data sources into GIS or similar systems.
		4.2	Prepare sketch and/or computer generated maps to the required quality standard and within the expected timeframe.
		4.3	Ensure that all required site features and standard map elements are included in accordance with standard cartographic design principles.
		4.4	Compare map against site features to 'ground-truth' information, as necessary.
		4.5	Seek feedback from users regarding the utility of maps/data and resolve any problems.
		4.6	Analyse feedback to identify opportunities to improve the quality of maps.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and/or requirements include the latest version of one or more of:

- federal legislation, such as Environment Protection and Biodiversity Conservation Act, Australian Heritage Council Act, Native Title Act and National Environmental Protection Measures
- state/territory government legislation and regulations and local government by-laws, policies, and plans dealing with land use, acquisition, planning and protection; environmental protection; cultural/heritage sites; vegetation management; nature conservation, wildlife/plant protection; water and water management; soil conservation; pollution and contaminated sites; fisheries, forestry and mining operations
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering environmental management such as: AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set, and AS ISO 14050 Environmental management – Vocabulary
- environmental management plans for sites and projects, site-specific requirements and specific environmental standards
- sampling and in-field testing methods, procedures, guidelines provided by workplace or regulator
- workplace documents, such as standard operating procedures (SOPs); work schedules; quality manual; recording and reporting procedures; equipment manuals; supplier catalogues; handbooks; safety data sheets (SDS) and safety procedures; waste minimisation, containment, processing and safe disposal procedures.

Maps include one or more of:

- topographic
- land use and land title maps
- vegetation, soils and regional ecosystem maps
- air photos
- satellite imagery
- thematic maps produced using GIS software, such as Mapinfo and Arcview.

Environmental features of sites

- hills, mountains, plains and cliffs
- waterways, dams, lakes, oceans, estuaries and deltas

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include one or more of:	• vegetation and fauna • soil and rock types • buildings, such as houses, schools, police stations, hospitals, churches, factories and industrial plants • roads, railways, tracks, jetties, piers and other infrastructure • utility services • property boundaries, shire boundaries and electoral boundaries • mining leases, local catchment areas and nature reserves • population and demographics.
Workplace site information includes one or more of:	• site or project history • client history • records of consultations with stakeholders • site access protocols and permits • site utilities/services (e.g. water, sewer, electricity and gas) • maps (e.g. road, topographical and survey marks) • existing data sets (e.g. vegetation, topography, soils and regional ecosystem maps) • hazards and safety risks.
External sources of data include one or more of:	• government departments and agencies (e.g. environment, climate change, agriculture and mining) • utility authorities/companies (e.g. water, gas and electricity) • land title office and Valuer General • local government records • Geoscience Australia • Australian Social Science Data Archive • companies providing environmental services.
Data sets include one or more of:	• textual, graphical, spatial and temporal in hard/soft copy • satellite imagery and remote sensing data • geophysical, geochemical, geological, hydrological and meteorological data • ecological data, such as distribution of vegetation, fauna and pests • social science data, such as demographic and census information • land use data, zoning and property classifications • historical records and photographs.
Field techniques	• on site surveying

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include one or more of:	• hand mapping • comparing site features with existing site information • collection of samples and field measurements.
Field equipment and supplies include one or more of:	• global positioning system (GPS) • tapes and pegs • compass • clinometer • portable computer, palm pilot or data logger • communication equipment.
Standard map elements include one or more of:	• latitude and longitude • grid reference systems (old and new and their relation to one another) • north point, elevation, scale and legend.
Integrity of data includes one or more of:	• accuracy, currency and completeness • scale and resolution • confidence limits for data • quality (e.g. age/condition of hard copy documents).
Disparities between data sets include one or more of:	• datum and projection • currency.
Supporting information includes one or more of:	• graphs, tables, equations and parameters • explanatory notes.
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025005A Produce site maps

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025005 Produce site maps

Modification History

Release 1. Supersedes and is equivalent to MSS025005A Produce site maps.

Release 2. Prerequisite code updated. Equivalent outcome.

Performance Evidence

- Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:
- using available data to produce at least two (2) different site maps that meet the client's specifications and timeframe
- locating, interpreting and assessing the quality of existing maps, data sets and environmental information
- planning and preparing for field work
- collecting and recording reliable spatial and environmental data at the site
- scaling information and plotting data
- preparing hand drawn or computer rendered maps
- using computers and software to manipulate and present data in graphs, tables, diagrams and maps
- seeking advice when issues/problems are beyond scope of competence/responsibility
- communicating effectively with suppliers of data and map users

working safely.

Knowledge Evidence

- Must provide evidence that demonstrates knowledge of:
  - environmental terms, concepts and principles relevant to data sets and maps
  - types and functions of maps, charts, aerial photos and their advantages/disadvantages
  - map conventions, symbols and representation of topographical features on maps and plans
  - mapping principles, including layout, legend, scale, media, printing and presentation styles
  - use of software and hardware, such as printers and plotters
  - functional components of a compass/global positioning system (GPS) and factors affecting compass/GPS accuracy
  - techniques for estimating distance and taking bearings
  - relevant legislation, regulations, licences and permit requirements for site
  - workplace environmental management framework of policy, procedures and management plans for site

relevant site hazards, health and safety requirements, and workplace safe work procedures.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of at least **two (2)** site maps produced by the candidate
  - feedback from supervisors and/or clients about the candidate's ability to source, assess and use existing data sets to produce site maps that meet their needs
  - oral and/or written questions to assess the candidate's knowledge of mapping terminology and principles, interpretation of data sets and maps.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - site/project history, maps and aerial photos
  - guidelines, codes, regulations, and workplace procedures governing data collection
  - relevant field equipment, GPS receivers and related GPS software
  - relevant computer software (e.g. GIS) and hardware.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

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MSS025008 Monitor and evaluate noise

Modification History

Release 1. Supersedes and is equivalent to MSS025008A Monitor and evaluate noise

Application

This unit of competency covers the ability to monitor noise using handheld sound level meters and fixed noise monitoring stations with either data logging or telemetry. It includes the ability to perform noise surveys, process data and report results in accordance with workplace standards.

This unit of competency is applicable to environmental technicians in a range of industry sectors, such as environmental services (e.g. monitoring of environmental and/or occupational noise); environmental compliance, auditing and inspection; environmental management; and occupational hygiene.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm noise monitoring**	1.1 Confirm the purpose for noise monitoring with supervisor.

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	requirements	1.2	Confirm locations, timing and frequency of monitoring from workplace or client's monitoring plan or other instructions.
		1.3	Check that all noise measurement procedures are in accordance with client or workplace requirements, relevant standards and codes.
2	**Prepare for noise measurement**	2.1	Identify site hazards and review workplace safety procedures.
		2.2	Liaise with relevant personnel to arrange site access and obtain all clearances and/or permits, as necessary.
		2.3	Select noise monitoring instruments and any ancillary equipment that are required for the particular task.
		2.4	Assemble all field test equipment and complete all pre-use and calibration checks in accordance with workplace procedures and manufacturer instructions.
		2.5	Stow all equipment for safe and secure transport.
		2.6	Arrange suitable transport to, from and around site, as required.
3	**Perform noise measurement**	3.1	Record significant site features, such as noise sources, their direction and approximate distance, relevant barriers, structures, noise sensitive areas and adjacent land uses.
		3.2	Select and record sampling sites and ensure that site conditions are conducive for valid and reliable noise measurement.
		3.3	Measure and record relevant site condition parameters and make any modifications to procedures, as appropriate.
		3.4	Check calibration of sound level meter, make any required adjustments and record results.
		3.5	Conduct noise measurements in accordance with workplace, regulatory and manufacturer procedures.
		3.6	Ensure that background measurements are obtained at an

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			appropriate time, under appropriate conditions and in accordance with workplace/regulatory procedures.
		3.7	Repeat and record calibration measurements at the conclusion of the measurement sequence in accordance with workplace/regulatory procedures.
		3.8	Collect and/or record all results and ensure that they are accurately transferred to workplace information database.
4	**Process and interpret noise data**	4.1	Review test data noting atypical observations.
		4.2	Manipulate raw data to obtain corrected and adjusted data and ensure that calculated values are consistent with expectations.
		4.3	Estimate and document uncertainty of measurement in accordance with workplace procedures, if required.
		4.4	Interpret trends in data and/or results and report out-of-specification or atypical results promptly to appropriate personnel.
		4.5	Determine if obvious procedure or equipment problems have led to atypical data or results.
		4.6	Compare results with established noise standards, statutory noise limits or similar, if relevant.
		4.7	Record and report data and results in accordance with workplace requirement.
5	**Maintain a safe work environment**	5.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other personnel.
		5.2	Minimise the generation of wastes and environmental impacts.
		5.3	Care for and store equipment and materials as required.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:	• federal legislation such as the Environment Protection and Biodiversity Conservation Act, National Environmental Protection Measures • state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection, and environmental protection • legislation, standards and codes of practice for work health and safety (WHS) • Australian and international standards covering environmental noise (e.g. AS 1055 Acoustics - Description and measurement of environmental noise series); and sound level meters and sound calibrators (e.g. AS IEC 61672 Electroacoustics series, AS IEC 60942-2004 Electroacoustics - Sound calibrators) • registration/licensing and/or accreditation requirements • industry guidelines and manuals, such as Noise Measurement Manual (QLD EPA), A Guide to Measurement and Analysis of Noise (VIC EPA), Noise Guide for Local Government (NSW), established noise standards and statutory noise limits • site plans, maps and specifications; methods and procedures for noise measurement to meet workplace, client and/or regulatory/certifying body requirements • workplace documents, such as standard operating procedures (SOPs), work schedules, recording and reporting procedures, equipment manuals and warranties, supplier catalogue and handbooks, field notebooks or log books, and emergency and safety procedures.
Purpose of noise measurement includes	• assessing compliance with a statutory condition, such as a licence

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one or more of:	• investigation of a noise complaint • environmental impact assessment studies • long-term monitoring programs • occupational hygiene • noise surveys.
Noise monitoring instruments and ancillary equipment include one or more of:	• type 1 and type 2 portable sound level meters • integrating and non-integrating sound level meters • noise dose meters • sound level calibrators • octave analysers • statistical analysers, data loggers and recorders • telemetry equipment • sound monitoring stations • microphones • wind shields.
Ancillary equipment includes one or more of:	• meteorological instruments, such as thermometers, hygrometers, barometers and anemometers • digital camera • global positioning system (GPS) equipment • maps and aerial photographs • noise measurement and survey forms • PPE
Meteorological measurements include one or more of:	• temperature • relative humidity • barometric pressure • wind speed and direction
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025008A Monitor and evaluate noise

Links

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Assessment Requirements for MSS025008 Monitor and evaluate noise

Modification History

Release 1. Supersedes and is equivalent to MSS025008A Monitor and evaluate noise

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- conducting at least two (2) noise surveys and evaluating the data
- planning and preparing for field activities, including researching and summarising site history, existing data and/or reports
- identifying and interpreting survey and data quality requirements, test methods, workplace procedures and statutory requirements accurately
- undertaking site reconnaissance and identifying safe and reliable noise monitoring locations according to defined criteria
- safely packaging and transporting supplies, equipment and instruments to and from the field
- setting up and calibrating handheld sound level meters to obtain verifiable results
- assembling, testing, operating and closing down a field-based, noise monitoring station
- performing automatic and manual noise measurements to obtain valid and reliable data
- identifying atypical results as out-of-normal range or an artefact
- identifying and rectifying basic instrument faults
- manipulating raw data to obtain corrected and adjusted data in the required format and calculating required noise parameters
- applying noise standards and/or statutory noise limits to evaluate noise data, if relevant
- providing accurate, complete records of noise measurements, field observations, data and results
- seeking advice when issues/problems are beyond scope of competence/responsibility
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific terminology, concepts and principles, such as:
  - sound and noise
  - frequency, pitch and wavelength
  - sound power and acoustic energy
  - sound levels, pressure and intensity
  - sound attenuation with distance

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  - measurement units (dBA and others)
  - adding and subtracting sound levels
  - physiology of hearing, perception of noise
  - sources of noise, point sources and line sources
  - types of noise, such as continuous, intermittent and impulsive
  - typical noise levels
  - frequency weighting curves
- function of key components and operating principles of sound level meters/noise measuring instruments, including response, sensitivity and range, hold circuits, integrating and averaging meters
- calibration of handheld sound level meters/noise measuring instruments
- effects on test results of modifying meter/instrument variables
- measurement methods, including techniques for:
  - measuring different noise types, including steady noise, discretely varying noise and impulsive noise
  - methods for measuring noise exposure, including equivalent continuous sound level (Leq)
- common sources of uncertainty in sound level measurement, including mishandling of equipment, meteorological conditions, effects of topography and built structures, reflected and absorbed sound, and background noise effects
- data processing techniques, such as:
  - frequency analysis and weighting networks (including at least A and Lin)
  - calculation of combined sound levels using graphical and mathematical equation techniques
  - statistical analysis, including LAeq, LA10, LA50 and LA90
  - time weighted exposure measurement (LAeqT)
  - characterisation of noise by octave band analysis
  - background noise calculations, background noise level (LA90)
  - day and night sound levels (LDN)
  - calculation of individual noise exposure
  - noise mapping
  - noise rating curves
- specific legislation, policies and codes of practice related to environmental noise measurement, noise standards and statutory noise limits
- procedures for maintaining, storing and transporting noise measurement equipment and instrumentation
- relevant hazards, health, safety and environment requirements, including field safety principles.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of noise measurements, results and calculations, survey records and/or site reports provided by the candidate
  - feedback from supervisors that the candidate consistently follows workplace procedures, works safely and provides reliable results within the agreed timeframe
  - oral and/or written questions to check the candidate's understanding of the principles of noise measurement, operation of sound level meters/noise measuring instruments and processing of data.
  - Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - noise measuring equipment, data loggers and telemetry equipment, vehicles, survey equipment, camera, consumables and manuals
  - work program, workplace procedures, codes of practice, site maps, site monitoring plans and test methods and field protocols.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025009 Perform sampling and testing of air

Modification History

Release 1. Supersedes and is equivalent to MSS025009A Perform sampling and testing of air

Application

This unit of competency covers the ability to collect and test gaseous and particulate components in ambient, indoor and occupational air. Personnel will normally work within an existing sampling or monitoring plan. They will continually monitor levels of risk, apply specified safe working procedures and use prescribed safety equipment.

This unit of competency is applicable to environmental technicians in a range of industry sectors, such as environmental services involved with sampling and monitoring of ambient air, indoor air and occupational air parameters; occupational hygiene; and environmental compliance, auditing and inspection.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm air sampling and**	1.1 Review available site information, such as site plan, sampling/testing locations and history of

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	testing requirements with supervisor		sampling/testing.
		1.2	Confirm the scope and purpose of air sampling/testing and data requirements.
		1.3	Confirm sampling methods, locations, numbers and types of samples, and duration/frequency of sampling from workplace or client's sampling plan.
		1.4	Check that all air sampling/testing procedures are in accordance with client or workplace requirements, relevant standards and guidelines.
2	**Prepare for air sampling and testing**	2.1	Identify site and sampling/testing hazards and review workplace safety procedures.
		2.2	Liaise with relevant personnel to arrange site access and obtain all clearances and/or permits, as necessary.
		2.3	Review field sampling procedures and sample preparation methods required for specific laboratory tests.
		2.4	Select sampling equipment and conditions to achieve representative samples and preserve sample integrity during collection, storage and transit.
		2.5	Ensure all reagents, solutions, standards and blanks (as appropriate) are obtained and/or ready for field use.
		2.6	Select field test equipment/instruments and check operation and calibration, as required, in accordance with procedures and manufacturer instructions.
		2.7	Assemble, check, stow all sampling equipment, field test equipment, materials, containers and safety equipment.
		2.8	Arrange suitable transport to, from and around site, as required.
3	**Conduct sampling of air**	3.1	Locate sampling sites and, if required, services at the site.
		3.2	Conduct representative sampling in accordance with sampling plan and defined procedures for field and/or laboratory testing.

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		3.3	Ensure all controls, blanks and replicate samples are properly integrated into the sampling process.
		3.4	Record all information and label samples in accordance with traceability requirements.
		3.5	Record environmental conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity.
		3.6	Transport all samples back to base according to workplace procedures and relevant guidelines.
4	**Conduct field and laboratory testing of air**	4.1	Take sufficient measurements of all samples and standards, if appropriate, to obtain reliable data.
		4.2	Obtain sample or subsample for designated field test or locate established locations for in-situ testing.
		4.3	Set up, check/calibrate and operate equipment, instruments, reagents, gases and in accordance with test methods/procedures and manufacturer instructions.
		4.4	Perform tests, procedures and any observations in accordance with specified methods/procedures.
		4.5	Record all field/laboratory observations and results and ensure that they are accurately transferred to workplace information management system.
5	**Process and interpret air data**	5.1	Review test data noting atypical observations.
		5.2	Ensure calculated values are consistent with expectations.
		5.3	Estimate and document uncertainty of measurement in accordance with workplace procedures, if required.
		5.4	Record processed results in accordance with workplace procedures.
		5.5	Interpret trends in data and/or results and report out-of-specification or atypical results promptly to appropriate personnel.
		5.6	Determine if obvious procedure or equipment problems

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			have led to atypical data or results.
		5.7	Compare results with established air quality standards, statutory environmental quality concentration limits or similar, if relevant.
		5.8	Finalise reporting of results in accordance with workplace requirements.
6	**Maintain a safe work environment**	6.1	Rehabilitate sampling site to render it safe and to minimise environmental impact.
		6.2	Clean all equipment, containers, work area and vehicles according to workplace procedures.
		6.3	Check serviceability of all equipment before storage.
		6.4	Use defined safe work practices and personal protective equipment (PPE) to ensure personal safety and that of others.
		6.5	Minimise the generation of wastes and environment impacts.
		6.6	Ensure the safe collection of all hazardous wastes for appropriate disposal.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation,	• federal legislation, such as the Environment Protection and Biodiversity Conservation Act, and National Environmental

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regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:	Protection Measures • state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection, pollution and contaminated sites • legislation, standards and codes of practice for work health and safety (WHS) • Australian and international standards covering: environmental management (e.g. AS ISO 14000 Basic Set:2007 Environmental Management Basic Set series and AS ISO 14050-1999 Environmental management - Vocabulary); sampling and analysis of indoor and ambient air, air quality and air monitoring (e.g. AS 2365 Methods for the sampling and analysis of indoor air series; AS/NZS 3580 Methods for sampling and analysis of ambient air series; AS 2986 series Workplace air quality; and AS 2922 Ambient air series) • registration/licensing and/or accreditation requirements • industry guidelines and manuals, such as National Environment Protection Measure (NEPM) (Ambient Air Quality), air quality standards, and statutory environmental quality concentration limits • site plans, maps and specifications; methods and procedures for air sampling and testing to meet workplace, client and/or regulatory/certifying body requirements • workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; field notebooks or log books; emergency and safety procedures; safety data sheets (SDS); waste minimisation, containment, processing and safe disposal procedures

Ambient air parameters include one or more of:	• inorganic gases, such as:
	  • CO and CO_2, NO_x and SO_x,
	  • acidic gases
	  • hydrogen sulfide
	  • ozone
	  • fluorides
	• organic gases, such as:
	  • methane and non-methane hydrocarbons
	  • poly-aromatic hydrocarbons (PAHs)
	  • organic oxidants and other photochemical smog compounds, such as poly-aromatic nitrates (PANs)
	• air toxics, such as:
	  • benzene, toluene and xylenes

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- formaldehyde
- Benzo(a)pyrene (PAH marker)

- particulates, such as:
  - deposited matter
  - suspended matter (PM_{10}, $PM_{2.5}$ and PM_1)
  - particulate fluorides
  - lead.

Indoor air parameters include one or more of:

- inorganic gases, such as:
  - CO and CO_2 and NO_x
  - radon
- organic gases, such as:
  - formaldehyde
  - poly-aromatic hydrocarbons (PAHs)
  - organic oxidants and other photochemical smog compounds, e.g. poly-aromatic nitrates (PANs)
- particulates such as:
  - PM10, PM2.5, and PM1
  - microorganisms and spores.

Occupational (workplace) air parameters include one or more:

- chemicals listed in the '*Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'*. Concentration levels for action are:
  - peak
  - short term exposure limit (STEL)
  - time weighted average (TWA).

Sampling equipment includes one or more of:

- gas sample bags
- gas sample bottles/containers
- gas pipettes
- gas syringes
- air sampling pumps
- sampling manifolds
- passive diffusion samplers
- impingers (with absorption solutions)
- solid adsorbents
- colour detection tubes
- coated and uncoated filters
- sampling trains in continuous gas monitors

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- pitot tubes
- high volume samplers
- dichotomous samplers
- gas flow meters.

Testing equipment includes one or more of:

- continuous gas monitors:
  - ultraviolet (UV) absorption (e.g. ozone)
  - chemiluminescence (e.g. NOx)
  - pulsed fluorescence (e.g. (SOx)
  - non-dispersive infrared (e.g. CO)
  - flame ionisation detection (FID) (e.g. methane)
  - photo ionisation detection (PID)
  - integrating nephelometer methodologies (e.g. suspended particulates)
  - oxygen sensors (e.g. zirconia)
- gas chromatographs
- mass spectrometers
- atomic absorption spectrophotometers
- infrared spectrophotometers
- UV-visible spectrophotometers
- tapered element oscillating microbalance (TEOM)
- beta gauges
- particle counters
- portable (handheld) gas monitors.

Field test equipment includes one or more of:

- navigation and communication equipment (e.g. compass, maps, GPS, two-way radio and mobile phone)
- electric generators and power leads
- calibration gases
- data loggers
- first aid equipment.

WHS and environmental management requirements include:

- compliance with relevant federal/state/territory WHS legislation at all times
- assuming that samples are potentially hazardous and applying standard precautions
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025009A Perform sampling and testing of air

Links

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Assessment Requirements for MSS025009 Perform sampling and testing of air

Modification History

Release 1. Supersedes and is equivalent to MSS025009A Perform sampling and testing of air

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- collecting, preserving and labelling a set of representative air samples for at least one (1) site in accordance with a given sampling plan
- preparing air (sub)samples and conducting at least two (2) field tests using given test methods
- preparing air (sub)samples and conducting at least two (2) laboratory tests using given test methods
- planning field and laboratory activities
- selecting and checking all required field equipment, test instruments and materials
- using sampling equipment to obtain reliable, representative air samples in accordance with sampling plan and paying close attention to any pre-treatment, containers, preservation, storage, labelling and traceability requirements
- identifying atypical samples and taking appropriate action
- setting-up, calibrating and operating field/laboratory test instruments to obtain valid and reliable data in accordance with test methods
- interpreting gross features of data, identifying atypical results as out-of-normal range or an artefact and making relevant conclusions
- identifying and rectifying basic instrument faults
- calculating results using appropriate units/precision and/or preparing calibration graphs
- using established criteria to make valid conclusions about air quality, if relevant
- providing accurate, complete records of sampling and testing, site observations and data
- presenting and reporting results in accordance with workplace procedures
- seeking advice when issues/problems are beyond scope of competence/responsibility
- safely transporting, cleaning, maintaining and storing field equipment in accordance with workplace procedures
- working safely and following requirements for the disposal of waste and the preservation of the environment.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

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- scientific terminology used in job role covering atmospheric science, air measurement and air pollution
- structure, circulation and composition of the atmosphere
- atmospheric stability, lapse rates and inversions
- localised meteorology and dispersion of air pollutants
- air pollutants, such as:
  - particulates (e.g. inorganics, organics and metals)
  - inorganic gases (e.g. CO, CO_2, NO_x, SO_x, ammonia, acid rain, halogens and ozone)
  - organic gases (e.g. hydrocarbons, oxygen, halogens, sulphur and nitrogen containing organics)
  - photochemical smog, greenhouse gases and ozone depletion
- principles of air quality sampling and analysis, methods and standards
- function of key components and operating principles of common air quality instruments
- specific legislation, regulations, standards, statutory limits, policies and codes of practice related to air pollution and air quality monitoring
- field sampling and monitoring procedures including labelling, preservation, storage and traceability
- relevant hazards, health, safety and environment requirements, including field safety principles.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - inspection of air samples collected by the candidate
  - review of air quality measurements, test results, calculations and observations and/or reports produced by the candidate
  - review of sampling/testing records completed by the candidate

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  - feedback from supervisors about the candidate's ability to apply workplace procedures and air sampling/test methods consistently, work safely and produce results within the agreed timeframe
  - oral and/or written questions to check the candidate's understanding of the principles of air quality sampling/testing, operation of air sampling equipment, test instruments and processing of data.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - vehicles, survey equipment, camera, air sampling/monitoring equipment, field/laboratory test instruments, consumables and manuals
  - work program, workplace procedures, codes of practice, site maps, site monitoring plans and test methods and field protocols.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

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MSS025010 Assist with odour source assessment

Modification History

Release 1. Supersedes and is equivalent to MSS025010A Assist with odour source assessment

Application

This unit of competency covers the ability to assist air quality scientists and engineers with assessing odour emissions from sites and the effectiveness of odour abatement systems. Personnel use site sampling and monitoring plans, workplace procedures and/or standardised methods to collect odour samples and conduct olfactometry measurements using panellists in the laboratory.

This unit of competency is applicable to environmental technicians working in a range of industry sectors, such as environmental services (e.g. sampling and monitoring of air, odours and air quality consultancy); environmental compliance, auditing and inspection; chemical, food and by-product process manufacturing; solid waste management; water treatment and wastewater management; agricultural/livestock activities; landfill operations and rendering operations.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Clarify site monitoring requirements with supervisor**	1.1	Examine available information about the site's history, current activities/processes, previous odour assessments, topography, prevalent meteorological conditions and complaint records.
		1.2	Visit the site with supervisor to clarify issues with the proponent and community representatives, as appropriate.
		1.3	Collect and review information about site process operations and conditions.
		1.4	Identify potential odour sources at the site and current controls.
		1.5	Review relevant legislative, regulatory and licensing requirements or workplace procedures/test methods.
2	**Prepare for source monitoring**	2.1	Select, or design, appropriate sampling and monitoring strategies in consultation with supervisor.
		2.2	Confirm details of relevant odour sampling/monitoring plans, need for site permits and access to the site.
		2.3	Confirm data format and quality requirements.
		2.4	Review relevant standards and/or specified workplace procedures/test methods.
		2.5	Assemble required sampling and monitoring equipment and check that all reusable items are clean, fit for purpose and calibrated correctly.
		2.6	Ensure that all required supplies and equipment are transported safely to and from the site.
3	**Prepare standardised or in-house odour panellists**	3.1	Confirm the specifications for panellists with supervisor and client, as necessary.
		3.2	Conduct standardised selection to determine odour threshold and ongoing olfactometry performance of individuals.
		3.3	Conduct standardised or in-house selection to assess and compare sensitivity against internal criteria.

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		3.4	Select panellists in consultation with supervisor.
		3.5	Train selected panellists in the use of objective odour observation techniques, odour descriptors, olfactometry procedures and test equipment.
		3.6	Record the process and results used to establish and maintain a register of reliable panellists.
4	**Collect and store odour samples for source monitoring**	4.1	Check that process/meteorological conditions are consistent with sampling design conditions and report any deviations.
		4.2	Set up sampling equipment and conduct pre-use checks to ensure reliable operation.
		4.3	Collect samples in accordance with standard methods or workplace procedures.
		4.4	Store samples for subsequent analysis to ensure their ongoing integrity and traceability.
		4.5	Identify and report any defects or abnormalities in samples.
		4.6	Record all sample information in accordance with standard methods or workplace procedures.
5	**Conduct laboratory olfactometry measurements**	5.1	Set up dynamic olfactometer and related equipment and conduct pre-use checks to ensure reliable operation.
		5.2	Ensure that panellists fully understand the test procedures.
		5.3	Conduct tests in accordance with standard method.
		5.4	Monitor panellist's performance for indications of odour fatigue, adaption of their senses to the surrounding ambient air and/or bias.
		5.5	Analyse the conduct of the measurements and reliability of results before confirming data acceptability.
6	**Maintain a safe**	6.1	Ensure safety through the use of specified safety

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	work environment		equipment, safe work procedures and personal protective clothing.
		6.2	Handle all samples and equipment in accordance with workplace safety procedures.
		6.3	Minimise generation of waste and environmental impacts.
		6.4	Collect and dispose of all wastes safely.
		6.5	Report hazards and incidents to designated personnel using workplace procedures.
7	**Record data and report results**	7.1	Record details of the testing process and data in accordance with standard method or workplace procedures.
		7.2	Process data and report results in accordance with standard method or workplace procedures.
		7.3	Record approved data in accordance with specified format and quality requirements.
		7.4	Maintain confidentiality and security of workplace information and data.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation,	• federal legislation, such as the Environment Protection and Biodiversity Conservation Act, and National Environmental

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regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:	Protection Measures • state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection, pollution and contaminated sites • legislation, standards and codes of practice for work health and safety (WHS) • Australian and international standards covering olfactometry and stationary source emissions (e.g. AS/NZS 4323 Stationary source emissions series); and occupational personal protection (e.g. HB 9-1994 Occupational personal protection) • registration/licensing and/or accreditation requirements • site plans, maps and specifications, client and/or regulatory/certifying body requirements • workplace procedures for sampling, monitoring, checking calibration of dynamic olfactometers • workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; field notebooks or log books; emergency and safety procedures; safety data sheets (SDS); waste minimisation, containment, processing and safe disposal procedures.
Odour sources include one or more of:	• wastewater treatment plants and sludge ponds • solid waste recycling plants • landfill and landfill gas treatment plants • chemical plants • composting operations, food and by-product processing, such as rendering and tanning plants • agriculture/livestock facilities, such as poultry and pig farming, cattle feedlots and mushroom farms Odour source geometries include point, area, volume and fugitive sources.
Site information includes one or more of:	• location of site and nearby buildings, topography and meteorological records • complaints, and previous odour assessments at site and nearby locations • other industrial activities or potential odour sources in the surrounding area • industrial process inputs/outputs, flow diagram and process flowchart

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- unit operations and typical variability, nominal and upset conditions
- pollution control equipment and techniques for industrial processes
- air emission control systems, such as scrubbers, bag filters, stacks and bio filters
- forced or natural ventilation within odorous buildings
- parameters of emission sources, such as location, geometry and release parameters for processes
- operational conditions and period of operation
- batch or continuous operation for units upstream from the emission source
- predictable variations in process conditions, production rates and weather interaction.

Complaint records include one or more of:

- date and time of the complaint, and complainant details
- odour characteristic and weather conditions
- actions undertaken to verify the complaint
- actions undertaken to fix the issue
- back communication/information to complainant.

Odour sampling/monitoring plans include one or more of:

- monitoring protocol with details of purpose, duration, scope, available resources, detailed procedures and data quality requirements
- site map showing key community features, plant boundaries, possible/confirmed odour sources and topography
- monitoring at the source with sampling locations, sampling conditions (process and meteorology), type of sampling, coding and numbers of samples
- data collection forms (e.g. source location, geometry, operational conditions, sampling strategy and design deviations).

Odour sampling and laboratory monitoring equipment include one or more of:

- sampling bags, such as Teflon, Tedlar and Nalophan
- portable wind tunnel sampling systems
- fluxhood/fluxchamber/isolation chamber sampling systems
- sorbent sampling tubes and stainless steel canisters for collecting volatile organic compounds (VOCs)
- tubing, pumps, carbon filters and diluter
- sweep gases for sample collection, such as nitrogen
- tracer gas for calibration, such as carbon monoxide (CO)
- reference material, such as 1-butanol
- dynamic olfactometers for laboratory use.

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Pre-use checks of sampling and monitoring equipment include one or more of:	• cleanliness of reusable items • leak testing of sample bags, preparation of VOC canisters and sampling equipment • pump pressures and flow rate of sweep gases calibration checks • olfactometer range, accuracy, precision and lowest detection limit (LDL) • n-butanol storage • cleanliness of the measurement room of the olfactometry laboratory.
Selection and training for laboratory panellists include one or more of:	• use of the reference material (n-butanol) to determine odour threshold and performance of individuals in relation to normative values • use of standard dynamic olfactometry procedures • effects of alertness, attention, fatigue and health status • odour descriptor assignation • odour panel calibration results (AS/NZS 4323.3) and traceability of the panellist tests.
Odour laboratory condition requirements include:	• no stray source odours (e.g. renovation, furniture, equipment and stored chemicals) • effective ventilation with filtered air conditioning • temperature control • no direct sunlight exposure • noise-free room.
Odour monitoring data include one or more of:	• emission source characteristics, such as air velocity, dimensions of a vent or area, temperature, humidity, partial pressure, adjustments made for high temperature and/or high pressure and/or high humidity flows, and ventilation rates • sampling data, such as sampling start/end times, type of equipment, sampling location within the source, meteorological and process conditions, ambient temperature, pressure and humidity, diluter use and dynamic dilution rate, sampling flow rates, and any deviations from the requirements of the standard or internal procedure • laboratory measurement data, such as identification of the panellist, temperature of the room, date and time of the measurement, chemical analyser and olfactometer operational parameters, odour panel calibration result, set of dilutions over the measurements rounds, average dilution for the panel at the

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	odour threshold, odour concentration result and uncertainty, and any deviation from the requirements of the standard or internal procedure.
Odour control strategies include one or more of:	• physical, such as adsorption, absorption, photo ionisation, masking and neutralisation • chemical, such as scrubbing, oxidation and incineration • biological, such as biofiltration using bacteria • combined, such as bioscrubbers.
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025010A Assist with odour source assessment

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025010 Assist with odour source assessment

Modification History

Release 1. Supersedes and is equivalent to MSS025010A Assist with odour source assessment

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- collecting and preparing odour samples from at least one (1) site in accordance with standard methods or workplace procedures
- selecting and training odour panellists for olfactometry measurements in accordance with standard methods or workplace procedures on at least one (1) occasion (under supervision)
- conducting laboratory olfactometry measurements in accordance with standard methods or workplace procedures on at least two (2) occasions
- planning and preparing for field/laboratory activities, including researching and summarising legislative/regulatory requirements, site history and operations, existing data and complaints, and/or reports
- accurately interpreting legislative/regulatory requirements, client requests, sampling/monitoring plans, test methods and workplace procedures
- undertaking site reconnaissance and identifying potential odour sources and current controls (under supervision)
- selecting/designing appropriate sampling and monitoring strategies (under supervision)
- selecting and checking all required field/laboratory equipment, test instruments and materials
- using sampling equipment to obtain reliable, representative odour samples in accordance with sampling/monitoring procedures and paying close attention to any pre-treatment, containers, preservation, storage, labelling and traceability requirements
- identifying atypical odour samples and taking appropriate action
- selecting panellists by using standardised tests and given criteria to determine their odour threshold and ongoing olfactometry performance (under supervision)
- providing accurate information about use of objective odour observation techniques, odour descriptors, olfactometry procedures and test equipment to olfactometry panellists
- listening and communicating effectively with clients and panellists
- using olfactometry equipment correctly and closely monitoring panellist's performance and testing environment to obtain valid and reliable data
- identifying/rectifying basic equipment faults
- processing odour data and analysing the conduct of measurements and reliability of results before confirming their acceptability

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- providing accurate, complete records of odour sampling, site observations and olfactometry data including any errors and/or unexpected variations
- presenting odour results in the required format and timeframe and reporting on their significance
- seeking advice when issues/problems are beyond scope of competence/responsibility
- working safely for the protection of self and others.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific terminology, such as olfactometry, odour threshold, odour intensity, hedonic tone, odour character or quality, odour nuisance, dilution to threshold, odour concentration, odour units (ou) and commonly used odour descriptors
- basic principles of atmospheric chemistry, odorous compound families and meteorology
- calculation of flow rates, dilution factors, odour emission rates and uncertainties
- basic details of chemical/process engineering relevant to site
- regulatory/licensing requirements that apply to site
- nature of odour complaints, possible health effects, typical community concerns and environmental issues about odour
- workplace procedures for odour sampling/monitoring and test methods, selection of odour panellists
- set-up and operation of sampling equipment and dynamic olfactometers in the laboratory, function of key components, simple troubleshooting and calibration checks
- control of the olfactory testing environment (e.g. conditions that can dull sensitivity)
- likely causes of variation in odour results and their control
- reporting requirements, protocols for the confidentiality and security of information and communicating with the community and media
- relevant hazards, health, safety and environment requirements.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of odour data, results and records prepared by the candidate
  - feedback from supervisors that the candidate consistently follows workplace procedures and standard test methods, works safely and provides reliable results within the agreed timeframe
  - feedback from panellists and/or clients about the candidate's ability to respond to enquiries and provide accurate information
  - oral and/or written questions to check the candidate's understanding of odour sampling, odour measurements and calculations, conducting olfactometry testing and instructing panellists.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - odour sampling and measuring equipment
  - standard laboratory with facilities, equipment, materials and reagents required for olfactory testing
  - work program, workplace procedures, codes of practice, site maps, odour sampling/monitoring plans, test methods and field protocols.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

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MSS025011 Assist with odour field assessment

Modification History

Release 1. Supersedes and is equivalent to MSS025011A Assist with odour field assessment

Application

This unit of competency covers the ability to assist air quality scientists and engineers with assessing impacts of odours from sites on the surrounding community and the effectiveness of odour abatement systems. Personnel use odour monitoring plans and workplace procedures or standardised methods to conduct olfactometry measurements in the field using olfactometry panellists and community volunteer observers.

This unit of competency is applicable to environmental technicians working in a range of industry sectors, such as environmental services (e.g. sampling and monitoring of air, odours and air quality consultancy); environmental compliance, auditing and inspection; chemical, food and by-product process manufacturing; solid waste management; water treatment and wastewater management; agricultural/livestock activities; landfill operations; rendering operations.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Clarify site monitoring requirements with supervisor**	1.1	Examine available information about the site's history, current activities/processes, previous odour assessments, topography, prevalent meteorological conditions and complaint records.
		1.2	Visit the site with supervisor to clarify issues with the proponent and community representatives, as appropriate.
		1.3	Collect and review information about site process operations and conditions.
		1.4	Identify potential odour sources at the site and current controls.
		1.5	Identify suitable locations in the surrounding areas for impact assessments by panellists and community observers.
		1.6	Review relevant legislative, regulatory and licensing requirements or workplace procedures/test methods.
2	**Prepare for field monitoring**	2.1	Select or design appropriate monitoring strategies in consultation with supervisor.
		2.2	Confirm details of relevant odour monitoring plans, need for site permits, access to the site and nearby locations, and/or community concerns with supervisor.
		2.3	Confirm data format and quality requirements.
		2.4	Review relevant standards and/or specified workplace procedures/test methods.
		2.5	Draft/revise community survey, questionnaire and/or field record forms and seek supervisor and client approvals prior to use.
		2.6	Assemble required monitoring equipment and check that all items are fit for purpose and calibrated correctly.
		2.7	Ensure that all required supplies and equipment are transported safely to and from the field.
3	**Manage odour complaints**	3.1	Use survey/questionnaires to collect information about community odour perceptions and verify complaints.

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		3.2	Record and report community concerns in accordance with workplace procedures.
		3.3	Assist with provision of authorised information about odour perception, sources, possible health effects and details of current/planned monitoring to community members.
4	**Prepare standardised or in-house odour panellists**	4.1	Confirm the specifications for panellists with supervisor and client, as necessary.
		4.2	Conduct standardised selection to determine odour threshold and ongoing olfactometry performance of individuals for supra-threshold levels.
		4.3	Conduct standardised or in-house selection to assess and compare sensitivity against internal criteria.
		4.4	Select panellists in consultation with supervisor.
		4.5	Train selected panellists in the use of objective odour observation techniques, odour descriptors, olfactometry procedures and test equipment (with site visit and odour identification when possible).
		4.6	Record the process and results used to establish and maintain a register of reliable panellists.
5	**Prepare community volunteer observers**	5.1	Confirm the specifications for community volunteer observers with supervisor.
		5.2	Explain the details of the requested task to community volunteer observers in consultation with supervisor.
		5.3	Conduct observer selection using workplace procedures.
		5.4	Select observers in consultation with supervisor.
		5.5	Train selected observers in the use of objective odour observation techniques, tools, odour descriptors and test equipment in accordance with the workplace recording tools and objectives.
		5.6	Record the process and results used to establish and maintain a register of reliable observers.

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6	**Conduct field monitoring with panellists and observers**	6.1	Check that process/meteorological conditions are consistent with monitoring design conditions and report any deviations.
		6.2	Set up monitoring conditions for panellists and observers and check equipment to ensure reliable operation.
		6.3	Ensure that panellists fully understand the test procedures.
		6.4	Prepare reference for field measurements with the selected panel in accordance with standardised method or workplace procedures.
		6.5	Conduct monitoring in accordance with standard method or workplace procedures.
		6.6	Monitor panellist's performance for indications of odour fatigue, adaption of their senses to the surrounding ambient air and/or bias.
		6.7	Identify and report any defects or abnormalities in monitoring conditions.
		6.8	Analyse the conduct of the measurements and reliability of results before confirming data acceptability.
7	**Maintain a safe work environment**	7.1	Ensure safety through the use of specified safety equipment, safe work procedures and personal protective clothing.
		7.2	Handle all samples and equipment in accordance with workplace safety procedures.
		7.3	Minimise generation of waste and environmental impacts.
		7.4	Collect and dispose of all wastes safely.
		7.5	Report hazards and incidents to designated personnel using workplace procedures.
8	**Record data and**	8.1	Record details of the testing process and data in accordance with standard method or workplace

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report results		procedures.
	8.2	Process monitoring and meteorological data and report results in accordance with standard method or workplace procedures.
	8.3	Record approved data in accordance with specified format and quality requirements.
	8.4	Maintain confidentiality and security of workplace information and data.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation, such as the Environment Protection and Biodiversity Conservation Act, and National Environmental Protection Measures
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection, pollution and contaminated sites
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering olfactometry and stationary source emissions (e.g. AS/NZS 4323 Stationary source emissions series); odour impact (e.g. VDI 3940 Measurement Of Odour Impact By Field Inspection series), odour intensity (e.g. VDI 3882 Olfactometry; Determination Of Odour Intensity); and occupational personal protection (e.g. HB 9-1994 Occupational personal protection)
- registration/licensing and/or accreditation requirements

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- site plans, maps and specifications, client and/or regulatory/certifying body requirements
- workplace procedures for sampling, monitoring, checking calibration of dynamic olfactometers and data quality
- workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; field notebooks or log books; emergency and safety procedures; safety data sheets (SDS); waste minimisation, containment, processing and safe disposal procedures.

Odour nuisance includes one or more of:

- perceived intensity and offensiveness of odour
- perceived duration and frequency of occurrence
- difficulty in coping with the odour at a specific time and location
- a belief that the odour has a negative effect on their wellbeing and health.

Odour sources include one or more of:

- wastewater treatment plants and sludge ponds
- solid waste recycling plants
- landfill and landfill gas treatment plants
- chemical plants
- composting operations, food and by-product processing, such as rendering and tanning plants
- agriculture/livestock facilities, such as poultry and pig farming, cattle feedlots and mushroom farms

Odour source geometries include point, area, volume and fugitive sources.

Site information includes one or more of:

- location of site and nearby buildings, topography and meteorological records
- complaints, previous odour assessments at site and nearby locations
- other industrial activities or potential odour sources in the surrounding area
- industrial process inputs/outputs, flow diagram and process flowchart
- unit operations and typical variability, and nominal and upset conditions
- pollution control equipment and techniques for industrial processes

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- air emission control systems, such as scrubbers, bag filters, stacks and bio filters
- forced or natural ventilation within odorous buildings
- parameters of emission sources, such as location, geometry and release parameters for processes
- operational conditions and period of operation
- batch or continuous operation for units upstream from the emission source
- predictable variations in process conditions, production rates and weather interaction.

Odour monitoring plans include:

- monitoring protocol with details of purpose, duration and scope (e.g. parts of the community involved, available resources, detailed procedures and data quality requirements)
- site map showing key community features, such as plant boundaries, possible/confirmed odour sources, topography and most exposed or likely future sensitive receptors
- field monitoring program with panellist/observer locations and periods of measurement
- data collection forms (e.g. observer/panellist locations, intensity level measurements, weather conditions, odour descriptors, and observer comments and identifier).

Complaint records include one or more of:

- date and time of the complaint and complainant details
- odour characteristic and weather conditions
- actions undertaken to verify the complaint
- actions undertaken to fix the issue
- back communication/information to complainant.

Community observer questionnaires include one or more of:

- use of standard terminology and questions to avoid/minimise bias
- telephone interviews
- newspaper notices inviting responses
- diaries to collect data, such as odour strength, characteristics, date, time and location of detection, wind speed and direction, and physical reactions (e.g. itchy eyes and difficulty breathing)
- face-to-face interviews with community members.

Odour monitoring equipment includes one or more of:

- dynamic olfactometers for laboratory use when preparing panellists
- reference material, such as n-butanol

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	• torch, stopwatch and global positioning system (GPS) • anemometer and thermometer.
Pre-use checks of odour monitoring equipment include:	• cleanliness of reusable items • range, accuracy, precision and lowest detection limit (LDL) for dynamic olfactometer prior to preparing panellists • n-butanol storage • cleanliness of the measurement room of the olfactometry laboratory • batteries for torch, stopwatch, GPS, anemometer and thermometer.
Selection and training for field panellists for regulatory requests include one or more of:	• use of the reference material (n-butanol) to determine odour threshold and performance of individuals in relation to normative values • use of standard dynamic olfactometry procedures • odour intensity ranking test • triangle test • odour descriptor assignation • training with odours relevant to survey objectives • effects of alertness, attention, fatigue, health status, suggestibility (imagining an odour) and variability/inconsistency of the odour detection in the field • odour panel calibration results (AS/NZS 4323.3) and traceability of the panellist tests.
Selection and training for internal field panellists include one or more of:	• internal procedures, such as n-butanol pens, odour descriptor assignation with an odour wheel, odour intensity ranking test, and triangle test • training with odours relevant to survey objectives • basic weather data descriptions • effects of alertness, attention, fatigue, health status, suggestibility (imagining an odour) and variability/inconsistency of the odour detection in the field • effects of 'adaptation' (reduced perceptibility) due to internal panellists' workplace location.
Selection and training for community volunteer observers include one or more	• procedures, such as n-butanol pens, odour descriptor assignation with an odour wheel • training with odours relevant to survey objectives • basic weather data descriptions

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of:	• selection criteria, such as location, availability, known health problems with symptoms impacting on olfactory sense, and relevant previous training/work • use of 'objective' odour observation techniques • use of information recording forms • effects of alertness, attention, fatigue, health status, variability/inconsistency of the odour detection in the field and suggestibility (imagining an odour).
Odour monitoring data include:	• odour source conditions at time of the assessment • field odour measurement data, such as identification of the field panellist/community observer; date, time, duration and location of the assessment; operational process conditions if available; intensity and odour characteristic reference scale used for the test; diaries or observation record sheets from community observers; table with all panellist's and observer's observations; meteorological conditions at the time of the assessment; any atypical conditions in the area of the assessment; processing data and interpretation; and reporting
Odour control strategies include one or more of:	• physical, such as adsorption, absorption, photo ionisation, masking and neutralisation • chemical, such as scrubbing, oxidation and incineration • biological, such as biofiltration using bacteria • combined, such as bioscrubbers
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025011A Assist with odour field assessment

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Assessment Requirements for MSS025011 Assist with odour field assessment

Modification History

Release 1. Supersedes and is equivalent to MSS025011A Assist with odour field assessment

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- selecting and training odour field panellists and/or community observers for olfactometry measurements in accordance with standard methods or workplace procedures on at least one (1) occasion (under supervision)
- conducting field olfactometry measurements with odour field panellists and community observers in accordance with standard methods or workplace procedures on at least two (2) occasions
- planning and preparing for field activities, including researching and summarising legislative/regulatory requirements, site history and operations, existing data and complaints, and/or reports
- accurately interpreting legislative/regulatory requirements, client requests, odour monitoring plans and workplace procedures
- undertaking site reconnaissance and identifying potential odour sources and current controls (under supervision)
- preparing appropriate odour monitoring strategies, community survey, questionnaire and/or field record forms (under supervision)
- selecting and checking all required monitoring equipment and materials
- selecting panellists and community observers by using standardised tests and/or given criteria (under supervision)
- providing accurate information about use of objective odour observation techniques, tools, odour descriptors, olfactometry procedures and test equipment to olfactometry panellists and community observers
- listening and communicating effectively with clients, observers, panellists, community members and complainants
- using olfactometry equipment correctly and closely monitoring panellist's performance and testing environment to obtain valid and reliable data
- identifying/rectifying basic equipment faults
- processing odour/meteorological data and analysing the conduct of measurements and reliability of results before confirming their acceptability
- providing accurate, complete records of odour monitoring process and conditions, site observations and data, including any errors and/or unexpected variations
- presenting odour results in the required format and timeframe and reporting on their significance

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- seeking advice when issues/problems are beyond scope of competence/responsibility
- working safely for the protection of self and others, especially when transporting and managing panellists in the field.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific terminology, such as olfactometry, odour threshold, odour intensity, hedonic tone, odour character or quality, odour nuisance, dilution to threshold, odour concentration, odour units (ou) and commonly used odour descriptors
- basic principles of atmospheric chemistry, odorous compound families and meteorology
- calculation of flow rates, dilution factors, odour emission rates and uncertainties
- chemical/process engineering relevant to site
- regulatory/licensing requirements that apply to site
- nature of odour complaints, possible health effects, typical community concerns and environmental issues about odour
- workplace procedures and test methods for odour monitoring, selection of odour panellists/community observers, recording of field data
- use/design of questionnaires to collect reliable information
- set-up and operation of dynamic olfactometer in the laboratory for panellists selection, function of key components, simple troubleshooting and calibration checks
- likely causes of variation in odour results and their control
- reporting requirements, protocols for the confidentiality and security of information and communicating with the community and media
- relevant hazards, health, safety and environment requirements.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:

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  - review of odour data, results, records (e.g. site monitoring, complaints, panellist selection) and/or reports prepared by the candidate
  - feedback from supervisors that the candidate consistently follows workplace procedures and standard test methods, works safely and provides reliable results within the agreed timeframe
  - feedback from clients, observers and/or panellists about the candidate's handling of enquiries/complaints and provision of information
  - oral and/or written questions to check the candidate's understanding of odour monitoring and test methods, calculations, selection and instruction of panellists/observers, regulatory odour field assessment process and community surveys.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - odour measuring equipment, materials and reagents for field measurements
  - standard laboratory with facilities, equipment, materials and reagents required for panellist selection and training
  - work program, workplace procedures, codes of practice, site maps, odour monitoring plans, test methods and field protocols.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

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MSS025012 Perform environmental microbiological tests

Modification History

Release 1. Supersedes and is equivalent to MSS025012A Perform environmental microbiological tests.

Release 2. Prerequisite code updated. Equivalent outcome.

Application

This unit of competency covers the ability to receive and prepare samples, and identify and quantitate examples of microorganisms of environmental significance. Personnel will also be able to apply an understanding of the role of microorganisms in bioremediation, agriculture and industrial processes.

This unit of competency is applicable to environmental technicians working in a range of industry sectors, such as environmental monitoring, sampling and field testing (e.g. air, water, groundwater and soil); natural resource management; occupational hygiene monitoring (e.g. air); groundwater and clean water (e.g. catchments, supply and environmental flows); water treatment, storm and wastewater management; and site remediation or rehabilitation.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSS024022	Perform environmental biological techniques

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Receive microbiological samples**	1.1	Check samples and accompanying documentation in accordance with workplace procedures.
		1.2	Log samples and record sufficient details to enable accurate tracking and chain of custody.
		1.3	Distribute samples for local testing or dispatch samples to other testing facilities, as necessary.
		1.4	Store samples appropriately where testing or transport is to be delayed.
2	**Prepare for safe microbiological work and aseptic applications**	2.1	Select work area and equipment required for the safe handling of materials that may contain microorganisms of specified risk groups.
		2.2	Wear protective clothing, replacing it when contamination is suspected.
		2.3	Apply correct disinfection procedures to work areas before and after use.
		2.4	Locate relevant emergency equipment for timely response to microbiological accidents.
		2.5	Apply standard precautions when handling biological materials.
		2.6	Minimise the production and release of aerosols, using biological safety cabinets, where necessary.
		2.7	Clean up spills, and report all spills and suspected incidents to supervisor.
		2.8	Wash hands before and after laboratory work and when contamination is suspected.
		2.9	Ensure the safe collection and disposal of biohazardous materials and other laboratory wastes in accordance with workplace procedures.
3	**Process samples for direct examination**	3.1	Prepare thin smears of samples for subsequent staining to enable microscopic identification of cells.
		3.2	Prepare liquid films of specimens for direct observation of cell structure.

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		3.3	Prepare samples to concentrate material for subsequent staining or microscopy.
4	**Prepare pure cultures for microbiological work and aseptic applications**	4.1	Select culture media to maximise growth of microorganisms and cells.
		4.2	Inoculate media aseptically, applying techniques suitable for purpose of culture.
		4.3	Incubate inoculated media in conditions to optimise growth of organisms and cells.
		4.4	Subculture on suitable media to optimise production of pure cultures.
5	**Perform environmental microbiological analyses**	5.1	Identify major microorganisms and groups of microorganisms in air, water and soil samples.
		5.2	Count cells in undiluted samples to indicate the dilution necessary to reliably count organisms in culture.
		5.3	Prepare serial dilutions of samples aseptically for culture and colony counting.
		5.4	Count colonies for calculating number of viable organisms per unit volume.
		5.5	Count microorganisms in samples and cultures using spectrometric and electronic methodologies, where relevant.
		5.6	Estimate and document uncertainty of measurement in accordance with workplace procedures, where relevant.
		5.7	Use rapid detection techniques to monitor the presence of microorganisms in water.
		5.8	Use indicator organisms to estimate the likely presence of other pathogenic species.
6	**Examine test data for legislative**	6.1	Confirm data are the result of valid measurements.
		6.2	Report details of sampling/testing procedures and quality assurance in accordance with legislative

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	compliance		requirements.
		6.3	Report data in the required format with the appropriate accuracy, precision, statistic type and units.
		6.4	Compare data with specified assessment criteria.
		6.5	Comment on any significant data trends and identify the possible causes or implications.
		6.6	Identify atypical or out-of-range results and the risk and/or instances of potential/actual non-compliance.
		6.7	Confirm all unexpected findings with supervisor.
7	**Maintain records**	7.1	Enter approved data and results into workplace information management system.
		7.2	Maintain instrument logs as required by accreditation checklists.
		7.3	Maintain security and confidentiality of all client information, data, test results and records.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, standards, codes, procedures and/or workplace requirements include the latest version of	• federal legislation such as the Environment Protection and Biodiversity Conservation Act • state/territory government legislation and regulations and local government by-laws, policies, and plans dealing with land use, acquisition, planning and protection; environmental protection; nature conservation; wildlife/plant protection; prevention of

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one or more of:

cruelty to animals and quarantine

- legislation, standards and codes of practice for work health and safety (WHS)
- adopted national exposure standards for atmospheric contaminants in the occupational environment (NOHSC:1003)
- Australian and international standards covering safety in laboratories (AS/NZS 2243.3:2010 Safety in laboratories - Microbiological safety and containment); water microbiology (AS/NZS 4276 Water microbiology series); examination of waters for *Legionellae* (AS/NZS 3896:2008 Waters - Examination for Legionella spp. including Legionella pneumophila); selection of containers and preservation of water samples for microbiological analysis (AS 2031-2012 Water quality - Sampling for microbiological analysis); and air-handling and water systems of buildings - microbial control (AS/NZS 3666 Air-handling and water systems of buildings series)
- international guidelines and methods, such as Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, Australian guidelines for water quality monitoring and reporting, National Water Quality Management Strategy No. 7, ANZECC & ARMCANZ, Canberra
- American Public Health Association (APHA) Handbook - Water and wastewater analysis
- registration/licensing and/or accreditation requirements
- workplace documents, such as standard operating procedures (SOPs); work schedules; quality management procedures; data quality procedures; sampling/monitoring procedures; validated/authorised test procedures; safety data sheets (SDS) and safety procedures; equipment manuals; recording and reporting procedures; cleaning, hygiene, personal hygiene requirements; waste minimisation, containment, processing and safe disposal procedures.

Environmental microbiological tests include one or more of:

- identification of major groups of environmentally significant organisms, such as:
  - bacteria, Cyanobacteria, Corynebacteria, *Legionella pneumophila*, *Lactobacillus*, *Rhizobia*, hydrocarbon utilising bacteria, and sulfite reducing bacteria
  - Total Coliforms, Faecal Coliforms, *Escherichia coli*, *Enterococci* and Faecal *Streptococci*
  - Archaea
  - *Aspergillus*
  - micro-algae, blue-green algae

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- anaerobic protozoa
- indicator microorganisms and their role in predicting likely infectious agents
- enumeration of organisms, and use of counting chambers

- use of selective and enriched media and their role in identification and enumeration of microorganisms, such as:
- MacConkey's agar (Coliforms)
- BG11 (Cyanobacteria)
- yeast mannitol agar (*Rhizobium*)
- lactose broth
- ammonium salts
- nutrient agars
- tryptic soy agar
- biochemical tests, such as IMViC *(*indole, methyl red, Voges-Proskauer and citrate)
- use of antibiotics, such as cycloheximide (detection of bacteria in presence of yeasts and mould)
- micro-toxicity testing
- microbial activity in soils.

Equipment, materials and systems include one or more of:

- protective and physical containment facilities and equipment for safe handling of microorganisms, including personal protective equipment (PPE), such as gloves, gowns, masks and safety glasses, and gloves for working with extremes of heat and cold
- carbon dioxide cabinets and incubators
- transfer equipment, such as inoculating loops, pipettes (quantitative and qualitative), flasks, tubes and spatulas
- liquid nitrogen containers for cell storage
- filtration membranes
- microscopes with bright field and other relevant illumination systems and stereomicroscopes
- counting chambers for micro-enumeration
- colony counting devices
- Bunsen burners and bench incinerators
- incubators and water baths
- anaerobic jars, fermentation chambers, continuous culture systems and other devices for controlling growth environments of microorganisms
- laboratory information management systems (LIMS), databases, record and filing systems
- stains, media, reagents and biological materials necessary for

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	laboratory testing • laboratory glassware and measuring equipment • disinfecting and sterilising solutions and equipment, such as ultraviolet (UV) lamps • materials suitable for the safe containment, collection, processing and disposal of biological and non-biological wastes • autoclaves.

Legislative compliance includes:	• comparison and interpretation of data in comparison with assessment criteria, limits and other regulatory requirements, such as:
	  • exposure standards for atmospheric contaminants in the occupational environment
	  • guidelines for drinking water
	  • allowable pollution index for public recreation areas
	  • discharge of sewage and allowable contamination levels
	  • drawing conclusions about air quality, water quality, and the condition of ecosystems

Use of microorganisms in bioremediation, agriculture and industrial processes includes one or more of:	• treatment of wastewater (especially in sewage) • sulphite reducing bacteria • remediation of oil spills using microorganisms, such as HCB, pseudomonas • production of eco-friendly fuels, such as ethanol
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025012A Perform environmental microbiological tests

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Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025012 Perform environmental microbiological tests

Modification History

Release 1. Supersedes and is equivalent to MSS025012A Perform environmental microbiological tests.

Release 2. Prerequisite code updated. Equivalent outcome.

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- performing each of the following environmental microbiological techniques/tests on at least two (2) occasions:
  - preparing specimen samples, such as thin smears, liquid films and concentrates for direct examination
  - using standard media selection, inoculation, incubation and subculturing techniques to grow cultures of environmentally significant microorganisms
  - conducting microscopic examination of samples to identify and count cells and colonies
  - conducting microbiological analyses (e.g. spectrometric, electronic, rapid detection, indicator organisms) to identify and/or enumerate environmentally significant microorganisms
- interpreting instructions, sampling/test methods, manuals, guidelines and applying workplace procedures
- logging, tracking and reporting microbiological samples from collection/receipt through to completion of a procedure
- setting up, cleaning and optimising the performance of light microscopes
- identifying artefacts or image aberrations attributable to misalignment or obstruction of light paths or condensers used in bright field, dark ground, phase and fluorescent microscopy, or with other steps in microscopic examinations
- identifying Gram reactions accurately
- accurately describing bacterial colony forms on common media used in bacteriological investigations
- performing reliable colony/cell/microorganism counts, estimations and calculations
- checking the quality and validity of data and recording/storing test results in accordance with workplace procedures
- comparing microbiological data with relevant assessment criteria to identify significant data trends and atypical results, possible causes or implications and risk/instances of non-compliance
- preparing documentation that is concise, accurate and meets workplace and/or legislative requirements

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- using personal protective clothing, safety equipment and procedures to prevent contaminating oneself, other people, work area, equipment, samples, or media/reagents during manipulations involving transfer of cultures
- demonstrating safe sterilisation, disinfection, cleaning, spillage, decontamination and waste disposal techniques
- seeking advice when issues/problems are beyond scope of competence/responsibility
- preparing data and documentation that is accurate, concise and in accordance with workplace requirements
- working safely and reporting all incidents or accidents.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- microbiological terminology relevant to job role covering bacteriology, parasitology and mycology
- cell biology and chemistry related to laboratory phenomena, such as growth and isolation of organisms for identification
- microbial genetics
- microbial diversity
- microorganisms of importance in assessment of the natural environment
- diseases associated with air, water and soil-borne microorganisms
- transmission and infection mechanisms and vectors
- population growth curves for microorganisms
- anti-microbial agents and their suitability/efficacy in a variety of situations
- relevant disinfection and sterilisation procedures
- rationale for sample dilution when preparing materials for enumerating organisms and other pure culture work (e.g. most probable number (MPN) technique)
- need for accurate identification of sample source (e.g. field location)
- sampling procedures for the microbiological testing of drinking water which should conform to the guidelines published by the National Health and Medical Research Council (NHMRC), and the Australian Water Resources Council
- testing procedures for the microbiological content of air, water and soil which should be guided by advice of relevant national and state/territory environment protection agencies
- identification of indicator microorganisms to assist in determining the cause, time or nature of pollution
- use of microorganisms in wastewater treatment
- use of microorganisms in toxic spill recovery
- use of microorganisms in site remediation
- collection and disposal of waste, waste minimisation principles
- relevant hazards, controls and safety procedures – especially those associated with handling microorganisms.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - inspection of media/samples/cultures and review of data, results and records prepared by the candidate
  - feedback from supervisors that the candidate can safely perform the environmental microbiological techniques/tests listed above and provide reliable results within the agreed timeframe
  - oral and/or written questions to assess the candidate's knowledge of safe handling, culturing, testing and examination of environmentally significant microorganisms, analysis of results and record keeping
  - integrated assessment with a case study focus, such as the isolation and identification of bacterial species in a specimen containing two or more species, by relating sample, cultural, morphological and biochemical data, and such from other relevant tests and procedures.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - a standard microbiology laboratory with relevant equipment, test instruments, samples and reagents
  - workplace procedures, sampling/test methods, equipment manuals, safety procedures, safety equipment
  - under duty of care requirements, off-the-job training providers will only use biological samples and organisms of a risk category that is compatible with their laboratory as defined in *AS/NZS 2243.3 Safety in laboratories - Microbiological aspects and containment facilities.*
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR

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- relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

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MSS025013 Assist with assessing and monitoring wetlands

Modification History

Release 1. Supersedes and is equivalent to MSS025013A Assist with assessing and monitoring wetlands

Application

This unit of competency covers the ability to plan and conduct desktop and field activities designed to collect and interpret information about the characteristics and condition of specific wetlands. This work assists environmental scientists and planners to develop wetland inventories, assess and monitor the condition of wetlands and/or develop wetland management plans.

This unit of competency is applicable to environmental technicians in a range of industry sectors, such as stormwater management; clean water (e.g. catchments, supply and environmental flows); environmental services (e.g. monitoring of water quality); and environmental compliance, auditing and inspection.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Confirm details of assigned activities with supervisor**	1.1	Clarify the scope and objectives of assigned activities, constraints and wetland components involved and any conservation measures or management plans in place.
		1.2	Identify regulations, standards, guidelines and workplace procedures that apply to assigned activities.
		1.3	Clarify the required outputs, timeframe, available resources and stakeholder involvement.
		1.4	Confirm assessment indices and data collection plan details for target wetland.
		1.5	Clarify the use of survey proformas, data collection forms and/or field identification guides, as necessary.
2	**Source and assess available wetland data**	2.1	Locate and obtain existing wetland data and review its relevance and accuracy.
		2.2	Locate external sources of relevant data sets and assess their availability, price, value and limitations.
		2.3	Obtain selected data sets in accordance with workplace procedures.
		2.4	Use available data to identify known wetland boundaries, characteristics, condition and any environmental issues relevant to the study.
		2.5	Identify any significant information gaps.
3	**Plan and organise assigned field activities**	3.1	Analyse field activities to identify related tasks and plan efficient sequences.
		3.2	Identify risks, safety and environmental requirements associated with field activities.
		3.3	Assemble required field equipment and materials and check that they are fit for purpose.
		3.4	Liaise with relevant personnel to explain the scope and purpose of field activities, organise site access and obtain permits, as necessary.
		3.5	Review work plan in response to new information, changed circumstances or instructions from appropriate

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			personnel.
		3.6	Update work plan and communicate changes to appropriate personnel, as necessary.
4	**Conduct wetland survey and monitoring activities**	4.1	Observe and record wetland characteristics and evidence of disturbance using survey proformas, field identification guides and digital photography, as appropriate.
		4.2	Collect reliable point positional data and attribute environmental data/samples for each location in accordance with data collection plan.
		4.3	Verify any existing geographic information system (GIS) mapping of wetland location/type.
		4.4	Collect representative water, soil and/or (micro)biological samples using specified sampling methods and equipment.
		4.5	Obtain valid and reliable in-situ measurements using specified test methods and equipment.
		4.6	Ensure that monitoring data/samples are collected at the same locations and during similar seasonal/climatic conditions.
5	**Finalise field work**	5.1	Pack and safely transport all samples, equipment and supplies back to home base.
		5.2	Ensure all samples and data are labelled and stored safely to ensure integrity and traceability.
		5.3	Ensure dispatch of collected samples for subsequent laboratory analysis.
		5.4	Clean and test equipment before storage.
6	**Contribute to assessment of wetland condition**	6.1	Review field observations, measurements and/or results of laboratory analyses to identify significant trends and/or problems with data.
		6.2	Use given formulae and tables to assign scores, parameter values, index values and health index/rating,

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			where appropriate.
		6.3	Analyse data relating to wetland characteristics, existing conditions and management values, as required.
		6.4	Identify environmental issues that may impact on current wetland management objectives/practices.
		6.5	Report findings using a format and style that suits their intended use and in accordance with workplace guidelines.
		6.6	Communicate results within the specified time and in accordance with workplace confidentiality and security guidelines.
7	**Maintain a safe work environment**	7.1	Use safe work procedures and protective equipment to ensure personal safety and that of others.
		7.2	Minimise environmental impacts of testing/sampling and generation of waste.
		7.3	Collect and/or dispose of all waste in accordance with environmental requirements and workplace procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations,	• federal legislation, such as the Environment Protection and Biodiversity Conservation Act • state/territory government legislation and regulations and local

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standards, codes, workplace procedures and requirements include the latest version of one or more of:	government by-laws, policies, and plans dealing with land use, acquisition, planning and protection; protection of wetlands; vegetation management; nature conservation and wildlife/plant protection; water quality and water management; soil conservation; pollution and contaminated sites
	• Australian and international standards and guidelines, such as:
	  • RAMSAR Convention
	  • AS/NZS 5667 Water quality set
	  • A Directory of Important Wetlands in Australia, Environment Australia
	  • ANZECC Wetland Classification System
	  • National Water Commission Framework for the Assessment of River and Wetland Health (FARWH)
	• state/territory Environmental Protection Authority (EPA) indexes, guidelines and manuals, such as:
	  • Index of Wetland Condition (VIC EPA)
	  • Water Quality Sampling Manual (QLD EPA)
	  • Regulatory monitoring and testing: Water and wastewater sampling (EPA SA)
	  • Wetland Assessment Techniques Manual for Australian Wetlands (Wetlandcare Australia).

Wetlands include one or more of:	• marine and coastal zone wetlands, inland wetlands, human made wetlands **(ANZECC classification system)** • riverine, palustrine (river, run-off/rainfall, groundwater fed), lacustrine, artificial, marine, spring or groundwater fed (state/territory classification systems).
Desktop and field activities include one or more of:	• accessing relevant data sets and using GIS techniques to map wetland areas, high conservation areas and/or high degradation areas; and determining priority areas for field assessments • validating GIS mapping of wetland location and type • conducting rapid wetland assessments • assessing condition of specific wetland components, including flora and fauna (type, % cover, dominant species and condition buffers) • collecting information for use in wetland vegetation inventory • assessing disturbance and relating this to wetland condition • trialling a wetland monitoring program • establishing sites for future wetland monitoring.

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Wetland management plans include:

- existing and future values of wetland
- wetland management objectives to protect these values
- problems and issues that may compromise these objectives
- agreed wetland management practices to mitigate existing impacts and minimise future impacts.

Wetland data sources and data include one or more of:

- national databases, such as:
  - Directory of Important Wetlands in Australia
  - EPBC Online Protected Matters Search Tool
- state/territory databases, such as:
  - Regional Ecosystem (RE) maps, Wildlife Online, Wildnet, Ecosystem Health Monitoring Program (EHMP) surveys (EPA QLD)
  - Index of Wetland Condition (EPA VIC)
- geographic information system GIS datasets, such as:
  - climate
  - biological and physical parameters of the land and ocean
  - management boundaries and tenure
  - biodiversity
  - natural resources, agriculture and fisheries
  - land use information, such as topographical maps, aerial photos, satellite imagery and land use/zoning maps
  - terrain models
  - drainage intensity, flood and drainage studies
  - water and sediment quality studies
  - contaminated site reports
  - acid sulphate soil studies
  - aquatic ecology studies (e.g. threatened/scheduled species, migratory birds, key habitats and habitat corridors/connectivity)
  - riparian vegetation studies
  - reports of consultations with the scientific community, local environmental groups and industry associations, catchment management committees and councils.

Survey proformas, data collection forms and field identification guides include one or more

- observer identification details (ID)
- site ID, (sub) catchment and/or regional ID
- ownership, access, location (e.g. global positioning system (GPS)), site photo ID and transect ID
- verification of wetland classification (GIS mapped, field) using identification guides and codes:

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of:

- proximity of other wetlands, ecosystems, roads and current/adjacent land use
- site disturbance indicators, such as soil disturbance, vegetation structure modification, water quality, hydrologic disturbance, dumping, land use, feral/domestic animals, and weed causal factors
- acid sulphate soil indicators, such as iron stain, scald and hydraulic conductivity

- general wetland characteristics, such as:
  - water body dimensions, current/max water level, depth, water sources, modifications and banks
  - water quality (e.g. visible slime, temperature, turbidity and electrical conductivity)
  - habitat potential
  - vegetation buffer/cover/types/health/dominant species/recovery potential
  - fauna observations
- field identification guides with descriptors, photos and/or coding for wetland types and specific disturbance indicators.

Field equipment and materials include one or more of:

- topographic maps and aerial photos
- compass, survey point markers and drivers, GPS, tape measure, flagging tape, 1m2 quadrats and sub-quadrats
- data recording sheets, laptop, data logger, digital camera and binoculars
- sampling equipment, such as bottles, bags, biological specimen containers, secateurs, scoop nets, esky and ice, sample preservatives, water pumps and tubing, and shovels
- automatic water samplers
- portable water quality probe that measures (e.g. dissolved oxygen, temperature, turbidity, pH, conductivity and field test reagents)
- flow meters
- personal protective equipment, insect repellent, appropriate clothing and footwear, phone, emergency position indicating radio beacon (EPIRB) and first aid kit.

Laboratory analyses include one or more of:

- suspended solids
- phosphates
- nitrates and ammonium
- peroxide oxidation (combined acidity and sulphate for soils).

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Environmental issues and possible causes include one or more of:	• fragmentation or loss of connectivity of wetlands and/or vegetation • adjacent land use pressure causing excessive nutrients, sediment and noise pollution • human disturbance due to vehicles, boats, fire, rubbish, excessive nutrients and sediments, and impacts of feral/stock/domestic animals • exposure of acid sulphate soils • low diversity of vegetation, invasion by weeds • poor habitat potential due to invasion by pest species and land clearing • structures affecting wetland hydrology • poor condition of banks and fringing vegetation due to access of stock • poor condition of mangrove, salt marsh, seagrass due to impaired natural flow/tidal flush, excessive human disturbance, and impaired vegetative filter strips.
Work health and safety (WHS) requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025013A Assist with assessing and monitoring wetlands

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025013 Assist with assessing and monitoring wetlands

Modification History

Release 1. Supersedes and is equivalent to MSS025013A Assist with assessing and monitoring wetlands

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- planning and conducting at least one (1) desktop activity to assess and report on aspects of wetland condition
- planning and safely conducting survey/monitoring activities on at least one (1) occasion to assess and report on aspects of wetland condition
- accurately interpreting relevant regulations, standards, guidelines, work instructions, workplace procedures, guidelines and manuals
- locating and evaluating available environmental data sets and wetland information
- using available data to identify known wetland boundaries, characteristics, condition and environmental issues relevant to desktop/field activities
- setting up, checking and operating sampling/measuring equipment in accordance with manuals and/or workplace procedures
- following specified sampling methods/procedures to ensure that samples are representative, viable and traceable
- following specified test methods to obtain reliable in-situ measurements
- making 'objective' observations based on clear criteria
- estimating numbers of flora and fauna, % coverage, and measuring dimensions and areas
- accurately recording and/or storing field data
- assessing quality of field data, recognising anomalies, identifying and rectifying basic instrument faults
- assigning assessment scores, index values, health index/rating, and calculating scientific quantities, uncertainties and unit conversion factors
- providing detailed descriptions of wetland characteristics, existing conditions, management values and environmental issues that may impact on current wetland management objectives/practices
- seeking advice when issues/problems are beyond scope of competence/responsibility
- communicating effectively with others, such as workplace staff, members of the public, clients, landowners and consultants
- providing documentation that meets user needs, is in the required format, and delivered within the agreed timeframe
- transporting, cleaning, maintaining and storing field equipment in accordance with workplace procedures

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- following procedures for working safely and minimising environmental impacts and waste.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- basic terminology and principles of wetland assessment, monitoring and management relevant to job role
- sources of wetland information (e.g. directories, indexes, data sets and assessment tools)
- defining characteristics and functions of major wetland types
- fundamental principles of ecology and assessment of site environmental indicators
- environmental factors that impact on soils, water quality, population and diversity of flora and fauna
- specific legislation, policies and guidelines relevant to desktop/field activities
- procedures and equipment for collecting soil, water, (micro) biological samples and environmental measurements (e.g. water)
- procedures and equipment for maintaining, storing and transporting samples/specimens to ensure their wellbeing, viability and integrity
- procedures and equipment for conducting basic spatial and environmental measurements
- workplace procedures for the recording of field data and reporting of findings
- protocols for the confidentiality and security of information and communicating with the community and media
- relevant hazards, health, safety and environment requirements.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of the accuracy and completeness of data, records and results prepared by the candidate

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  - review of findings/reports prepared by the candidate, including details of wetland characteristics, existing conditions, management values and environmental issues that may impact on current wetland management objectives/practices
  - feedback from supervisors that the candidate can plan and conduct desktop/field activities efficiently, work safely and provide reliable results within the agreed timeframe
  - oral and/or written questions to assess the candidate's understanding of the use of environmental data sets and the findings of surveys and monitoring to develop wetland inventories, assess and monitor the condition of wetlands and/or develop wetland management plans.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - access to a range of wetlands
  - relevant sampling equipment, field instruments and materials
  - documentation, including wetlands system information, environmental data sets, user manuals, workplace safety procedures, test/survey methods, survey proformas, data collection forms and field identification guides, workplace procedures, test methods and equipment manuals.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

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MSS025014 Perform sampling and testing of contaminated sites

Modification History

Release 1. Supersedes and is equivalent to MSS025014A Perform sampling and testing of contaminated sites.

Release 2. Prerequisite code updated. Equivalent outcome.

Application

This unit of competency covers the ability to collect samples and conduct field tests/measurements while working safely in a (potentially) hazardous environment. Personnel work under the close supervision of environmental scientists or engineers and use established site health and safety plans and sampling/field testing procedures. They are required to continually monitor levels of risk and use prescribed safe working procedures and safety equipment.

This unit of competency is applicable to environmental technicians in a range of industry sectors, such as environmental services (e.g. sampling and monitoring of air quality, water and soil); environmental compliance, auditing and inspection; management of pollution and contaminated sites; and site remediation or rehabilitation.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSS024020	Recognise common geological landforms and samples

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the	Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.
1	**Assist with preliminary site study**	1.1 Locate and review relevant legislative, regulatory and/or planning requirements and register for contaminated sites.
		1.2 Confirm the site location, scope and purpose of the investigation and assigned tasks with supervisor.
		1.3 Source and review available site data, including site history, geology, hydrogeology and meteorology data.
		1.4 Summarise information to assist with preparation of a site chronology and identification of gaps or inadequacies in data, potential contaminants and areas of possible contamination.
2	**Prepare for site activities**	2.1 Confirm the scope and purpose of sampling, testing and/or monitoring activities and data requirements with supervisor.
		2.2 Liaise with site controller to access site, identify locations of services and arrange for induction, clearances and/or permits, as necessary.
		2.3 Review risks posed by site contaminants and review the health and safety plan/safe work procedures specified for planned activities.
		2.4 Confirm the sampling/test methods, sampling/test points, numbers and types of samples and/or measurements with supervisor.
		2.5 Review specified sampling/test methods with close attention to the sequence of steps and details for each.
		2.6 Check the operation/calibration of required sampling equipment, test and/or monitoring instruments in accordance with relevant methods, standards and manufacturer instructions.
		2.7 Ensure all required reagents, solutions and/or calibration standards are obtained and ready for field use.
		2.8 Assemble and safely stow all sampling equipment, test instruments, materials, containers, safety equipment and personal protective equipment (PPE).

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		2.9	Arrange suitable transport to, from and around site, as required.
3	**Assist with site inspection**	3.1	Sketch, map and/or photograph the site features.
		3.2	Conduct a visual inspection to identify site features that may inform the need for and design of subsequent investigations.
		3.3	Collect preliminary samples, as directed, to help characterise possible contamination hazards prior to detailed investigations.
4	**Conduct sampling as directed**	4.1	Locate sampling/test points and any services at the site.
		4.2	Work effectively with other site personnel during drilling excavation and/or survey operations to collect reliable samples, logs and measurements, as necessary.
		4.3	Follow specified procedures to minimise hazards and/or contamination of samples, self/others, equipment and environment.
		4.4	Collect and preserve required samples in accordance with sampling plan, relevant methods and/or standards.
		4.5	Record all information and label samples in accordance with traceability requirements.
		4.6	Record environmental conditions and/or atypical observations made during sampling that may impact on validity or integrity of samples.
		4.7	Store and transport all samples back to base in accordance with specified method, chain of custody requirements and relevant codes.
5	**Conduct field tests and/or monitoring as directed**	5.1	Obtain sample or sub-sample for designated field test.
		5.2	Check that all equipment, instruments, reagents and calibration standards are fit for purpose.
		5.3	Set up and calibrate instruments as necessary to ensure safe operation and valid results.

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		5.4	Operate equipment/instruments in accordance with test method requirements.
		5.5	Follow specified procedures to minimise hazards and/or contamination of samples, self/others, equipment and environment.
		5.6	Perform required measurements and tests on all samples and standards, if appropriate, in accordance with specified methods.
		5.7	Keep accurate, complete and traceable records of all field observations and test results.
6	**Clean, decontaminate and/or dispose of contaminated equipment and materials**	6.1	Inspect equipment to assess the degree of contamination.
		6.2	Use specified procedures to remove material from the exposed outer surfaces of sampling/test equipment and PPE.
		6.3	Use specified procedures and reagents to neutralise, wash and/or rinse exposed surfaces.
		6.4	Collect rinsate blanks for analysis and preserve/store in accordance with specified procedure or standard.
		6.5	Stow items for transport only when thoroughly dry.
		6.6	Safely collect all debris and sullage from decontamination in accordance with relevant regulations and codes.
7	**Finalise site activities**	7.1	Arrange for the safe disposal of all hazardous wastes in accordance with relevant regulations and codes.
		7.2	Ensure all site observations, sampling/test data and results are accurately transferred to the workplace information management system.
		7.3	Store samples in accordance with method, chain of custody requirements and relevant codes, as necessary.
		7.4	Ensure samples are dispatched for analytical testing within recommended holding times.

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8	**Process and interpret data**	8.1	Review test/monitoring data noting atypical observations.
		8.2	Calculate required quantities using relevant test method and ensure values are consistent with expectations.
		8.3	Estimate and document uncertainty of measurement in accordance with workplace procedures, if required.
		8.4	Record processed results in accordance with workplace procedures.
		8.5	Interpret trends in data and/or results and report atypical results promptly to appropriate personnel.
		8.6	Determine if obvious procedure or equipment problems have led to atypical data or results.
		8.7	Compare results with established threshold levels or environmental quality concentration limits, if relevant.
		8.8	Finalise reporting of results in accordance with workplace requirement.
9	**Maintain a safe work environment**	9.1	Clean all equipment, containers, work area and vehicles according to workplace procedures.
		9.2	Check serviceability of all equipment before storage.
		9.3	Use defined safe work practices and PPE to ensure personal safety and that of others.
		9.4	Minimise the generation of wastes and environment impacts.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation, such as the Environment Protection and Biodiversity Conservation Act
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection and impact assessment; and pollution and contaminated sites
- legislation, standards and codes of practice for work health and safety (WHS)
- registration/licensing and/or accreditation requirements
- Australian and international standards covering environmental management (e.g. AS ISO 14050 Environmental management – Vocabulary and AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set); investigation and sampling of sites with potentially contaminated soil (e.g. AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil - Non-volatile and semi-volatile compounds, and AS 4482.2-1999 Guide to the sampling and investigation of potentially contaminated soil - Volatile substances)
- industry guidelines such as: National Environment Protection Measure Assessment of Site Contamination - Schedule B (2) Guideline on data collection, sample design and reporting
- site plans, maps and specifications; methods and procedures for sampling and in-field testing to meet workplace, client and/or regulatory/certifying body requirements; client sampling schemes and sampling plans
- workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; safety data sheets (SDS) and safety procedures; waste minimisation, containment, processing and safe disposal procedures.

Site information includes one or more of:

- location of site, property details, and current and proposed use
- site history details, such as:
  - site plans, zoning and adjacent land use
  - current and previous present owners, occupiers, users and contaminating uses/activities
  - current and previous buildings and structures

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- site industrial processes, raw materials, products, wastes/discharges and waste disposal locations
- product spills/losses, incidents and accidents
- sewer and other utilities/services, plans and previous power sources
- chemical storage and transfer areas
- earth moving activities
- interviews, consultations and complaints.

Sources of information include one or more of:

- government departments, such as Environment, Environmental Protection, Conservation, Primary Industry, Water Resources, Lands and Survey, and Planning
- agencies, such as the Bureau of Meteorology and Geoscience Australia
- libraries and environmental data sets
- companies and employees, community representatives and historical societies.

Visual inspection of the site includes one or more of:

- current uses of site
- disturbed, coloured or stained soil, and bare soil patches
- disturbed or distressed vegetation
- unusual odour
- quality of surface water and surface water drainage
- condition of buildings, floors and roads
- presence of chemical containers and holding tanks
- presence of fill, containment areas, sumps, drains, landfill, and obvious surface hazards, such as asbestos
- underground structures that may be associated with sub-surface contamination
- condition of materials storage/handling facilities, and solid/liquid waste disposal areas
- evidence of off-site migration, on-site spillage of dangerous goods, and staining/sheens on surface water.

Scope and purpose of sampling, field tests and/or monitoring include one or more of:

- determining nature of contamination
- determining concentration and distribution of contamination
- identifying types and concentrations of contaminants for assessing potential exposure levels/risks
- monitoring site conditions to check licence compliance or determine need for remedial action
- rapid analysis of samples that may change between collection

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	and analysis • rapid sample analysis during remediation activities • determining if clean-up has been achieved • screening of samples in the field.
Samples include one or more of:	• air, soil gases and dust • soils • surface water and groundwater • radiation • replicates, field and trip (transport) blanks, rinsate blanks and background samples.

Field tests and monitoring include one or more of:	• soil profile measurements and depth of fill
	• measurement of bores and water depth
	• screening of gas/vapours, soil and water samples using:
	  • colour and texture
	  • bioluminescence/toxicity test kits
	  • colorimetric methods and dye shake tests
	  • pH, electrical conductivity, redox potential, temperature, dissolved oxygen and ammonia concentration
	  • photo ionisation detectors (PID)
	  • flame ionisation detectors (FID)
	  • gas detectors
	  • portable infrared analysers for methane and carbon monoxide (CO)
	  • portable X-ray fluorescence spectrum analyses
	  • field gas chromatography
	  • measurement of radiation.

Safety procedures include one or more of:	• preparation/approval of site health and safety plan for sampling/testing, and safe work permits/approvals • use of safe work method statements, site safety induction, risk cards, ‘step back’ and safety checks, SDS, emergency procedures, and reporting procedures for safety problems • use of (disposable) PPE such as boots, helmets, gloves, eye and ear protection, overalls, face masks and filters, respirators, encapsulated suits, safety harness and safety torches • use of hazardous gas monitors/detectors, personal monitors, environmental monitors and radiation dosimeters, and communication equipment • ensuring two persons are present

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- working upwind of known contaminants
- prohibition of eating, drinking and smoking
- decontamination facilities, procedures and materials for plant, equipment and personnel
- safe collection and disposal of hazardous waste
- clear access for emergency vehicles
- regular medical checks.

WHS and environmental management requirements include:

- compliance with relevant federal/state/territory WHS legislation at all times
- assuming that samples are potentially hazardous and applying standard precautions
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025014A Perform sampling and testing of contaminated sites

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025014 Perform sampling and testing of contaminated sites

Modification History

Release 1. Supersedes and is equivalent to MSS025014A Perform sampling and testing of contaminated sites.

Release 2. Prerequisite code updated. Equivalent outcome.

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- conducting at least **one (1)** visual site inspection to identify a site's key features and potential contamination hazards and to inform the design of subsequent investigation(s)
- safely collecting, preserving and labelling a set of samples from at least **one (1)** contaminated site in accordance with a given sampling plan
- safely preparing (sub)samples and conducting at least **two (2)** different tests/analyses in the field using given test methods
- interpreting and applying regulatory and planning requirements for contaminated sites, site sampling/monitoring plans, sampling/test methods, standards and workplace procedures
- recognising hazards and assessing risks; interpreting and applying health and safety plans and safe work methods, including use of designated safety equipment and personal protective equipment (PPE)
- planning for field activities, including researching and summarising site history and chronology, analysing existing data and/or reports, identifying potential contaminants and possible areas of contamination
- preparing for field activities, including arranging site access, induction, permits, conducting reconnaissance, reviewing safety requirements and securing the resources required
- selecting, checking, packaging and transporting supplies, equipment and instruments to and from the field
- collecting reliable samples in accordance with site sampling plan/methods and paying close attention to any pre-treatment, container, preservation, storage, labelling and traceability requirements
- demonstrating correct and safe use of test equipment and/or analysers including set-up, pre-use checks, calibration and performance checks to obtain reliable data
- recognising atypical results as out-of-normal range or an artefact; identifying and rectifying basic instrument faults
- accurately recording site features, environmental conditions and any observations that may impact on reliability of field data

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- calculating required quantities using appropriate units, precision, uncertainties and/or calibration graphs
- interpreting gross features/trends in data, identifying atypical results and/or comparing results with established threshold levels or environmental quality concentration limits
- seeking advice when issues/problems are beyond scope of competence/responsibility
- writing/compiling concise and accurate reports in accordance with workplace procedures
- maintaining, cleaning and decontaminating equipment and PPE in accordance with workplace procedures
- working safely and following relevant legislative requirements for the disposal of waste and the preservation of the environment.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific terminology covering the sampling/testing of air, water and soil at contaminated sites and relevant to job role
- overview of specific legislation, regulations, standards and codes of practice related to contaminated sites, and threshold levels or environmental quality concentration limits for contaminants
- common site hazard and risks, risk assessment techniques and use of risk cards
- properties and health risks associated with groups of contaminants, such as:
  - asbestos
  - heavy metals, such as lead, chromium and arsenic
  - chemical manufacture and industry wastes, such as acids/alkalis, resins, dyes, paints, solvents, fuels, oils, fertilisers, insecticides, herbicides, fungicides, aromatic hydrocarbons, phenols, chlorinated phenols, chlorinated benzenes and organochlorines
- overview of sampling plan design for contaminated sites, including preliminary sampling, non-targeted/grid sampling, targeted/judgemental sampling, and different sampling strategies for gas, water and soil
- sampling/test methods/standards relevant to site activities undertaken
- function of key instrument components and operating principles of common sampling/test equipment relevant to site activities undertaken
- common procedure/equipment problems leading to atypical data/results
- processes for labelling, ensuring chain of custody/traceability of samples and management of large volumes of data
- data processing, recording and reporting procedures
- hazards, health, safety and environment requirements relevant to site activities undertaken; use of safe work methods, safety equipment and PPE.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.

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- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - inspection of contaminated site samples collected by the candidate
  - review of observations, measurements, test results and calculations provided by the candidate
  - review of sampling/test records and site reports prepared by the candidate
  - feedback from supervisors about the candidate's ability to perform sampling and testing of contaminated sites in accordance with given methods and workplace procedures, work safely and produce reliable results within the agreed timeframe
  - oral and/or written questions to assess the candidate's understanding of the principles of sampling/testing of contaminated sites, risk and safety management at contaminated sites, operation of sampling equipment/test instruments/analysers, processing and analysis of data.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - access to contaminated sites and vehicles
  - appropriate sampling containers, sampling/test equipment, analysers, reagents/consumables, digital camera, global positioning system (GPS), logbooks and data loggers, and/or computers and communication equipment
  - specified PPE, safety equipment and decontamination equipment
  - workplace procedures, work program, maps, site plans, site sampling plans and test methods, standards, environmental data sets, equipment manuals, safety procedures and safe work methods.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR

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- having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025016 Perform sampling and testing of stationary emissions

Modification History

Not applicable.

Application

This unit of competency covers the ability to collect and test gaseous and particulate components in air pollution emissions from stationary sources. Personnel work in pairs with a senior stack tester or air pollution engineer and use specified sampling points and sampling/test methods. They continually monitor hazards and risks in the work area, apply specified safe working procedures and use prescribed safety equipment.

This unit of competency is applicable to environmental technicians in a range of industry sectors, such as environmental services (e.g. sampling and monitoring of air, odour, and air quality consultancy); environmental compliance, auditing and inspection; management of pollution in chemical, food and by-product, mineral process manufacturing and energy production.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Confirm stack sampling/testing requirements with supervisor**	1.1	Confirm the site location, scope and purpose of stack sampling/testing, relevant standards and data requirements.
		1.2	Review available information about the site, its industrial processes, details of sampling/testing locations and any previous sampling/testing results for emissions.
		1.3	Select possible sampling/analyser train configurations to suit type and likely concentration of particulate matter, plant/stack conditions and/or gases of interest.
		1.4	Check that selected sampling/test methods are in accordance with statutory, client or workplace requirements, relevant standards and guidelines.
2	**Assist with site liaison**	2.1	Liaise with site controller to access site.
		2.2	Arrange for induction training, clearances and/or permits, as necessary.
		2.3	Clarify site health and safety hazards/risks, safe work procedures/methods and availability of safe work platform.
		2.4	Negotiate access to stack during suitable process operating conditions for sampling/testing and to minimise impact on normal operations.
		2.5	Negotiate access to site equipment, services, materials and support personnel, as necessary.
		2.6	Confirm schedule for stack sampling/testing activities.
3	**Prepare for stack sampling/testing**	3.1	Review site hazards, risks, specified safe work methods.
		3.2	Review approved health and safety plan covering site sampling/testing activities.
		3.3	Review sampling/testing procedures and methods and equipment configurations with close attention to the sequence of steps and details for each.
		3.4	Select sampling equipment and test instruments and check their operation/calibration in accordance with relevant methods, standards and manufacturer

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			instructions.
		3.5	Ensure all conditioning reagents, solutions and calibration gases, as appropriate, are obtained and ready for field use.
		3.6	Prepare and store filters appropriate for the likely physical and chemical nature of the gases and particulates and in accordance with sampling/test method.
		3.7	Assemble and safely stow all sampling equipment, test instruments, materials, containers and safety equipment.
		3.8	Arrange suitable transport to, from and around site, as required.
4	**Assist with site inspection and preliminary tests**	4.1	Locate the site controller and re-confirm access and suitability of stack conditions.
		4.2	Inspect work platform and check for safe access to existing sampling access holes and electrical services.
		4.3	Transport all required equipment and materials to work platform, check they are fit for purpose and rectify, as necessary.
		4.4	Record the dimensions of the stack and conduct preliminary determinations of temperature, velocity, pressure and moisture content values using relevant methods.
		4.5	Assess suitability/compliance of sampling plane.
		4.6	Assess whether the operating environment will impact on safety or reliability of sampling/testing and make modifications or alternative arrangements as directed.
		4.7	Confirm numbers of samples, sampling positions and times, sampling/test methods and equipment configurations for sampling and in-situ measurements.
5	**Conduct sampling and in-situ tests**	5.1	Set up sampling/analyser train with appropriate sensors, probes, nozzle, conditioning components and detectors in accordance with method.

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		5.2	Allow sufficient time for the system to stabilise.
		5.3	Calibrate analyser in accordance with test method.
		5.4	Operate equipment with close attention to each method step and to maintaining the isokinetic or required sampling/test conditions for each sampling point.
		5.5	Conduct regular leak checks, purging and system performance tests in accordance with method to ensure reliable results.
		5.6	Carefully collect, label and store each sample to minimise loss or contamination and ensure traceability.
		5.7	Accurately record measurements, environmental conditions and any atypical observations that may impact on validity/integrity of samples or test results.
6	**Finalise stack sampling/testing**	6.1	Safely disassemble, clean/decontaminate and re-stow all equipment and materials for transport to base.
		6.2	Transport all samples back to base as soon as practicable and in accordance with workplace procedures, test methods or relevant standards.
		6.3	Ensure all field observations, calibration data, measurements, calculations and results are accurately transferred to workplace information database.
		6.4	Distribute samples for laboratory analysis within specified holding times, if required.
7	**Process and interpret data**	7.1	Review test data noting atypical observations.
		7.2	Calculate required quantities using relevant test method and ensure values are consistent with expectations.
		7.3	Estimate and document uncertainty of measurement in accordance with workplace procedures, if required.
		7.4	Record processed results in accordance with workplace procedures.
		7.5	Interpret trends in data and/or results and report atypical results promptly to appropriate personnel.

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		7.6	Determine if obvious procedure or equipment problems have led to atypical data or results.
		7.7	Compare results with established air quality standards, statutory environmental quality concentration limits or similar, if relevant.
		7.8	Finalise reporting of results in accordance with workplace requirement.
8	**Maintain a safe work environment**	8.1	Clean all equipment, containers, work area and vehicles according to workplace procedures.
		8.2	Check serviceability of all equipment before storage.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation, such as the Environment Protection and Biodiversity Conservation Act, and National Environmental Protection Measures
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection, pollution and contaminated sites
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering environmental management (e.g. AS ISO14000 Basic Set:2007 Environmental Management Basic Set and AS ISO14050 Environmental

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management - Vocabulary); stationary source emissions (e.g. AS 4323 Stationary source emissions series and ISO 10780 Stationary source emissions); and safe work platforms and services (e.g. *AS 1657-2013* Fixed platforms, walkways, stairways and ladders - Design, construction and installation)
- test methods for moisture content of stack gases and stationary source NO_x emissions, such as US Environmental Protection Authority (EPA) Method 4 and Method 7E
- registration/licensing and/or accreditation requirements
- industry guidelines and manuals, such as National Environment Protection Measure (NEPM) (Ambient Air Quality); air quality standards, statutory environmental quality concentration limits
- site plans, maps and specifications; methods and procedures for air sampling and testing to meet workplace, client and/or regulatory/certifying body requirements
- workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; field notebooks or log books; emergency and safety procedures, safety data sheets (SDS); waste minimisation, containment, processing and safe disposal procedures.

Information about site, industrial activities and emissions include one or more of:

- location of site and nearby buildings, topography and meteorological records
- complaints, previous stack testing at site or odour assessments in nearby locations
- industrial process inputs/outputs, process flowchart, unit operations, batch, cyclic or continuous operation, predictable variations in process conditions, production rates and period of operation
- air emission control systems, such as scrubbers, bag filters, stacks and bio filters
- parameters of emission sources, such as location, geometry, release parameters and weather interaction
- previous emissions data, such as:
  - velocity and temperature of pollutant concentration
  - moisture content
  - expected gas composition and likely interfering compounds
  - high vacuum, high pressure and high temperature gas streams
  - corrosive or very reactive components.

Air pollutants include

- inorganic gases, such as:

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one or more of:

- CO and CO_2, NO_x, and SO_x
- acid gases
- H_2S, HCl
- ozone
- chlorine, fluorine and fluorides
- volatile organic liquids and compounds
- particulates, such as:
  - deposited matter
  - suspended matter (PM10, PM2.5, and PM1)
  - particulate fluorides
  - heavy metals.

Stack tests include one or more of:

- measurement of temperature, pressure, velocity and volume flowrate of gas streams
- gas analysis for determination of molecular weight
- determination of moisture content
- determination of particulate matter
- determination of concentration of specific gases in emissions (e.g. O_2, CO_2, SO_2, NO and NO_2).

Hazards include one or more of:

- working on elevated platforms
- exposure to toxic, corrosive or hot gases
- electrical hazards
- trip hazards from cables
- noise or heat from plant equipment
- objects falling from the work platform or into the duct/stack
- flammability hazards.

Safety procedures include one or more of:

- preparation/approval of site health and safety plan for sampling/testing, and safe work permits/approvals
- use of safe work method statements, site safety induction, risk cards, 'step back' and safety checks
- use of safety harness and personal protective equipment (PPE), such as boots, gloves, safety glasses and overalls; two-way radio and mobile phone
- ensuring two persons are present
- monitoring of atmosphere for hazardous gases
- working upwind of known contaminants
- prohibition of eating, drinking and smoking
- separation of heavy equipment into smaller units/cases for

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transport
- testing and earthing of electrical services, generators, trip out devices and connectors
- shielding of hot surfaces and exhausts
- careful handling of glass containers
- reporting procedures for safety problems
- regular medical checks.

Stack sampling and testing equipment include one or more of:

- sampling train with in-stack or out-stack collector and components, such as:
  - sampling nozzles
  - probe tubes (e.g. glass and stainless steel)
  - filters, impingers and desiccators for transport of dry filters
  - flexible bags (e.g. Tedlar, Mylar and Teflon)
  - particulate matter collectors, accessories (e.g. cyclones and filter bags)
  - pre-prepared sample containers (e.g. Dioxin and furans), transport containers, eskies and ice
  - instruments to measure static and differential pressure (e.g. manometer and barometer)
  - sampling flow rate control devices
  - pumps
  - sampling flow meters
  - water removal device (e.g. condenser and silica gel)
  - temperature sensors in stack, duct and gas meters
  - gas velocity instruments (e.g. pitot tube)
  - heating/cooling elements to prevent condensation of probe tube or collectors
- gas analysers (e.g. NO_x, CO, CO_2, O_2 and N_2) with components, such as:
  - sample gas manifolds
  - analyte specific, dual range and low concentration analysers
  - data recorder, data logger and/or computer for real-time analysis
  - reagents and standards (e.g. calibration gases, converter efficiency gases, interference checks and demineralised water)
- sample lines, hoses, ropes, bags and winches
- electrical extension cords
- calibrated rod for measuring stack dimensions
- balance, timers and digital camera

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	• tools and spare access hole plugs • cherry picker.
Sampling/measurement system performance tests include one or more of:	• detecting and rectifying leaks (or reducing them to acceptable levels) • analyser 2 or 3 point calibration tests • NO_2 to NO conversion efficiency checks • system bias checks • system response time check • interference checks • post-run system bias and zero/span drift checks • quality control (QC) runs.
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025016 Perform sampling and testing of stationary emissions

Modification History

Not applicable.

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- planning and safely conducting stack sampling/testing to obtain reliable samples and data on at least two (2) occasions
- planning for field activities, including researching and summarising site history and operations, analysing existing emissions data and/or reports, and identifying gases of interest
- interpreting and applying relevant air quality regulatory requirements, stack sampling/monitoring plans, sampling/test methods and standards, and workplace procedures
- selecting sampling/analyser train configurations to suit type and likely concentration of particulate matter, plant/stack conditions and/or gases of interest, and client or workplace requirements, relevant standards and guidelines
- recognising hazards and assessing risks, interpreting and applying health and safety plans and safe work methods, including use of designated safety equipment and personal protective equipment (PPE)
- preparing for field activities, including arranging access to the site, stack and services; arranging induction and permits; conducting reconnaissance; reviewing safety requirements and securing the resources required; and scheduling stack sampling/testing
- communicating effectively with site personnel and negotiating access and support
- selecting and checking that all supplies, equipment and instruments are fit for purpose, and stowing/transporting them to and from the field
- collecting reliable samples in accordance with site sampling plan/methods and paying close attention to any pre-treatment, container, preservation, storage, labelling and traceability requirements
- operating, maintaining and/or calibrating stack sampling and testing equipment with close attention to each method step to obtain representative stack samples and produce consistently valid and accurate test results
- identifying and rectifying basic instrument faults
- accurately recording measurements, site features and environmental conditions, and any observations that may impact on validity/integrity of samples or test results
- calculating required quantities using appropriate units, precision, uncertainties and/or calibration graphs

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- interpreting gross features/trends in data, identifying atypical results and/or comparing results with established air quality standards and/or statutory environmental quality concentration limits
- seeking advice when issues/problems are beyond scope of competence/responsibility
- maintaining, cleaning and decontaminating sampling, testing and/or PPE in accordance with workplace procedures
- writing/compiling concise and accurate reports in accordance with workplace procedures
- working safely and follow relevant legislative requirements for the disposal of waste and the preservation of the environment.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific terminology used in job role covering atmospheric science, sampling and testing of stationary source emissions
- overview of specific legislation, policies, standards and codes of practice related to air quality/pollution and monitoring of stationary source emissions
- properties of air pollutants, such as:
  - particulates (e.g. inorganics and organics, and metals)
  - inorganic gases (e.g. CO, CO_2, NO_x, SO_x, ammonia, acid rain and halogens)
  - volatile organics
- localised meteorology and dispersion of air pollutants
- ideal gas behaviour, principles of fluid flow through ducts, and effects of bends and orifices
- principles of stationary source emissions sampling (particles, common gases and compounds) and associated sampling equipment
- stack dimensions, source parameters and the selection of sampling planes, number and location of sampling points
- isokinetic conditions, and effect of fluctuations in source parameters on results
- principles of emission monitoring (particles and common gases) and associated analysers
- function of key components, operating principles of common stack sampling/analyser trains
- common procedure/equipment problems leading to atypical data/results
- common process problems leading to atypical test results (e.g. high oxygen readings may indicate a hole in the stack)
- labelling and traceability of samples and management of large volumes of data
- hazards, health, safety and environment requirements relevant to site activities undertaken, including safe work methods and equipment, requirements for safe work platforms and services, use of PPE and handling of waste.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - inspection of stack samples collected by the candidate
  - review of stack measurements, test results, calculations and observations produced by the candidate
  - review of sampling/testing records and reports completed by the candidate
  - feedback from supervisor about the candidate's ability to apply workplace procedures and stack sampling/test methods consistently, work safely and produce results within the agreed timeframe
  - oral and/or written questions to assess the candidate's understanding of the principles of stack sampling/testing, safe operation of stack sampling equipment, set-up and use of test instruments/analysers and processing of data.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - vehicles, stack sampling/test equipment, analysers, reagents, gases, safety equipment, camera and consumables
  - work program, workplace procedures, codes of practice, site maps, site sampling/testing plans and methods, safety procedures, standards and equipment manuals, logbooks, and data loggers and computers.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR

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- having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025017 Assist with assessing site environmental indicators

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to assist environmental scientists and engineers with determining the environmental condition of a site or locality. Personnel are required to locate and assess relevant data sets and reports; interpret the magnitudes and trends in measured environmental parameters; and determine and report on the potential significance for site or locality activities. This includes knowledge of environmental science to interpret measurements involving the atmosphere, biodiversity, land and water.

This unit applies to environmental technicians working in a range of industry sectors, including environmental monitoring, and sampling; environmental compliance, auditing and inspection; groundwater and clean water; water treatment, storm and wastewater management; solid and hazardous waste management; site remediation; management of contaminated sites; geotechnical services and civil engineering; natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS024015 Apply an understanding of environmental principles to a site

Competency Field

Environmental monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Read and interpret existing site or locality information**	1.1	Confirm the scope of the proposed project and details of the site or locality
		1.2	Identify legislative, regulatory and planning requirements
		1.3	Access, read and interpret available information about the site or locality
		1.4	Summarise existing data and relate it to legislative, planning and organisational requirements
2	**Identify relevant environmental indicators for site or locality**	2.1	Determine which environmental indicators and statutory environmental quality concentration limits are relevant to the proposed project and requirements of the site or locality
		2.2	Identify core environmental indicators and collect and collate data
		2.3	Identify statutory environmental quality concentration limits and collect and collate data
		2.4	Identify additional site, locality or project specific environmental indicators and collect and collate data
		2.5	Identify gaps in available data and refer to supervisor for further action
3	**Read and analyse data to establish site condition**	3.1	Ensure compatibility of data sets and seek advice
		3.2	Compare compatible data with core environmental indicators, established standards, regulatory limits, and statutory environmental quality concentration limits
		3.3	Apply environmental chemistry and biodiversity concepts and principles to estimate the environmental health of the site or locality
		3.4	Identify significant trends in environmental data and correlations and differences with indicators
		3.5	Make a final assessment of site condition

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 **Report findings**	4.1 Report the assessment of environmental condition in the required format and expected timeframe
	4.2 Brief supervisor and stakeholders about the environmental assessment process and outcomes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025001 Assist with assessing site environmental indicators.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025017 Assist with assessing site environmental indicators

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- located and analysed environmental data, reports, indicators and limits and used scientific concepts and principles to provide a systematic, reliable appraisal of the environmental condition for at least 1 site or locality.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific terminology relevant to job role, use of environmental indicators, assessment of environmental pollution and environmental degradation
- fundamental concepts and principles in chemistry, physics, geology and biology to support a scientific, systematic approach to the evaluation of environmental degradation
- fundamentals of environmental chemistry, including:
  - natural and modified hydrologic cycle
  - aquatic chemistry in natural and polluted waters
  - water pollutants, including heavy metals, inorganics, organics, nutrients and pesticides
- atmosphere and its composition, structure and circulation
- atmospheric stability and instability, including lapse rates and inversions
- atmospheric pollutants, including particulates, inorganic air pollutants and organic air pollutants
- concepts of climate change
- soil chemistry
- hazardous wastes and toxicological chemistry
- concepts of biodiversity stresses, including:
  - land clearing and loss of habitat
  - threatened and vulnerable species and ecological communities
  - introduced species
- specific legislation, strategies, policies and codes of practice related to environmental pollution and biodiversity
- hazards, health, safety and environment requirements for work role.

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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - State of the Environment Reports, national environment protection measures, ANZECC Core Environmental Indicators documentation
  - environmental databases (electronic, web-based and hardcopy)
  - national and state/territory environmental management strategies, guidelines and regulations
  - documentation, including site information, environmental management plans, codes of practice and workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025018 Assess the environmental risk and impact of a project activity or process

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to evaluate the risks and impacts associated with a specific project activity or process. It includes researching and describing the activity or process and local environment, identifying relevant environmental issues, assessing environmental risks or impacts, and then identifying appropriate environmental management actions and/or alternatives. Personnel will have access to an organisation environmental management plan for the site and/or a checklist to guide risk or impact assessment of the activity or process against organisation, community, and/or legislative requirements.

This unit applies to environmental technicians working in a range of industry sectors, including environmental monitoring, and sampling; occupational hygiene monitoring; groundwater and clean water; water treatment, storm and wastewater management; solid and hazardous waste management; site remediation or rehabilitation; management of contaminated sites; geotechnical services and civil engineering; natural resource management; resource efficiency. They work under the supervision of environmental managers, scientists, engineers and/or planners.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS024015 Apply an understanding of environmental principles to a site

Competency Field

Project management

Unit Sector

Environmental

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Clarify the project activity or process and environmental management framework**	1.1 Review the history of the project activity or process and scope of the required risk and impact assessment
		1.2 Identify legislative, regulatory and licensing requirements
		1.3 Access, read and interpret available information about the site, including organisation environmental management documents or risk assessment guidelines
		1.4 Write a detailed description of all phases of the project or process and the site or project environment
		1.5 Confirm project or process details, risk assessment procedure and risk assessment criteria with supervisor
2	**Identify environmental issues for project activity or process**	2.1 Consult with organisation personnel to identify environmental issues
		2.2 Confirm with supervisor if input from community representatives and environmental specialists is required
		2.3 Identify significant hazards and short and long-term risks associated with the process or project activity
		2.4 Analyse each part of the process or project for impacts on the physical, biological and social components of the local environment and ecological linkages operating at the site
		2.5 Identify both positive and negative impacts
3	**Assess environmental risks and impacts**	3.1 Use agreed assessment criteria to evaluate project activity or process against legislative, regulatory and licensing requirements, site terms and conditions, community values, and organisation environmental management policies and plans

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		3.2	Summarise all significant environmental risks and impacts and the evidence used to justify the assessment
4	**Evaluate alternatives**	4.1	Read and interpret organisation environmental management documents to identify specified methods for controlling risks and minimising impacts at the site
		4.2	Work with relevant personnel and experts to consider alternative solutions
		4.3	Identify amendments to project activities, alternative processes or improved environmental management actions to minimise risks and impacts
		4.4	Identify feasible and economically viable solutions and document the case for adopting them
5	**Report findings**	5.1	Report the assessment of environmental risks and impacts in the required format and expected timeframe
		5.2	Brief supervisor and stakeholders about the environmental assessment process and outcomes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025002 Assess the environmental risk or impact of a project activity or process.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025018 Assess the environmental risk and impact of a project activity or process

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- evaluated the risks and impacts associated with at least 2 different project activities or processes and identified environmental management actions and alternatives in each case.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental terms, concepts and principles relevant to project activities or processes
- environmental management documentation (including environmental impact assessment, environmental impact assessment and public environment report) and environmental assessment process required for new major projects or developments
- roles, functions and responsibilities of environmental officers, environmental scientists, engineers and planners, and regulators
- legislation, regulations, licences and permit requirements for operations at site
- workplace environmental management framework of policy, procedures and management plans for site
- details of project activities or process phases
- typical kinds of impacts of project activities or processes on the physical and ecological environment, infrastructure, land use, social issues and community values
- workplace procedures for identifying and assessing and controlling hazards, risks and impacts associated with project activities or processes on site
- workplace project planning, management and reporting requirements
- hazards, health and safety requirements and workplace safe work procedures for work role.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:

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- organisation environmental management plan for the site or a checklist to guide risk and impact assessment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025019 Report environmental data

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to perform scientific calculations, process and interrogate environmental data sets, analyse trends and uncertainty in data, and report results within the required timeframe. The unit requires personnel to solve problems where alternatives are not obvious and where investigations and trials may be required and the implications of various solutions considered.

This unit applies to environmental technicians working in all industry sectors.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS024016 Process and present environmental data

Competency Field

Data

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Perform scientific calculations**	1.1	Ensure raw data are consistent with expectations and reasonable ranges
		1.2	Calculate scientific quantities involving algebraic, power, exponential and logarithmic functions

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		1.3	Ensure calculated quantities are consistent with estimations
		1.4	Present results using the appropriate units, uncertainties and number of significant figures
2	**Determine variation or uncertainty in data distributions**	2.1	Organise raw data into appropriate frequency distributions
		2.2	Calculate means, medians, modes, ranges and standard deviations for ungrouped and grouped data
		2.3	Interpret frequency distributions to determine the characteristics of the sample or population
		2.4	Calculate standard deviations and confidence limits for means and replicates
		2.5	Estimate the sampling error or uncertainty in data using statistical analysis
		2.6	Determine data acceptability using statistical tests and workplace procedures
3	**Read and interpret data and related statistics**	3.1	Recognise significant trends in data
		3.2	Use standard statistical methods to test for an association or correlation between variables
		3.3	Use standard statistical methods to test hypotheses involving the same variable between samples, samples with more than one variable and for paired samples
		3.4	Verify data interpretation with supervisor
4	**Check for aberrant data sets**	4.1	Identify data that cannot be reconciled with sample, data set and documentation, monitoring procedures and expected outcomes
		4.2	Determine actions in consultation with supervisor
5	**Report data and**	5.1	Use charts, tables and graphs to present summarised data

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analysis		and analysis results in the required format
	5.2	Verify that entry of data and results are correct
	5.3	Clearly identify summary information and any significant trends and problems with data
	5.4	Write reports in a format and style consistent with their intended use and workplace guidelines
	5.5	Communicate results within the specified time and in accordance with workplace confidentiality and security guidelines

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025003 Report environmental data.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025019 Report environmental data

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- analysed environmental data and prepared and communicated at least 1 report, including:
  - storing, retrieving and manipulating environmental data in accordance with workplace procedures and traceability requirements
  - performing calculations with or without a calculator or computer software and presenting accurate results in the required format and timeframe
  - calculating at least 4 scientific quantities relevant to their work
  - using appropriate graphical or statistical methods to analyse given data sets
  - preparing frequency distributions for given data, and calculating and interpreting measures of central tendency and dispersion
  - analysing data to determine relationships between variables and samples.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- characteristics of a valid measurement and valid sample
- sources and estimates of uncertainty in measurements
- role of statistics in the interpretation and analysis of environmental data
- environmental data terminology, including variables, dispersion, central tendency, normal distribution, confidence level and replication, inference, causation, association, correlation and hypothesis
- calculations involving evaluation of formulae containing algebraic, power, exponential and logarithmic functions, measures of central tendency, sum of squares, variance and standard deviation
- preparation and interpretation on linear and non-linear graphs, and frequency distribution plots
- determination of regression line equations and correlation coefficients
- statistical analysis and significance tests, including t-test, analysis of variance (ANOVA), chi squared test and data acceptability tests, including Q, T and Youden
- procedures for ensuring data traceability
- procedures for verifying data and rectifying mistakes

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- procedures for maintaining and filing records and maintaining security of data.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - calculator, computer and relevant software or laboratory information system
  - environmental data sets and records
  - documentation, including user manuals; workplace procedures for recording, processing, storing and reporting environmental data; and test or survey methods.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025020 Provide environmental information to customers

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to respond to internal and external requests for information about environmental management plans, policies, procedures and environmental data. Personnel are required to gather information and supply it to customers in accordance with workplace procedures. Information gathered might include environmental management requirements for specific work activities; revised plans or procedures; sampling or monitoring data; test results and trend analysis.

This unit applies to environmental technicians working in all industry sectors.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Data

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Receive and assess the request for environmental information**	1.1	Confirm and record the source, nature and priority of the customer's request
		1.2	Redirect the request to relevant person
		1.3	Check authority to release information according to workplace procedures and relevant personnel

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2	**Prepare the response**	2.1	Identify sources and locations of required information
		2.2	Resolve any problems with accessing information in consultation with supervisor
		2.3	Extract and copy the required information
		2.4	Check that the information is accurate, complete and reliable and conforms to workplace requirements
		2.5	Address any information gaps or deficiencies by sourcing additional information or obtaining inputs from relevant personnel
		2.6	Keep the customer informed of progress when it is not possible to answer their request within the agreed timeframe
3	**Provide environmental information**	3.1	Write correspondence using clear, concise language and in the specified format
		3.2	Check and revise text to ensure that the intended meaning is not ambiguous
		3.3	Check spelling, punctuation and grammar and correct any errors
		3.4	Select and use communication method according to the priority, cost and confidentiality involved and the customer's facilities
		3.5	Check that the information supplied meets the customer's needs and, if not, take action
4	**Record details of request and response**	4.1	Record all details of the request and information supplied in accordance with workplace procedures
		4.2	Notify other relevant personnel of request and response in accordance with workplace procedures
		4.3	File or store records in the designated place in accordance with workplace procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025004 Provide environmental information to customers.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025020 Provide environmental information to customers

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- provided environmental information in response to at least 3 requests for information, including:
  - applying workplace procedures for the receipt of information requests, release of information and record keeping
  - supplying accurate, reliable information that meets the customer's needs and uses language, style and format that is readily understood
  - preparing written documents that are free from spelling, grammatical and formatting errors
  - providing authorised information within the expected timeframe and confirming the client's understanding.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of environmental information
- environmental protection and management terminology, concepts and principles
- site, project and program characteristics and the nature of activities
- environmental legislative and regulatory requirements relevant to site, project or program within scope of responsibility
- workplace environmental management plans, procedures, control measures and management actions for site, project or program within scope of responsibility
- environmental management values, environmental issues, risks and impacts for site, project or program
- workplace procedures for the receipt of information requests, release of information and record keeping.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025021 Collect and evaluate groundwater data

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to obtain, preserve and transport representative samples of groundwater for laboratory analysis; measure bore conditions; test chemical, physical parameters in the field; and to process data and interpret results. Personnel usually work within an existing sampling or monitoring plan, continually monitor levels of risk and use specified safe working procedures and equipment. They are also required to work closely with drillers during the construction of wells and bores to prevent contamination of samples, obtain logs and manage waste.

This unit applies to environmental technicians in a range of industry sectors, including environmental services (sampling and monitoring of air quality, water, soil and noise); environmental compliance, auditing and inspection; groundwater and clean water (catchments, supply and environmental flows); water treatment, storm and wastewater management; solid and hazardous waste management; management of contaminated sites; site remediation or rehabilitation; geotechnical services and civil engineering; and natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm groundwater data requirements with supervisor**	1.1	Confirm the scope and purpose of sampling and monitoring data requirements
		1.2	Read and interpret available site information, including site plan, bore locations, construction and history of sampling and monitoring
		1.3	Confirm the sampling methods, locations, numbers and types of samples, and duration and frequency of sampling from workplace or client's sampling plan
		1.4	Check that all sampling and testing procedures are in accordance with client or workplace requirements, standards and guidelines
2	**Prepare for groundwater sampling and monitoring**	2.1	Identify site and sampling hazards and review workplace safety procedures
		2.2	Liaise with relevant personnel to arrange site access and obtain all clearances and permits
		2.3	Read and interpret field sampling procedures and sample preparation methods required for specific laboratory analyses
		2.4	Select purging and sampling equipment and sampling conditions to achieve representative samples and preserve sample integrity during collection, storage and transit
		2.5	Obtain and prepare all reagents, solutions, standards and blanks for field use
		2.6	Select field test equipment and instruments and check operation and calibration in accordance with methods, procedures and manufacturer instructions
		2.7	Assemble and stow all sampling equipment, field test equipment, materials, containers and safety equipment
		2.8	Arrange suitable transport to, from and around site
3	**Establish a well**	3.1	Confirm location of well or bore and groundwater

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	or bore for monitoring purposes	monitoring requirements using site sampling and monitoring plan
		3.2 Examine the well or bore area to identify possible hazards
		3.3 Check proposed drilling and construction method will not cause contamination and that casing, drilling fluids and any other materials used in the bore are free of contaminants
		3.4 Check powered and non-powered tools and sampling equipment are cleaned thoroughly before drilling commences
		3.5 Check protective casings and screens are kept in their protective coverings prior to installation
		3.6 Monitor process to accurately log samples and prevent their contamination
4	**Conduct representative sampling of groundwater**	4.1 Locate sampling locations and services at the site and identify possible hazards
		4.2 Conduct sufficient measurements to accurately determine water level and bore depth
		4.3 Record bore and environmental conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity
		4.4 Conduct purging in accordance with defined procedure or method, collect the waste and decontaminate the equipment used
		4.5 Collect required representative samples and ensure all controls, blanks and replicate samples are correctly integrated into the sampling process
		4.6 Record all information and label samples in accordance with chain of custody and traceability requirements
		4.7 Filter and prepare samples to preserve their integrity for subsequent analysis

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	4.8	Secure and transport all samples back to base in accordance with workplace procedures and guidelines
5 **Conduct field testing of groundwater**	5.1	Assemble required monitoring instruments, equipment, and reagents and conduct pre-use checks in accordance with manufacturer instructions
	5.2	Retrieve samples for designated field tests or locate established locations for in-situ testing
	5.3	Set up, calibrate and operate equipment and instruments in accordance with test methods, procedures and manufacturer instructions
	5.4	Take sufficient measurements of groundwater field parameters to obtain reliable data and in accordance with specified methods and procedures
	5.5	Record all field observations and data and transfer accurately to workplace information database
6 **Process and interpret groundwater data**	6.1	Read and interpret test data noting atypical observations
	6.2	Check calculated values are consistent with expectations
	6.3	Estimate and document uncertainty of measurements in accordance with workplace procedures
	6.4	Record and report processed results in accordance with workplace procedures
	6.5	Interpret trends in data and results and report out-of-specification or atypical results promptly to relevant personnel
	6.6	Determine if obvious procedure or equipment problems have led to atypical data or results
	6.7	Compare results with established groundwater quality standards, statutory environmental quality concentration limits
	6.8	Finalise reporting of results in accordance with

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

workplace requirements

7	**Maintain a safe work environment**	7.1	Use defined safe work practices and personal protective equipment (PPE) to ensure personal safety and that of others
		7.2	Rehabilitate sampling site to render it safe and to minimise environmental impact
		7.3	Clean and decontaminate all equipment, containers, work area and vehicles according to workplace procedures
		7.4	Check serviceability of all equipment before storage
		7.5	Minimise the generation of wastes and environment impacts
		7.6	Liaise with relevant personnel for the safe collection of all hazardous wastes for appropriate disposal

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025006 Collect and evaluate groundwater data.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025021 Collect and evaluate groundwater data

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- collected representative samples of groundwater in accordance with a site sampling plan for at least 2 sites
- measured bore conditions and conducted reliable field tests of groundwater parameters on at least 2 sites
- processed and interpreted groundwater data for at least 2 sites.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- terminology used to describe aquifers, drilling and construction of wells and bores, and groundwater sampling and testing procedures
- principles of representative sampling and field testing of common groundwater parameters
- preservation of the integrity of samples
- maintaining identification of samples relative to their source, workplace and legal traceability requirements
- typical values of groundwater parameters, common pollutants and contaminants
- links between quality control, quality assurance, quality management systems and sampling procedures
- workplace procedures dealing with legislative requirements for the handling, labelling and transport of hazardous goods
- site hazards, links between safe work procedures and personal and environmental safety, particularly at high risk sites.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - vehicle transport, sampling equipment, field test equipment, digital camera, containers, reagents, consumables

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- safe work procedures and safety equipment
- workplace procedures, work program, maps, site plans, site sampling plans and test methods, and equipment manuals

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025022 Perform sampling and testing of soils

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to collect soil samples in accordance with a defined sampling plan, prepare the samples for testing, conduct in-field and laboratory testing of the samples and report the results. Personnel are required to check the validity and reliability of data, recognise atypical test data, and troubleshoot common test procedures and equipment problems.

This unit applies to environmental technicians in a range of industry sectors, including geotechnical services and civil engineering; site remediation or rehabilitation; solid and hazardous waste management; natural resource management; management of contaminated sites; environmental services (sampling and monitoring of air quality, water and soil); environmental compliance, auditing and inspection; groundwater and clean water (catchments, supply and environmental flows).

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS024020 Recognise common geological landforms and samples

Competency Field

Sampling and testing

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm soil sampling and testing requirements with supervisor**	1.1	Read and interpret available site information, site plan, sampling and testing locations and history of sampling and testing
		1.2	Confirm the sampling locations, numbers and types of samples, timing and frequency of sampling from workplace or client's sampling plan
		1.3	Check that all sampling and testing procedures are in accordance with client or workplace requirements, standards and guidelines
2	**Prepare for soil sampling**	2.1	Identify site and sampling hazards and review workplace safety procedures
		2.2	Liaise with relevant personnel to arrange site access and obtain all clearances and permits
		2.3	Select sampling equipment and conditions to achieve representative samples and to preserve sample integrity during collection, storage and transit
		2.4	Select field test equipment and instruments and check operation and calibration in accordance with procedures and manufacturer instructions
		2.5	Assemble and check all sampling equipment, field test equipment, materials, containers and safety equipment
		2.6	Arrange suitable transport to, from and around site
3	**Conduct sampling and log soil samples**	3.1	Locate sampling points and any services at the site
		3.2	Work effectively with other site personnel during drilling and excavation operations to collect and log reliable samples
		3.3	Conduct representative sampling in accordance with sampling plan and defined procedures for field and laboratory testing
		3.4	Record all information and label samples in accordance with traceability requirements

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.5	Record environment and any conditions or atypical observations made during sampling that may impact on sample representativeness or integrity
		3.6	Transport all samples back to base according to workplace procedures and codes
4	**Prepare soil samples for testing**	4.1	Prepare sub-samples and back-up sub-samples that are representative of the source
		4.2	Label all sub-samples to ensure traceability and store in accordance with workplace procedures
		4.3	Follow defined preparation and safety procedures to limit hazards or contamination to samples, self, work area and environment
		4.4	Distribute sub-samples to required destinations for testing, maintaining sample integrity, traceability and chain of custody requirements
5	**Conduct physical and chemical soil tests in the field**	5.1	Obtain sample or sub-sample for designated field test
		5.2	Check that all equipment, instruments and reagents are fit for purpose
		5.3	Set up and calibrate instruments to ensure safe operation and valid results
		5.4	Operate equipment and instruments in accordance with test method requirements
		5.5	Perform tests, procedures and observations on all samples and standards in accordance with specified methods
		5.6	Record all field observations and results and ensure that they are accurately transferred to workplace information management system
6	**Conduct physical**	6.1	Obtain sample or sub-sample for designated laboratory

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	and chemical soil tests in the laboratory		test
		6.2	Check that all equipment, instruments and reagents are fit for purpose
		6.3	Set up and calibrate instruments to ensure safe operation and valid results
		6.4	Operate equipment and instruments in accordance with test method requirements
		6.5	Perform tests and procedures on all samples, blanks and standards in accordance with specified methods
		6.6	Record test data noting atypical observations
		6.7	Process the data for samples, standards and blanks in accordance with workplace procedures
		6.8	Enter approved information into workplace information management system
7	**Review results and assess soil suitability for specific purposes**	7.1	Read and interpret results in relation to legislative and client requirements
		7.2	Compare data with required, established and desired parameters to establish suitability for purpose
		7.3	Determine need for remedial action and report to client
8	**Maintain a safe work environment**	8.1	Rehabilitate sampling site to render it safe and to minimise environmental impact
		8.2	Clean all equipment, containers, work area and vehicles according to workplace procedures
		8.3	Check serviceability of all equipment before storage
		8.4	Use defined safe work practices and personal protective equipment (PPE) to ensure personal safety and that of others
		8.5	Minimise the generation of wastes and environment

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	impacts
	8.6 Ensure the safe collection of all hazardous wastes for disposal

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025007 Perform sampling and testing of soils.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025022 Perform sampling and testing of soils

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- collected, preserved and labelled a set of representative soil samples for at least 1 site in accordance with a given sampling plan
- prepared soil samples and conducted at least 1 chemical test and 1 physical test in the field using given test methods
- prepared soil samples and conducted at least 1 chemical test and 1 physical test in a laboratory using given test methods.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific terminology used in job role covering soil sampling and testing
- fundamentals of soil morphology, including soil profiles, horizons, structure and texture, and mineralogy
- chemical and physical soil testing
- (Australian) soil classification system
- fundamentals of soil formation
- land use and soil systems (interactions and impacts), including plant-soil interactions, soil fertility, soil contamination and remediation
- fundamentals of geomorphology, including erosion and mass wasting; transportation and deposition, sedimentation; fluvial, aeolian, hillslope and weathering processes
- fundamentals of soil chemistry, soil salinity
- physical, engineering soil properties, including:
  - colour (Munsell chart)
  - liquid and plastic limits
  - linear shrinkage
  - soil particle density
  - particle size distribution
  - dispersion and Emerson class number
- fundamentals of sampling, including:
  - sampling plans and site selection

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  - principles of representative samples
  - principles and procedures for random, systematic, stratified and composite sampling; consistency of sampling procedures
  - preservation of the integrity of samples
  - maintaining identification of samples relative to their source, workplace and legal traceability requirements
  - cost-effectiveness of sampling
- characteristics of soils to be sampled and likely contaminants
- materials for sampling and different types of samples
- sampling tools and equipment
- testing equipment and instruments
- links between quality control, quality assurance, quality management systems and sampling procedures
- workplace procedures dealing with legislative requirements for the handling, labelling and transport of hazardous goods
- site hazards, links between safe work procedures and personal and environmental safety, particularly at high risk sites.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - vehicle transport, soil sampling equipment, field test equipment, digital camera, containers, reagents, consumables
  - equipment and instruments for laboratory based soils testing
  - safe work procedures and safety equipment
  - workplace procedures, work program, maps, site plans, site sampling plans and test methods, and equipment manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS025023 Plan and conduct environmental project work

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to plan and conduct a small scale, low risk, measurement-based environmental project. This includes developing and confirming a project brief and plan with supervisor; executing and documenting the project, and evaluating the outcomes.

This unit applies to environmental technicians working in all industry sectors. Personnel may work individually, or as part of a team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Project management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Scope project with supervisor**	1.1 Clarify project aim, objectives and timeframe
		1.2 Identify intended outcomes, key stakeholders, drivers and likely constraints
		1.3 Identify key activities, milestones and resources required to achieve deliverables on time

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Agree on performance indicators to monitor project progress and acceptance criteria for deliverables
2	**Write project plan in consultation with supervisor**	2.1	Read and interpret legislation, standards, codes, procedures and workplace requirements
		2.2	Locate and read background information to inform the development of project methodology
		2.3	Analyse risks for all aspects of project work
		2.4	Develop strategies for conducting the project, including alternative measurement methods
		2.5	Outline feasible and measurable project objectives, selected methodology, outputs and the roles and responsibilities of participants
		2.6	Develope integration and sequencing of tasks as part of optimising work breakdown structure
		2.7	Write and present draft project plan and work schedule to supervisor for review and approval
3	**Review project methodology**	3.1	Conduct trials to refine methodology and provide proof of concept
		3.2	Troubleshoot equipment and methodology problems and develop and test solutions in consultation with supervisor
		3.3	Modify draft project plan
		3.4	Document all accepted and rejected ideas or prototypes from trials
		3.5	Communicate plan to other participants
4	**Execute project plan and analyse**	4.1	Execute project activities in accordance with plan
		4.2	Safely operate measurement equipment and instruments

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	outcomes	in accordance with manufacturer requirements, test methods and workplace procedures
	4.3	Obtain data using specified methods and in accordance with safety and legislative, regulatory and workplace requirements
	4.4	Record and store data in agreed formats
	4.5	Recognise anomalous results and investigate causes
	4.6	Evaluate data using specified quality criteria and reference materials
	4.7	Use mathematical, statistical and graphical methods and software to analyse and present results
	4.8	Report results using the appropriate accuracy, precision and units
5 **Finalise project**	5.1	Provide progress reports and project outputs on time and at the required quality standard
	5.2	Evaluate the project process and outputs in comparison with the project objectives and performance criteria
	5.3	Identify any issues and opportunities for improvement
	5.4	Write project reports containing the required information and using the agreed style, voice and format
	5.5	Complete and store all project documentation
	5.6	Present final report of project process and outcomes to supervisor

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS025015 Plan and conduct environmental project work.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS025023 Plan and conduct environmental project work

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- scoped, planned, executed, analysed and finalised at least 1 small scale, low risk, measurement-based environmental project (either individually, or as part of a team).

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental and measurement terms, concepts and principles
- legislative, regulatory and workplace requirements that apply to assigned project activities
- workplace and regulator sampling, monitoring and testing procedures that apply to assigned project activities
- project management principles and tools for project planning and monitoring of timelines, expenditure and performance
- techniques for achieving effective communication, teamwork and cooperation
- techniques for troubleshooting, problem solving and conflict resolution
- workplace project planning, management and reporting requirements
- workplace procedures for identifying and assessing and controlling hazards and risks associated with project activities
- hazards, health and safety requirements and safe work procedures for work role.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - site or project history, background information
  - project management procedures, tools and software
  - physical resources required for work activities, including safety equipment
  - workplace procedures, work program, maps, site plans, site sampling plans and specified sampling and test methods, equipment manuals and safe work procedures.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027006 Coordinate water quality management activities

Modification History

Release 1. Supersedes and is equivalent to MSS027006A Coordinate water quality management activities.

Release 2. Prerequisite code updated. Equivalent outcome.

Application

This unit of competency covers the ability to oversee the day-to-day water quality management activities for a site, project or an ongoing program. Personnel are required to interpret and implement a water quality management plan, organise specified management activities, verify the quality of monitoring data and investigate and rectify unexpected or unacceptable results, monitor compliance with relevant water quality objectives or standards and provide reports. They work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

This unit of competency is applicable to environmental site coordinators, environmental managers and senior environmental officers working in a range of industry sectors, such as environmental services involved with sampling, monitoring and/or management of surface water, groundwater, stormwater or wetlands; and environmental compliance, auditing and inspection. Note that the term 'manager' is used to refer to management of a function, project and/or program and does not necessarily imply line management.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSS024018 Perform sampling and testing of water

Competency Field

Management

Unit Sector

Environmental

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm scope of water quality management**	1.1	Review legislative, regulatory and licensing requirements and approvals that apply to site/project/program.
		1.2	Review current water quality management plan, including objectives, known issues, specified management activities and any required changes.
		1.3	Review previous water quality records and reports, if available.
		1.4	Confirm that water quality monitoring sites, sampling and measurement methods, instrumentation and workplace procedures are in accordance with relevant standards and guidelines.
		1.5	Clarify own scope of responsibility/authority for achieving specific outcomes and the roles of other key personnel.
		1.6	Identify resources available to conduct water quality management activities.
2	**Organise water quality management activities**	2.1	Develop a consolidated schedule to ensure all activities can be conducted efficiently with the available resources.
		2.2	Develop checklists/clear work instructions to enable personnel to perform assigned tasks efficiently and with minimal errors.
		2.3	Ensure that personnel who conduct monitoring and/or collect water samples are competent to undertake their assigned tasks.
		2.4	Ensure water quality monitoring equipment is regularly calibrated and maintained and that adequate stocks of consumables are available.
		2.5	Ensure water samples are handled in accordance with the sampling method and chain of custody requirements and dispatched promptly for analysis.

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		2.6	Conduct, or arrange for, regular site inspections to monitor the effectiveness of water quality management actions (if relevant to site/project/program).
		2.7	Advise relevant personnel when specified water quality management actions are not being implemented effectively (if relevant to site/project/program).
		2.8	Conduct, or arrange for, additional monitoring/inspections after atypical events, legitimate complaints or government requests.
3	**Verify water quality data**	3.1	Identify relevant job instructions, data and technical records in workplace information management system.
		3.2	Confirm that technical records provide sufficient information to ensure traceability/chain of custody for the monitoring activities involved.
		3.3	Compare monitoring data with expected values and identify any outliers.
		3.4	Inspect data records to identify any gaps and to check the integrity of data entry, transfers, alterations and calculations.
		3.5	Notify manager when data is incomplete or contains significant errors, and clarify what action to take.
4	**Determine if results are acceptable and within expectation**	4.1	Compare results with expected and/or relevant guideline values and identify any significant differences or trends.
		4.2	Check the reliability of results by examining data or results from repeat measurements and/or tests of duplicate samples or other monitoring stations.
		4.3	Assess the significance of any recorded observations of atypical environmental or meteorological conditions.
		4.4	Check that all calculations are free from error.
		4.5	Check that estimations of uncertainty are reasonable and consistent with the sampling method and relevant guidelines, if relevant.
		4.6	Report results that meet workplace data quality

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			standards and are consistent with expectations.
5	**Investigate/rectify unexpected or unacceptable results**	5.1	Examine records of pre-use checks and calibration performance to ensure that the sampling equipment and/or monitoring/test instruments used meet specifications and workplace requirements.
		5.2	Establish whether human, environmental and/or meteorological factors could have affected the reliability of results.
		5.3	Check for obvious sources of interference that may have occurred during measurements or analysis of samples.
		5.4	Retrieve stored samples (if available) and assess whether they are atypical or contaminated.
		5.5	Arrange for control tests using the same or new samples to check unexpected results, if relevant.
		5.6	Report unexpected results that meet workplace data quality standards.
		5.7	Identify possible root causes of unacceptable results and appropriate preventative/corrective actions.
		5.8	Report investigation outcomes and recommendations for improvements in accordance with workplace procedures.
		5.9	Seek manager's advice when challenges are beyond own technical competence or when input from environmental specialists may be required.
6	**Keep management informed about water quality performance**	6.1	Provide regular reports about water quality, including instances of potential/actual non-conformance, incidents and the actions taken in each case.
		6.2	Report opportunities and recommendations for improvements in water quality monitoring or management in accordance with workplace procedures.
7	**Maintain water quality records**	7.1	Ensure all water quality records are legible, accurate and satisfy workplace/legislative requirements.

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7.2 Store water quality records to enable easy access and review by authorised personnel in accordance with workplace procedures.

7.3 Regularly review water quality records to identify any significant trends and impacts.

7.4 Identify any problems with the maintenance and security of water quality records and resolve them promptly.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation such as the Environment Protection and Biodiversity Conservation Act, and National Environmental Protection Measures
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use; environmental protection; water and water management; pollution and contaminated sites; fisheries, forestry and mining operations
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering environmental management (e.g. AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set), sampling and analysis of water (e.g. AS 2031 Water quality, AS 3550 Waters series, AS/NZS 4276 Water microbiology series, and AS/NZS 5667 Water quality – Sampling series)
- industry methods and guidelines, such as US Environmental Protection Authority (EPA) Methods and guidance for the analysis of water, American Public Health Association (APHA) Standard methods for the examination of waters and

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wastewaters, ANZECC Guidelines for fresh and marine water quality, and Australian guidelines for water quality monitoring and reporting
- registration/licensing and/or accreditation requirements
- site-specific requirements; workplace procedures for sampling, monitoring and in-field testing; recording, processing, presenting and reporting data
- workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; safety data sheets (SDS) and safety procedures; waste minimisation, containment, processing and safe disposal procedures

Water quality measurement parameters (field and laboratory) include one or more of:

- physical and chemical tests, such as:
  - temperature
  - electrical conductivity
  - phosphorus (total and soluble reactive)
  - nitrogen (nitrate, organic, ammonia and Kjeldahl)
  - ratio of total phosphorus to total nitrogen
  - total organic carbon (TOC)
  - dissolved organic carbon (DOC)
  - biological oxygen demand (BOD)
  - chemical oxygen demand (COD)
  - true colour (Pt/Co units)
  - turbidity
  - Secchi disk depth
  - total suspended solids
  - volatile suspended solids
  - chlorophyll and phaeophytin
  - pH
  - silica
  - metals (total and dissolved)
  - organic and inorganic pollutants
  - microorganisms
- ecotoxicological tests, such as:
  - toxicity tests (bioassays) using bacteria, algae, invertebrates and fish
  - use of biomarkers and bioaccumulation
  - ecological assessment (e.g. Australian River Assessment System (AUSRIVAS) for rapid assessment of health using

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macro invertebrates).

Sampling and field monitoring equipment include one or more of:	• bottle sampling containers (e.g. glass, polyethylene and plastic) • pumping systems for shallow depths, depth samplers, automatic samplers and integrating samplers • groundwater sampling systems • sediment sampling systems • samplers for aquatic organisms, such as nets, traps, cages, hose pipe, sticks and modified brushes • reagents, such as acid washes, electrode filling and storage solutions, and preservatives • filters, such as membrane, microfiber and paper • parameter specific meter or multi-probes (e.g. dissolved oxygen, electrical conductivity, pH, turbidity, nitrates, phosphates and temperature) • field test kits to determine such parameters as dissolved gases, chemical anions and cations, heavy metals, E. coli and BOD • portable colorimeters, field microscopes • data loggers and global positioning system (GPS).
Water quality reports include one or more of:	• weekly and monthly environmental reports • non-conformance report form • contributions to regulatory agency reports as required by permit, approval or licence conditions.
Water quality records include one or more of:	• digital photographs of water quality monitoring sites • data files • records required by permit, approval or licence conditions • records of monitoring equipment purchase, calibration, inspection, maintenance and service • records of complaints and government requests • records of water quality non-conformances, incidents or significant impacts • contractor and supplier information • internal quality/environmental audit reports • electronic/hard copy correspondence • records of approved expenditure and orders.
Water quality management actions include one or more	• correct handling and storage of chemicals and fuels to prevent spills to wetlands and stormwater system • minimising water consumption through substitution, water

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of:	efficient devices and recycling/reuse • scheduling of works to enable disturbed areas to be promptly re-vegetated or stabilised progressively • regular inspection and maintenance of sediment control structures and stormwater drainage pits • keeping stormwater run-off free of litter, gross pollutants and contaminants • diversion of clean run-off away from disturbed areas • use of vegetated swale drains and filter strips • use of erosion control structures, such as silt fences, sand bags and geofabric wrapped hay bales • checking water for contaminants before disposal • controlling the timing, frequency and magnitude of water releases from the site • controlling access of feral/stock and domestic animals to wetlands • limiting disturbance of wetlands, riparian areas and drainage channels by vehicles and/or boats.
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027006A Coordinate water quality management activities

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027006 Coordinate water quality management activities

Modification History

Release 1. Supersedes and is equivalent to MSS027006A Coordinate water quality management activities.

Release 2. Prerequisite code updated. Equivalent outcome.

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- planning and implementing the day-to-day water quality management activities for at least **one (1)** site, project or ongoing program
- accessing, interpreting and applying relevant legislative/regulatory requirements, standards, codes, guidelines and manuals
- explaining relevant water quality standards and management plans, sampling/monitoring methods, equipment operating procedures and workplace water quality management actions
- verifying the accuracy and completeness of water quality data, results and technical records
- using statistical tests (e.g. to determine data acceptability, estimate uncertainties, examine trends and infer basic relationships)
- investigating unexpected or unacceptable water quality results in a logical and efficient manner to identify possible root causes
- seeking advice when issues/problems are beyond scope of competence/responsibility
- recommending appropriate preventative/corrective actions to control potential/actual non-conformances or incidents
- responding effectively to complaints and requests for information
- providing accurate, complete and timely reports of water quality performance and identifying opportunities for improvements
- maintaining water quality records in accordance with legislative/licensing/workplace requirements
- working safely and monitoring the safety of others.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- water quality management terminology, concepts and principles used in job role
- legislative/regulatory requirements, standards, codes and guidelines dealing with water quality

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- workplace water quality management plans and procedures, common water quality issues, control measures and mitigation/management actions
- measurement parameters for waters, sediments or biota relevant to site/project/program
- detailed scientific and technical knowledge of the samples, sampling/monitoring methods, equipment, materials and instrumentation used to generate the water quality data, including calibration, fault-finding and troubleshooting
- expected values for water quality parameters, relevant ANZECC guidelines, and statutory environmental quality concentration limits or similar
- problem-solving techniques and cause analysis
- impacts of common human, environmental and/or meteorological factors on data quality
- sources of interference, uncertainty, limitations of methods and sources of variability
- workplace procedures for identifying/assessing environmental risks/impacts, responding to complaints and environmental incidents, and record management and reporting water quality data
- interpersonal communication, negotiation and conflict resolution techniques
- relevant hazards, health, safety and workplace emergency response procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of water quality management data files, results and records verified by the candidate
  - review of work schedules, checklists/clear work instructions, water quality performance reports prepared by the candidate
  - feedback from manager and/or site personnel regarding the candidate's ability to safely coordinate day-to-day water quality management activities
  - oral and/or written questions to assess the candidate's understanding of procedures governing the validation of data, acceptability of data/results, sources of water quality data variability, interferences and uncertainty, and relevant preventative or corrective actions

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  - analysis of case studies/reports of water quality management issues and incidents relevant to the candidate's job role.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit including, but not limited to:
  - site/project/program history
  - relevant legislation, codes and standards; workplace environmental management policies, plans, actions, procedures, checklists and equipment manuals; sampling methods and description of monitoring set-up
  - water quality data sets, records and reports, computer and relevant software or workplace information management system
  - water sampling and testing equipment.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027007 Coordinate air quality management activities

Modification History

Release 1. Supersedes and is equivalent to MSS027007A Coordinate air quality management activities

Application

This unit of competency covers the ability to oversee the day-to-day air quality management activities for a site, project or an ongoing program. Personnel are required to interpret and implement an air quality management plan, organise specified management activities, verify the quality of monitoring data and investigate and rectify unexpected or unacceptable results, monitor compliance with relevant air quality objectives or standards and provide reports. They work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

This unit of competency is applicable to environmental site coordinators, environmental managers and senior environmental officers working in a range of industry sectors, such as environmental services involved with sampling and monitoring of ambient air, indoor air and workplace air parameters; environmental compliance, auditing and inspection. Note that the term 'manager' is used to refer to management of a function, project and/or program and does not necessarily imply line management.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSS025009	Perform sampling and testing of air OR
MSS025016	Perform sampling and testing of stationary emissions

Competency Field

Management

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Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm scope of air quality management activities with manager**	1.1	Review legislative, regulatory and licensing requirements and approvals that apply to site/project/program.
		1.2	Review current air quality management plan, including objectives, known issues, specified management activities and any required changes.
		1.3	Review previous air quality records and reports, if available.
		1.4	Confirm that site set-up, sampling methods, instrumentation and workplace procedures are in accordance with relevant standards and guidelines.
		1.5	Clarify own scope of responsibility/authority for achieving specific outcomes and the roles of other key personnel.
		1.6	Identify resources available to conduct air quality management activities.
2	**Organise air quality management activities**	2.1	Develop a consolidated schedule to ensure all activities can be conducted efficiently with the available resources.
		2.2	Develop checklists/clear work instructions to enable personnel to perform assigned tasks efficiently and with minimal errors.
		2.3	Ensure that personnel who conduct sampling, monitoring and/or field testing are competent to undertake their assigned tasks.
		2.4	Ensure air sampling/monitoring/testing equipment is regularly calibrated and maintained and that adequate stocks of consumables are available.

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		2.5	Ensure air samples are handled in accordance with the sampling method and chain of custody requirements and dispatched promptly for analysis.
		2.6	Arrange for source emission testing according to licence requirements (if relevant to site/project/program).
		2.7	Conduct, or arrange for, regular site inspections to monitor the effectiveness of air quality management actions (if relevant to site/project/program).
		2.8	Advise relevant personnel when specified air quality management actions are not being implemented effectively (if relevant to site/project/program).
		2.9	Conduct, or arrange for, additional monitoring/inspections after atypical events, legitimate complaints or government requests.
3	**Verify air quality data**	3.1	Identify relevant job instructions, data and technical records in workplace information management system.
		3.2	Confirm that technical records provide sufficient information to ensure traceability/chain of custody for the monitoring activities involved.
		3.3	Compare data with expected values and identify any outliers.
		3.4	Inspect data records to identify any gaps and to check the integrity of data entry, transfers, alterations and calculations.
		3.5	Notify manager when data is incomplete or contains significant errors, and clarify what action to take.
4	**Determine if results are acceptable and within expectation**	4.1	Compare results with expected values and/or relevant standards and identify any significant differences or trends.
		4.2	Check the reliability of results by examining data or results from other monitoring stations, repeat measurements and/or tests of duplicate samples.
		4.3	Assess the significance of any recorded atypical

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			environmental or meteorological conditions.
		4.4	Check that all calculations are free from error.
		4.5	Check that estimations of uncertainty are reasonable and consistent with the sampling method, relevant standards or guidelines.
		4.6	Report results that meet workplace data quality standards and are consistent with expectations.
5	**Investigate/rectify unexpected or unacceptable results**	5.1	Examine records of pre-use checks and calibration performance to ensure that the sampling equipment, reagents/standards and/or monitoring/test instruments used meet specifications and workplace requirements.
		5.2	Establish whether human, environmental and/or meteorological factors could have affected the reliability of results.
		5.3	Check for obvious sources of interference that may have occurred during measurements or analysis of samples.
		5.4	Retrieve stored samples (if available) and assess whether they are atypical or contaminated.
		5.5	Arrange for control tests using the same or new samples to check unexpected results, if relevant.
		5.6	Report unexpected results that meet workplace data quality standards.
		5.7	Identify possible root causes of unacceptable results and appropriate preventative/corrective actions.
		5.8	Report investigation outcomes and recommendations for improvements in accordance with workplace procedures.
		5.9	Seek manager's advice when challenges are beyond own technical competence or when input from environmental specialists may be required.
6	**Keep management informed about**	6.1	Provide regular reports about air quality performance including instances of potential/actual non-conformance and incidents and the actions taken in each case.

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	air quality performance	6.2	Report opportunities and recommendations for improvements in air quality monitoring or management in accordance with workplace procedures.
7	**Maintain air quality records**	7.1	Ensure all air quality records are legible, accurate and satisfy workplace/legislative requirements.
		7.2	Store air quality records to enable easy access and review by authorised personnel in accordance with workplace procedures.
		7.3	Regularly review air quality records to identify any significant trends and impacts.
		7.4	Identify any problems with the maintenance and security of air quality records and resolve them promptly.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:	• federal legislation such as the Environment Protection and Biodiversity Conservation Act, and National Environmental Protection Measure (Ambient Air Quality) • state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, environmental protection, pollution and contaminated sites, and mining operations • legislation, standards and codes of practice for work health and safety (WHS) • Australian and international standards covering environmental

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	management (e.g. AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set), sampling and analysis of air (e.g. AS/NZS 3580 Methods for sampling and analysis of ambient air series, AS 2365 Methods for the sampling and analysis of indoor air series), and air quality (e.g. AS 2986 Workplace air quality series) • registration/licensing and/or accreditation requirements • site-specific requirements; workplace procedures for sampling; monitoring and in-field testing; recording, processing, presenting and reporting data • workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; safety data sheets (SDS) and safety procedures; waste minimisation, containment, processing and safe disposal procedures.
Air quality management activities include one or more of:	• ambient air monitoring or source emission testing • determination of sampling point locations, sampling methods, number and type of samples, duration and frequency of sampling • specification of site sampling plans • specification of site equipment, such as instruments, and sampling ports/platforms to meet quality and safety requirements • arranging/conducting the set-up, calibration, (re)configuration, maintenance and troubleshooting of equipment • liaison with site personnel to coordinate process operations and sampling programs to ensure representative results • instruction and auditing of personnel to ensure monitoring, sampling and testing methods or procedures are followed • analysis and verification of results • investigation of unexpected and unacceptable results, including non-compliances • liaison/negotiation with regulators about licence conditions, and explanation of results and non-compliances • specification of air quality management actions for sites • site inspections to monitor the effectiveness of air quality management actions.

Ambient air parameters include one or more of:	• inorganic gases, such as:
	  • CO, CO_2, NO_x and SO_x
	  • acid gases

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- H_2S
- ozone
- fluorides

- organic gases such as:
  - methane and non-methane hydrocarbons
  - poly-aromatic hydrocarbons (PAHs)
  - organic oxidants and other photochemical smog compounds (e.g. poly-aromatic nitrates (PANs))
- air toxics, such as:
  - benzene, toluene and xylenes
  - formaldehyde
  - Benzo(a)pyrene (PAH marker)
- particulates, such as:
  - deposited matter
  - suspended matter (PM_{10}, $PM_{2.5}$ and PM_1)
  - particulate fluorides
  - lead.

Indoor air parameters include one or more of:

- inorganic gases, such as:
  - CO, CO_2 and NO_x
  - radon
- organic gases, such as:
  - formaldehyde
  - PAHs
  - organic oxidants and other photochemical smog compounds (e.g. PANs)
- particulates, such as:
  - suspended matter (PM_{10}, $PM_{2.5}$ and PM_1)
  - microorganisms and spores.

Occupational (workplace) air parameters include one or more:

- chemicals listed in the '*Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'*. Concentration levels for action are:
  - peak
  - short term exposure limit (STEL)
  - time weighted average (TWA).

Sampling equipment includes one or more

- gas sample bags and gas sample bottles/containers
- gas pipettes and gas syringes

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of:	• air sampling pumps • sampling manifolds • passive diffusion samplers • impingers (with absorption solutions) • solid adsorbents • colour detection tubes • coated and uncoated filters • sampling trains in continuous gas monitors • pitot tubes • high volume samplers • dichotomous samplers • gas flow meters.
Testing equipment includes one or more of:	• continuous gas monitors • ultraviolet (UV) absorption (e.g. ozone) • chemiluminescence (e.g. NO_x) • pulsed fluorescence (e.g. (SO_x) • non-dispersive Infrared (e.g. CO) • flame ionisation detection (FID) (e.g. methane) • photo ionisation detection (PID) • integrating nephelometer methodologies (e.g. suspended particulates) • oxygen sensors (e.g. zirconia) • gas chromatographs • mass spectrometers • atomic absorption spectrophotometers • infrared spectrophotometers • UV-visible spectrophotometers • tapered element oscillating microbalance (TEOM) • beta gauges • particle counters • portable (handheld) gas monitors.
Air quality reports include one or more of:	• weekly and monthly environmental reports • non-conformance report form • contributions to regulatory agency reports (where required by permit, approval or licence conditions).
Air quality records include one or more	• digital photographs of air quality monitoring sites • data files

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of:	• records required by permit, approval or licence conditions • records of monitoring equipment purchase, calibration, inspection, maintenance and service • records of complaints and government requests • records of air quality non-conformances, incidents or significant impacts • contractor and supplier information • internal quality/environmental audit reports • electronic/hard copy correspondence • records of approved expenditure and orders.
Air quality management actions include one or more of:	• use of adsorbers, filters and scrubbers • use of water and/or enclosing transfer points, operating equipment and discharge points to reduce dust • covering and/or watering stockpiles when not in use • keeping vehicle movements to engineered routes • using appropriate dust suppressants • limiting clearance/excavation areas to minimise ground disturbance • using mulch or vegetation cover to stabilise soils • prohibiting the burning of vegetation or waste • limiting or ceasing activities (e.g. dusty work) during unfavourable weather conditions (e.g. high wind) • use of wind breaks and wind fences to prevent migration of dust.
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027007A Coordinate air quality management activities

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027007 Coordinate air quality management activities

Modification History

Release 1. Supersedes and is equivalent to MSS027007A Coordinate air quality management activities

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- planning and implementing the day-to-day air quality management activities for at least one (1) site, project or ongoing program
- accessing, interpreting and applying relevant legislative/regulatory requirements, standards, codes, guidelines and manuals
- explaining relevant air quality standards and management plans, sampling/monitoring methods, equipment operating procedures and workplace air quality management actions
- verifying the accuracy and completeness of air quality data, results and technical records
- using statistical tests (e.g. to determine data acceptability, estimate uncertainties, examine trends and infer basic relationships)
- investigating unexpected or unacceptable air quality results in a logical and efficient manner to identify possible root causes
- seeking advice when issues/problems are beyond scope of competence/responsibility
- recommending appropriate preventative/corrective actions to control potential/actual non-conformances or incidents
- responding effectively to complaints and requests for information
- providing accurate, complete and timely reports of air quality performance and identifying opportunities for improvements
- maintaining air quality records in accordance with legislative/licensing/workplace requirements
- working safely and monitoring the safety of others.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- air quality management terminology, concepts and principles used in job role
- types and properties of air pollutants relevant to job role, such as particulates, inorganic gases, organic gases, photochemical smog and greenhouse gases
- legislative/regulatory requirements, standards, codes and guidelines dealing with air quality
- workplace air quality management plans and procedures, common air quality issues, control measures and mitigation/management actions

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- detailed scientific and technical knowledge of the samples, sampling/monitoring methods, equipment, materials and instrumentation used to generate the air quality data, including calibration, fault-finding and troubleshooting
- expected values for air quality parameters, relevant national environment protection measure standards and goals, or statutory environmental quality concentration limits or similar
- problem-solving techniques and cause analysis
- impacts of common human, environmental and/or meteorological factors on data quality
- sources of interference, uncertainty, limitations of methods, purpose of reference conditions and sources of variability (e.g. stack conditions)
- workplace procedures for identifying and assessing environmental risks/impacts, responding to complaints and environmental incidents, record management and reporting air quality data
- interpersonal communication, negotiation and conflict resolution techniques
- relevant hazards, health, safety and workplace emergency response procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of air quality data files, results and records verified by the candidate
  - review of work schedules, checklists/clear work instructions, and air quality performance reports prepared by the candidate
  - feedback from manager and/or site personnel regarding the candidate's ability to safely coordinate day-to-day air quality management activities
  - oral and/or written questions to assess the candidate's understanding of procedures governing the validation of data; acceptability of data/results; sources of air quality data variability, interferences and uncertainty; and relevant preventative or corrective actions
  - analysis of case studies/reports of relevant air quality management issues and incidents relevant to the candidate's job role.

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- Access is required to all instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit including, but not limited to:
  - site/project/program history
  - relevant legislation, codes and standards; workplace environmental management policies, plans, actions, procedures, checklists and equipment manuals; sampling methods and description of monitoring set-up
  - air quality data sets, records and reports; computer and relevant software or workplace information management system
  - air sampling and testing equipment.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027008 Coordinate noise management activities

Modification History

Release 1. Supersedes and is equivalent to MSS027008A Coordinate noise management activities

Application

This unit of competency covers the ability to oversee the day-to-day noise management activities for a site, project or ongoing program. Personnel are required to interpret and implement a noise monitoring plan, organise specified monitoring activities, verify the quality of monitoring data and investigate and rectify unexpected or unacceptable results, monitor compliance with relevant noise standards/limits and provide reports. They work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

This unit of competency is applicable to environmental site coordinators, environmental managers and senior environmental officers working in a range of industry sectors, such as environmental services involved with sampling, monitoring and/or control of noise; environmental compliance, auditing and inspection. Note that the term 'manager' is used to refer to management of a function, project and/or program and does not necessarily imply line management.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSS025008 Monitor and evaluate noise

Competency Field

Management

Unit Sector

Environmental

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm scope of noise management activities with supervisor**	1.1	Review legislative, regulatory and licensing requirements and approvals that apply to site/project/program.
		1.2	Review current noise monitoring plan, including objectives, known issues, specified management activities and any required changes.
		1.3	Review previous noise monitoring records and reports, if available.
		1.4	Confirm that noise monitoring sites, sampling and measurement methods, instrumentation and workplace procedures are in accordance with relevant standards and guidelines.
		1.5	Clarify own scope of responsibility/authority for achieving specific outcomes and the roles of other key personnel.
		1.6	Identify resources available to conduct noise management activities.
2	**Organise noise management activities**	2.1	Develop a consolidated schedule to ensure all activities can be conducted efficiently with the available resources.
		2.2	Develop checklists/clear work instructions to enable personnel to perform assigned tasks efficiently and with minimal errors.
		2.3	Ensure that personnel who conduct monitoring are competent to undertake their assigned tasks.
		2.4	Ensure noise monitoring equipment is regularly calibrated and maintained and that adequate stocks of consumables are available.
		2.5	Conduct, or arrange for, regular site inspections to monitor the effectiveness of noise control/reduction actions (if relevant to site/project/program).
		2.6	Advise relevant personnel when specified noise

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			control/reduction actions are not being implemented effectively (if relevant to site/project/program).
		2.7	Conduct, or arrange for, additional monitoring/inspections after atypical events, legitimate complaints or government requests.
3	**Verify noise data**	3.1	Identify relevant job instructions, data and technical records in workplace information management system.
		3.2	Confirm that technical records provide sufficient information to ensure traceability for the monitoring activities involved.
		3.3	Compare monitoring data with expected values and identify any outliers.
		3.4	Inspect data records to identify any gaps and to check the integrity of data entry, transfers, alterations and calculations.
		3.5	Notify manager when data is incomplete, or contains significant errors, and clarify what action to take.
4	**Determine if results are acceptable and within expectation**	4.1	Compare results with expected values, relevant standards and/or statutory limits and identify any significant differences or trends.
		4.2	Check the reliability of results by examining data/results from repeat measurements or other monitoring sites.
		4.3	Assess the significance of any documented observations of atypical environmental or meteorological conditions.
		4.4	Check that all adjusted data and calculations are free from error.
		4.5	Check that estimations of uncertainty are reasonable and consistent with the relevant standard, if relevant.
		4.6	Report results that meet workplace data quality standards and are consistent with expectations.
5	**Investigate/rectify unexpected or**	5.1	Examine records of pre-use checks and calibration performance to ensure that the monitoring instruments

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	unacceptable results		used meet specifications and workplace requirements.
		5.2	Establish whether human, environmental and/or meteorological factors could have affected the reliability of results.
		5.3	Check for obvious errors in measurement positions and/or techniques.
		5.4	Report unexpected results that meet workplace data quality standards.
		5.5	Identify possible root causes of unacceptable results and appropriate preventative/corrective actions.
		5.6	Report investigation outcomes and recommendations for improvements in accordance with workplace procedures.
		5.7	Seek manager's advice when challenges are beyond own technical competence or when input from environmental specialists may be required.
6	**Keep management informed about noise performance**	6.1	Provide regular reports about noise performance, including instances of potential/actual non-conformance and incidents and the actions taken in each case.
		6.2	Report opportunities and recommendations for improvements in noise monitoring or management in accordance with workplace procedures.
7	**Maintain noise records**	7.1	Ensure all noise records are legible, accurate and satisfy workplace/legislative requirements.
		7.2	Store noise records to enable easy access and review by authorised personnel in accordance with workplace procedures.
		7.3	Regularly review noise records to identify any significant trends and impacts.
		7.4	Identify any problems with the maintenance and security of noise records and resolve them promptly.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation such as the Environment Protection and Biodiversity Conservation Act, and National Environmental Protection Measures
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use; and environmental protection
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering environmental management (e.g. AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set), acoustics (e.g. AS 1055 Acoustics - Description and measurement of environmental noise series), and electroacoustics (e.g. AS IEC 61672 Electroacoustics series, AS IEC 60942-2004 Electroacoustics - Sound calibrators)
- registration/licensing and/or accreditation requirements
- industry guidelines and manuals, such as Noise Measurement Manual (QLD EPA), A Guide to Measurement and Analysis of Noise (VIC EPA), Noise Guide for Local Government (NSW); established noise standards and statutory noise limits
- site-specific requirements; workplace procedures for sampling, monitoring and in-field testing; recording, processing, presenting and reporting data
- workplace documents, such as standard operating procedures (SOPs); work schedules; recording and reporting procedures; equipment manuals and warranties; supplier catalogue and handbooks; safety data sheets (SDS) and safety procedures; waste minimisation, containment, processing and safe disposal procedures.

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Noise management activities include one or more of:

- assessing compliance with a statutory condition, such as a licence
- investigation of a noise complaint
- noise impact assessment studies
- long-term monitoring programs
- occupational hygiene monitoring
- noise surveys
- assessing effectiveness of noise control devices and reduction measures.

Noise measurements and surveys include one or more of:

- techniques for conducting sound and noise level measurements, such as:
  - sound power and sound pressure level measurements
  - frequency analysis and weighting networks (including at least A and Lin)
  - techniques for measuring different noise types, including steady noise, discretely varying noise, impulsive noise, industrial, road, traffic, rail traffic and air traffic
  - background noise level (LA90)
  - day and night sound levels (L_{DN})
  - measuring noise exposure, including equivalent continuous sound level (L_{eq})
  - time weighted exposure measurement (L_{AeqT})
  - common errors in sound level measurement, including mishandling of equipment, wind, humidity, temperature, reflected and absorbed sound and background noise
  - effects of meteorological conditions on noise
  - effects of topography and built structures on noise
- data processing techniques, such as:
  - calculation of combined sound levels using graphical and mathematical equation techniques
  - background noise calculations
  - statistical analysis, including LA_{eq}, LA_{10}, LA_{50}, and LA_{90}
  - characterisation of noise by octave band analysis
  - calculation of individual noise exposure
  - noise mapping
  - noise rating curves
  - sound attenuation with distance and mathematical calculation of associated quantities
- using a wide range of instruments, instrument functions and displays, such as:

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- sampling rate
- optimum level range, sensitivity and self-generated noise
- measurement time intervals, integration and averaging
- response rates for sound meters, including fast, slow, impulse and peak
- hold features
- overload and under-range indications
- threshold levels
- data transfer and interfacing
- calibration and reference checks of sound level meters, including both electrical and acoustic.

Noise monitoring instruments and ancillary equipment include one or more of:

- type 1 and type 2 portable sound level meters
- integrating and non-integrating sound level meters
- noise dose meters
- sound level calibrators
- octave analysers
- statistical analysers, data loggers and recorders
- telemetry equipment
- sound monitoring stations
- microphones
- wind shields.

Additional resources and equipment include one or more of:

- meteorological instruments, such as:
  - thermometers
  - hygrometers
  - barometers
  - anemometers
- digital cameras
- global positioning system (GPS) equipment
- site plans, maps and aerial photographs
- noise measurement and survey forms
- personal protective equipment.

Meteorological measurements include one or more of:

- temperature
- relative humidity
- barometric pressure
- wind speed and direction.

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Noise reports include one or more of:

- weekly and monthly environmental reports
- non-conformance report form
- contributions to regulatory agency reports (where required by permit, approval or licence conditions).

Noise records include one or more of:

- digital photographs of noise monitoring sites
- data files
- records required by permit, approval or licence conditions
- records of monitoring equipment purchase, calibration, inspection, maintenance and service
- records of complaints and government requests
- records of noise non-conformances, incidents or significant impacts
- contractor and supplier information
- internal quality/environmental audit reports
- electronic/hard copy correspondence
- records of approved expenditure and orders.

Noise control/reduction actions include one or more of:

- (re)design of work practices to minimise noise emissions, such as:
  - increase distance between noise generator and sensitive receiver
  - re-orient equipment to direct noise away from sensitive area
  - schedule operations so that noisy equipment is used separately rather than concurrently
  - use ‘quiet’ work practices (e.g. requiring trucks to turn off rather than idling for long periods)
  - substitute noisy equipment for quieter equipment (e.g. improved fan design, vibrating pile drivers and hydraulic crushers)
  - install specific noise reduction devices, such as equipment silencers and mufflers, noise barriers and enclosures, and installation of sound insulation
  - consult with nearby receivers, especially if ‘one-off’ or rare noise generating activities are to be conducted outside standard hours.

WHS and environmental management requirements include:

- compliance with relevant federal/state/territory WHS legislation at all times
- assuming that samples are potentially hazardous and applying standard precautions
- accessing and applying current industry understanding of

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infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027008A Coordinate noise management activities

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027008 Coordinate noise management activities

Modification History

Release 1. Supersedes and is equivalent to MSS027008A Coordinate noise management activities

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- planning and implementing the day-to-day noise management activities for at least one (1) site, project or ongoing program
- accessing, interpreting and applying relevant legislative/regulatory requirements, standards, codes, guidelines and manuals
- explaining noise standards, statutory noise limits, noise monitoring/management plans, monitoring methods, operation of monitoring instruments and noise control/reduction strategies
- verifying the accuracy and completeness of noise data, results and technical records
- using statistical tests (e.g. to determine data acceptability, estimate uncertainties, examine trends and infer basic relationships)
- investigating unexpected or unacceptable noise results in a logical and efficient manner to identify possible root causes
- seeking advice when issues/problems are beyond scope of competence/responsibility
- recommending appropriate preventative/corrective actions to control potential/actual non-conformances or incidents
- responding effectively to complaints and requests for information
- providing accurate, complete and timely reports of noise performance and identifying opportunities for improvements
- maintaining noise records in accordance with legislative/licensing/workplace requirements
- working safely and monitoring the safety of others.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- terminology, concepts and principles associated with sound, noise measurement, noise control and reduction used in job role
- legislative/regulatory requirements, standards, codes and guidelines dealing with environmental and/or occupational noise
- noise measurement parameters and associated measurement methods relevant to job role
- workplace noise monitoring plans and procedures, common noise issues, noise control devices and noise reduction actions

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- detailed scientific and technical knowledge of the monitoring methods and instrumentation used to generate the noise data, including calibration, simple fault-finding and troubleshooting
- expected values for noise parameters, relevant standards and statutory noise limits or similar
- problem-solving techniques and cause analysis
- impacts of common human, environmental and/or meteorological factors on data quality
- sources of interference, uncertainty, limitations of methods and sources of variability
- workplace procedures for identifying and assessing environmental risks/impacts, responding to complaints and environmental incidents, record management and reporting noise data
- interpersonal communication, negotiation and conflict resolution techniques
- relevant hazards, health, safety and workplace emergency response procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of noise data files, results and records verified by the candidate
  - review of work schedules, checklists/clear work instructions, and noise performance reports prepared by the candidate
  - feedback from manager and/or site personnel regarding the candidate's ability to safely coordinate day-to-day noise management activities
  - oral and/or written questions to assess the candidate's understanding of procedures governing the validation of data, acceptability of data/results, sources of noise data variability, interferences and uncertainty, and relevant preventative or corrective actions
  - analysis of case studies/reports of noise management issues and incidents relevant to the candidate's job role.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit including, but not limited to:

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  - site/project/program history
  - relevant legislation, codes and standards; workplace environmental management policies, plans, actions, procedures, checklists and equipment manuals; monitoring methods and description of monitoring set-up
  - noise data sets, records and reports, computer and relevant software or workplace information management system
  - noise monitoring instruments.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027009 Coordinate site remediation or rehabilitation activities

Modification History

Release 1. Supersedes and is equivalent to MSS027009A Coordinate site remediation or rehabilitation activities.

Release 2. Prerequisite code updated. Equivalent outcome.

Application

This unit of competency covers the ability to oversee the day-to-day environmental remediation or rehabilitation activities at a site in accordance with an established management plan. Personnel assist with the planning and implementation of specific remediation or rehabilitation activities, liaise with contractors and consultants, and monitor both the progress and effectiveness of the activities. They work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

This unit of competency is applicable to environmental site coordinators, environmental managers and senior environmental officers working in a range of industry sectors, such as environmental monitoring, sampling and field testing (e.g. air, water, soil and noise); geotechnical services; natural resource management (e.g. wetlands); landfill management; site remediation or rehabilitation services (e.g. mine, construction and industrial). Note that the term 'manager' is used to refer to management of a function, project and /or program and does not necessarily imply line management.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Path 1	MSS025021	Collect and evaluate groundwater data
	MSS025022	Perform sampling and testing of soils
	MSS024020	Recognise common geological landforms and samples
Path 2	MSS025021	Collect and evaluate groundwater data
	MSS025022	Perform sampling and testing of soils
	MSS025013	Assist with assessing and monitoring wetlands

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Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm scope of site remediation and/or rehabilitation activities with manager**	1.1	Locate and review legislative, regulatory, licensing/approval and planning requirements that apply to the site.
		1.2	Review background information, site remediation/rehabilitation management plan and any relevant reports.
		1.3	Review site remediation/rehabilitation goals and strategies, key stakeholders and their issues and likely constraints.
		1.4	Review the technical specifications and plans for each activity.
		1.5	Confirm the roles and responsibilities of the workplace staff, consultants and contractors involved; the work requirements and timeframe for each activity.
		1.6	Confirm own role, limits of responsibility and reporting requirements for the coordination of assigned activities.
2	**Plan and organise activities**	2.1	Consolidate schedules of activities, timeframes and milestones on a single planning management framework to enable efficient coordination of each activity.
		2.2	Use appropriate project management tools to achieve efficient integration and sequencing of activities.
		2.3	Ensure that forward planning takes into account variables such as seasonal factors, availability of equipment, seeds and plants and site access.

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		2.4	Identify possible/actual clashes and negotiate solutions with other staff, consultants, contractors and/or own manager, as appropriate.
3	**Liaise with site personnel and community members**	3.1	Confirm that staff, consultants and/or contractors understand the timing and technical specifications for their assigned remediation/rehabilitation activities.
		3.2	Confirm that staff, consultants and/or contractors are aware of hazards and understand site safety procedures and their environmental management obligations.
		3.3	Provide timely, authorised information to community members about remediation/rehabilitation activities in accordance with workplace procedures.
		3.4	Solve problems and address issues/complaints arising from remediation/rehabilitation activities within scope of responsibility.
		3.5	Refer complex problems, issues and complaints to relevant personnel in accordance with workplace procedures.
4	**Monitor progress of activities**	4.1	Anticipate risks to progress and notify relevant personnel.
		4.2	Monitor completion of activities and progress against work requirements and milestones.
		4.3	Develop solutions in response to problems and unforeseen or changed circumstances in consultation with site personnel and/or own manager, as appropriate.
		4.4	If necessary, negotiate and/or implement adjustments to work programs with site personnel in accordance with workplace procedures.
		4.5	Record and store required information for each activity.
5	**Monitor the effectiveness of activities**	5.1	Conduct, or arrange for, site inspections to check if work requirements for each activity have been met.
		5.2	Conduct, or arrange for, the monitoring of specified

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			environmental parameters to assist with the evaluation of remediation/ rehabilitation activities.
		5.3	Examine results of regular surveys, inspections and environmental monitoring to identify significant trends in data, performance indicators or non-conformances.
		5.4	If necessary, clarify any significant remediation/ rehabilitation performance issues with the consultant or contractor involved to ensure details are fully understood.
		5.5	Seek manager's advice when challenges are beyond own technical competence or when further input from environmental specialists may be required.
6	**Report the progress and effectiveness of activities**	6.1	Provide regular reports to relevant personnel about the progress and environmental performance of assigned remediation/rehabilitation activities.
		6.2	Report any instances of potential/actual environmental management non-conformance and incidents and the actions taken in each case.
		6.3	Report opportunities and recommendations for improved coordination of remediation/rehabilitation activities accordance with workplace procedures.
7	**Maintain records of activities**	7.1	Ensure all required records are legible, accurate and satisfy workplace/legislative requirements.
		7.2	Store records of remediation/rehabilitation activities to enable easy access and review by authorised personnel.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation, such as the Environment Protection and Biodiversity Conservation Act, Australian Heritage Council Act, Native Title Act and National Environmental Protection Measure (Assessment of Site Contamination)
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection; cultural/heritage protection; vegetation management; nature conservation and wildlife/plant protection; water, water management; soil conservation; pollution and contaminated sites; fisheries, forestry and mining operations
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering environmental management (e.g. AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set); sampling, testing and/or monitoring of air, water and soils
- industry methods and guidelines, such as ANZECC Guidelines for the Assessment of Contaminated Soil, and Leading Practice Sustainable Development Program for the Mining Industry (Mine Rehabilitation)
- registration/licensing and/or accreditation requirements
- site-specific information, such as applicable legislative requirements and approval requirements; work schedules; industrial processes and remediation/rehabilitation processes; environmental management and rehabilitation program plans; monitoring/inspection procedures and management actions to prevent/control environmental impacts or risks; methods for sampling and in-field testing; procedures for recording, processing, presenting and reporting data; job hazard analyses; safe work procedures and work method statements
- workplace documents, such as standard operating procedures (SOPs); equipment manuals and warranties; supplier catalogue and handbooks; safety data sheets (SDS); waste minimisation, containment, processing and safe disposal procedures.

Remediation/rehabilitati

- site goals and success criteria

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on plans, programs and activities include one or more of:

- regulatory, licensing and approvals requirements
- consultation processes and community engagement
- characterisation of site to identify materials and/or contamination present, such as:
  - materials segregation and selective placement
  - material budget and schedule
  - identification of limitations to plant growth
- initial site assessment, such as:
  - protection measures for rare/endangered species and heritage sites
  - climate
  - water budget and salt budget
  - growth media (e.g. harvested topsoils)
- remediation/rehabilitation program/activities, such as:
  - landform design (e.g. placement, height, footprint, drainage, mode of construction, profiles and covers)
  - management of waste rock, tailings and/or wastewater
  - removal, containment and/or on/off site treatment of contaminated materials
  - landform reconstruction, filling of voids/pits and reinstatement of water diversions
  - topsoil management to preserve soil fertility and biota, treatments and fertiliser use
  - establishment of vegetation (e.g. controlling weeds; collection and retention of local seeds and propagules; seeding [supply, treatment, spreading and hydro]; hand/machine planting of seedlings; mulching, watering, maintenance and staking/protection)
  - establishment of fauna communities (e.g. controlling problem animals and constructing habitats)
  - environmental parameters and monitoring procedures for remediation/rehabilitation program
- recording and reporting requirements.

Background information includes one or more of:

- legislative/regulatory, permit, licence and approval requirements for site
- site access protocols and permits
- site history, client history and correspondence
- site industrial processes and work schedules
- records of consultations with stakeholders
- road and topographical maps
- existing databases (e.g. vegetation, topography, soils and

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	regional ecosystem maps) • geological, hydro geological, ecological and meteorological data for site • workplace environmental management plans for site • site emergency plans and safety procedures • workplace, regulatory or standard methods/procedures for environmental sampling, monitoring or in-field testing • relevant reports, case studies and good practice models for site remediation/rehabilitation.
Site personnel and community members include one or more of:	• employees, site and project managers • contractors and subcontractors • suppliers and service providers • consultants (e.g. scientists, planners, engineers and external auditors) • government/regulator representatives and inspectors • community representatives, landowners, traditional owners and community volunteers.
Safety procedures include one or more of:	• identifying hazards, assessing and reporting risks • cleaning, maintaining and storing tools, equipment and machinery • safe operation of tools, equipment and machinery • safe handling, use and storage of chemicals and other hazardous materials • safe manual handling of items • obeying signage and using safety equipment, such as protective barriers • using specified personal protective equipment (PPE).
Environmental obligations of site personnel include one or more of:	• sustainable use of resources • duty of care to protect the site's natural, cultural and heritage values • not polluting, damaging or degrading the site's natural resources, ecological processes or biodiversity • avoiding introduction or transfer of weeds or plant/animal pathogens in soils.
Monitoring strategies include one or more of:	• use of transects to collect data across many types of landscape or ages of revegetation • use of point and quadrat sampling along transects

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- ecosystem function analysis
- landscape and soil analysis (e.g. rainfall, infiltration, run-off, erosion, plant growth and nutrient cycling)
- vegetation analysis (e.g. species composition and structure)
- habitat and fauna analysis (e.g. use of indicator species, such as reptiles and ants, and soil-litter biota)
- use of remote sensing (e.g. aerial photography and satellite imagery).

Environmental monitoring parameters for remediation/rehabilitation programs include one or more of:

- air quality
- quality of surface water and groundwater
- residual contamination in soils
- surface (and slope) stability
- assessment of erosion, measurement of suspended sediment loads in run-off
- performance of constructed covers over mine or industrial/mineral processing waste
- properties of soil or root zone media such as chemistry, fertility and water
- plant community structural attributes such as cover, and woody species density and height
- plant community composition such as presence of desired species, condition and abundance
- presence of pest species such as feral animals and weeds
- selected indicators of ecosystem functioning such as soil microbial biomass and ants
- return of selected mammals, reptiles, macro-invertebrates, fish and birds to site.

WHS and environmental management requirements include:

- compliance with relevant federal/state/territory WHS legislation at all times
- assuming that samples are potentially hazardous and applying standard precautions
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027009A Coordinate site remediation or rehabilitation activities

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027009 Coordinate site remediation or rehabilitation activities

Modification History

Release 1. Supersedes and is equivalent to MSS027009A Coordinate site remediation or rehabilitation activities.

Release 2. Prerequisite code updated. Equivalent outcome.

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- planning and implementing the day-to-day remediation or rehabilitation activities for at least **one (1)** site
- accessing, interpreting and applying relevant legislative and regulatory requirements, standards, codes, guidelines and site environmental management plans
- applying a working knowledge of remediation/rehabilitation principles to analyse complex technical briefs and develop/refine implementation plans
- clearly explaining workplace site remediation/rehabilitation management and implementation plans, procedures and the technical details of specific activities to site personnel
- supporting, communicating and consulting with site personnel and/or community members to achieve quality outcomes on time and within budget
- analysing and solving project management problems, such as meeting tight deadlines; controlling costs; coordinating multiple activities; responding to changed or unforeseen circumstances; and negotiating changes to timelines, roles, responsibilities and resources
- seeking advice when challenges are beyond own technical competence/responsibility or when input from environmental specialists may be required
- using information management systems and/or project management tools to monitor progress and maintain accurate records of activities
- providing regular information and reports of progress and outcomes of activities
- recommending ways of improving the coordination of future remediation/rehabilitation activities
- working safely and monitoring the safety of others.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- environmental protection/management terminology, concepts and principles used in job role
- legislative, regulatory, permit, licensing, approval requirements and processes relevant to site remediation/rehabilitation activities

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- common site remediation/rehabilitation goals, success criteria and strategies
- remediation/rehabilitation planning and design principles, including stakeholder engagement
- site remediation and rehabilitation methods and techniques relevant to job role
- common examples of environmental parameters, analytical tests and flora and fauna surveys used to monitor the effectiveness of site remediation/rehabilitation
- site characteristics, nature of activities conducted at site, environmental management values, environmental issues, risks and impacts
- workplace environmental management plans, procedures, control measures and management actions for site activities
- project management principles
- workplace project management procedures and controls, such as:
  - project governance requirements
  - stakeholder management
  - quality standards
  - risk management plans
  - record management and reporting, confidentiality and security of information
  - quotation, tendering, procurement and contract management procedures, and delegations
  - financial management procedures
  - human resource management procedures and industrial agreements
- interpersonal communication, negotiation and conflict resolution techniques
- problem-solving techniques
- relevant hazards, health, safety and workplace emergency response procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:

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  - review of plans, records, outcomes and reports prepared by the candidate about site remediation/rehabilitation activities they have coordinated
  - feedback from manager, site personnel and/or community members about the candidate's ability to effectively coordinate remediation or rehabilitation activities
  - oral and/or written questions to assess the candidate's understanding of remediation/rehabilitation principles, project management and problem-solving strategies, environmental parameters, analytical tests and flora and fauna surveys used to monitor the effectiveness of site remediation/rehabilitation
  - observation of the candidate's interactions with site personnel and/or community members.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit including, but not limited to:
  - background information for site and remediation/rehabilitation projects/programs
  - workplace environmental management plans and procedures, control measures and management actions for site activities, project management tools and workplace information management systems.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027011 Select, commission and maintain environmental monitoring instruments

Modification History

Release 1. Supersedes and is equivalent to MSS027011A Select, commission and maintain environmental monitoring instruments

Application

This unit of competency covers the ability to provide fully functioning environmental monitoring instruments to implement a workplace's environmental management plan and monitoring programs. Personnel are required to identify the need for specific kinds of instruments, determine the suitability of available instruments, procure and commission instruments, check their serviceability and calibration, perform routine maintenance, train staff to operate instruments correctly and maintain relevant records.

This unit of competency is applicable to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. Note that the term 'manager' is used to refer to management of a function, project and /or program and does not necessarily imply line management.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Project management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the

Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Procure suitable instruments**	1.1	Determine the types and specifications of instruments required by the workplace to implement the environmental monitoring program associated with site/project.
		1.2	Research information about the features of instruments that may be suitable and their suppliers.
		1.3	Liaise with suppliers and/or conduct tests to compare the stated performance of available instruments against workplace specifications.
		1.4	Seek advice/assistance with evaluating instruments if beyond own technical competence.
		1.5	Select the most suitable instruments and arrange for their procurement.
2	**Commission new instruments**	2.1	Use manufacturer documentation to develop a thorough understanding of instrument operation, functional test procedures, routine instrument checks and maintenance requirements.
		2.2	Ensure that the instrument has been calibrated appropriately for intended use.
		2.3	Conduct component checks and test measurements to confirm instrument performance for intended use.
		2.4	Enter all required information about the new instrument in the workplace information management system.
		2.5	Develop and document clear procedures for operating, caring for and maintaining the instrument.
3	**Train instrument operators**	3.1	Identify the knowledge and skills required to operate the instrument safely and reliably in the workplace and to interpret the environmental parameters measured.
		3.2	Develop an appropriate training program for instrument operators using established adult learning principles.
		3.3	Ensure that each operator can use the instrument competently for the required measurement applications.

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		3.4	Record all training outcomes in accordance with regulator's requirements and workplace procedures.
		3.5	Audit operator's use of instruments at regular intervals to ensure their ongoing competence.
4	**Maintain instruments fit for purpose**	4.1	Conduct regular instrument checks and minor maintenance in accordance with workplace procedures.
		4.2	Check instrument calibration using specified standards and/or procedures and record all relevant information.
		4.3	Troubleshoot basic faults and determine whether local repair/maintenance is technically possible and economic.
		4.4	Arrange for repair or servicing from an accredited agent or other appropriate personnel in accordance with workplace procedures.
		4.5	Check instrument performance after repair/service before approving it for use.
		4.6	Ensure all required instrument records are complete, accurate, legible and secure.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures	• federal legislation, such as the Environment Protection and Biodiversity Conservation Act, Australian Heritage Council Act, Native Title Act and National Environmental

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and requirements include the latest version of one or more of:

Protection Measures

- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use, acquisition, planning and protection; environmental protection; cultural/heritage protection; vegetation management; nature conservation and wildlife/plant protection; water, water management; soil conservation; pollution and contaminated sites; fisheries, forestry and mining operations
- legislation, standards and codes of practice for work health and safety (WHS)
- Australian and international standards covering environmental management (e.g. AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set); sampling, testing and/or monitoring of air, water, soils, noise and stationary source emissions
- industry methods and guidelines
- registration/licensing and/or accreditation requirements
- site/project-specific information, such as applicable legislative requirements and approval requirements; work schedules; industrial processes; environmental management plans; monitoring/inspection procedures and management actions to prevent/control environmental impacts or risks; methods for sampling and in-field testing; procedures for recording, processing, presenting and reporting data; job hazard analyses; safe work procedures and work method statements
- workplace documents, such as standard operating procedures (SOPs); equipment manuals and warranties; supplier catalogue and handbooks; safety data sheets (SDS); waste minimisation, containment, processing and safe disposal procedures.

Environmental monitoring instruments include one or more of:

- water quality measuring instruments, such as:
  - specific meters or multi-probes for measuring water parameters, such as dissolved oxygen, electrical conductivity, pH, turbidity, nitrates, phosphates and temperature
  - field test kits to determine water parameters, such as dissolved gases, chemical anions and cations, heavy metals, E. coli and biological oxygen demand (BOD)
  - portable colorimeters and field microscopes
- air monitoring instruments, such as:
  - air sampling pumps, flow meters and sampling trains
  - continuous gas monitors

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- tapered element oscillating microbalance (TEOM)
- portable gas monitors and analysers
- weather stations
- odour monitoring instruments, such as dynamic olfactometers

- noise monitoring instruments, such as:
  - type 1 and type 2 portable sound level meters
  - integrating and non-integrating sound level meters
  - noise dose meters
  - statistical analysers
  - sound monitoring stations
  - data loggers, recorders, telemetry equipment and global positioning system (GPS)
- radiation instruments and survey meters, such as:
  - Geiger-Muller (beta and gamma)
  - scintillation (alpha, beta and gamma).

Environmental management plans include one or more of:

- an aim, vision and workplace policy statement
- roles and responsibilities
- potential environmental issues
- actions to avoid, remedy and mitigate the issues
- procedures and forms to minimise and manage specific environmental impacts and risks
- quality management plans
- communication and training requirements
- monitoring schedules, sampling/test procedures, and analysis and notification requirements (e.g. exceedance values and quality triggers)
- auditing and reporting requirements.

Environmental monitoring programs include surveys, sampling and measurements for one or more of:

- establishing baseline or quality parameters
- determining trends in parameters
- investigating causes for changes in parameters
- identifying and quantifying contamination at specific locations
- identifying sources of possible/actual contamination
- determining the effectiveness of environmental management plans, actions and control measures
- determining the effectiveness of remediation activities.

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Specifications and features of instruments include one or more of:	• types of sampling and/or measurements to be performed • parameters or analytes of interest • detector type, sensitivity and detection limits • response time • linearity • estimated uncertainty for each range • single or multi-probe functions • ease of interfacing with data loggers and computers • power and battery requirements • size, weight, robustness and portability • instrument operating conditions.
Regular instrument checks and minor maintenance include one or more of:	• cleaning • battery checks and replacement • zero, span and range checks • use of one or more references to check calibration/response in each range • adjustment of calibration if authorised to do so • simple fault-finding using instrument manual, error codes and recommended remedial actions.
Required instrument records include details of:	• purchase records, warranties and service agreements for instruments • instrument calibration status • instrument inspection (faults, servicing and repairs) • instrument use (operator, time/date, location) • instrument maintenance schedule and records.
WHS and environmental management requirements include:	• compliance with relevant federal/state/territory WHS legislation at all times • assuming that samples are potentially hazardous and applying standard precautions • accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and state/territory Departments of Health, where relevant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027011A Select, commission and maintain environmental monitoring instruments

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027011 Select, commission and maintain environmental monitoring instruments

Modification History

Release 1. Supersedes and is equivalent to MSS027011A Select, commission and maintain environmental monitoring instruments

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- selecting, commissioning and maintaining at least one (1) environmental monitoring instrument
- training at least one (1) operator to use a monitoring instrument safely and reliably
- determining the required specifications for a monitoring instrument after consideration of its intended use
- locating, interpreting and comparing technical information for available instrument options
- liaising with suppliers to clarify instrument suitability and availability
- selecting suitable instruments on the basis of factors, such as intended use (fixed/portable, laboratory/field); suitable range, accuracy, sensitivity and response time; robustness, serviceability and advantages/disadvantages/limitations
- seeking advice/assistance with evaluating and procuring instruments if beyond own technical competence/responsibility
- arranging for instrument procurement in accordance with workplace procedures
- conducting instrument pre-use and calibration checks, troubleshooting common faults and conducting basic repairs
- safely operating environmental monitoring instruments to obtain reliable data
- interpreting manuals and writing operating instructions for monitoring instruments
- developing and delivering an appropriate training program for instrument operators using established adult learning principles
- maintaining accurate and complete records of instrument calibration, use, maintenance and operator training
- working safely and monitoring the safety of others.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- environmental monitoring terms and concepts, and measurement parameters used in job role
- workplace procedures/methods for conducting surveys, monitoring, sampling and in-situ measurements used in job role

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- instrumentation terms and concepts, such as operating voltage, accuracy, response time, sensitivity, detection limit, linearity and instrument uncertainty
- characteristics, capabilities, limitations, function of key components and operating principles for monitoring instruments used in the workplace
- role and importance of regular calibration and pre-use checks and maintenance
- common instrument faults, troubleshooting, recommended remedial actions and repairs
- common instrument operator errors
- adult learning principles, such as:
  - explaining aims and objectives of training program and linking learning with work tasks
  - sequencing learning activities, presenting new information in manageable chunks and reinforcing important points
  - providing opportunities to practise new skills and solve common problems
  - using questions to check understanding and providing regular, constructive feedback
- relevant hazards, health, safety and workplace emergency response procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - review of records of instrument selection, commissioning and maintenance generated by the candidate
  - review of instrument training materials and records generated by candidate
  - feedback from manager that sufficient monitoring instruments are fit for purpose and available when required
  - oral and/or written questions/calculations to assess the candidate's understanding of environmental monitoring parameters; and the operating principles, set-up, calibration and basic maintenance of environmental monitoring instruments used in job role
  - observation of the candidate checking, using and maintaining monitoring instruments and/or instructing others in their use.

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- Access is required to all instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit including, but not limited to:
  - environmental management plans
  - environmental monitoring instruments, specifications and manuals
  - workplace procedures for procurement of equipment and materials
  - background information for environmental sites/projects/programs
  - workplace information management systems, project management procedures and tools.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027013 Coordinate environmental management activities

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to coordinate environmental management activities at a site, or within a project, to ensure compliance with relevant legislation, regulations, permits and/or licences. Personnel are required to interpret and explain environmental management policies, plans and procedures to other personnel and apply them to a wide range of activities. This includes recognising potential and actual environmental impacts of current and planned work or recreational activities, implementing and monitoring appropriate preventative and corrective actions to minimise harm to the environment, coordinating response to incidents, liaising with the site personnel and stakeholders, and providing site or project reports.

This unit applies to environmental site coordinators, environmental managers and environmental officers working in all industry sectors.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Environmental monitoring and management activities are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm environmental management responsibilities**	1.1	Read and interpret legislative, regulatory and licensing requirements and approvals that apply to site or project
		1.2	Clarify scope of own role and the roles of other key personnel
		1.3	Identify resources available for site or project
2	**Develop and maintain positive relations with site personnel and stakeholders**	2.1	Identify significant stakeholders and their concerns, issues, positions or attitudes about the site or project
		2.2	Participate in meetings and networks
		2.3	Use strategies to foster the trust and confidence of site personnel and stakeholder representatives
		2.4	Communicate workplace positions and requirements in a way that acknowledges concerns of personnel and stakeholders and promotes understanding
		2.5	Respond to requests for information or participation in stakeholder activities in accordance with workplace procedures
		2.6	Provide timely, authorised information using language, styles and formats that are readily understood
		2.7	Identify difficult situations and negotiate solutions by using a collaborative approach and harnessing cooperation
		2.8	Obtain regular feedback and use it to maintain and enhance positive relations
3	**Provide environmental management information and training**	3.1	Use environmental management plans and recent incident reports to identify and review information and training needs of site personnel
		3.2	Access and develop information and training programs to meet the identified needs
		3.3	Provide accessible information and training programs to ensure that all site personnel understand their

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			environmental obligations and responsibilities
		3.4	Confirm site personnel's understanding of environmental management actions
		3.5	Monitor the effectiveness of information and training and adjust content, format and delivery strategies
4	**Assess environmental impacts and risks**	4.1	Review scheduled activities well in advance to identify implications for environmental management
		4.2	Identify potential and actual events, risks and activities that may harm the environment
		4.3	Conduct inspections and in-situ measurements to quantify risks and impacts
		4.4	Report assessment of risks and impacts in accordance with workplace and legislative requirements
5	**Implement environmental monitoring and management plans**	5.1	Conduct specified environmental monitoring and site inspections to check performance against environmental management requirements
		5.2	Ensure that workplace environmental monitoring instruments are fully functioning and maintained
		5.3	Conduct additional monitoring and inspections after atypical events, legitimate complaints or government requests to assess whether environmental management plan is operating effectively
		5.4	Examine results of in-situ measurements, laboratory analyses, inspections and audits to identify significant trends, non-conformance and incidents
6	**Respond to environmental non-conformances and incidents**	6.1	Implement workplace procedures for responding to environmental non-conformance and incidents to ensure prompt control and remediation
		6.2	Investigate the causes of non-conformances and incidents within scope of responsibility and in

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			accordance with workplace and legislative requirements
		6.3	Analyse findings to identify opportunities to re-design activities, work practices, environmental controls, information and training programs and management procedures
		6.4	Implement authorised corrective and preventative actions to prevent recurrence of non-conformance or incident and to reduce risks
		6.5	Record all recommendations, actions and outcomes in accordance with the workplace and legislative requirements
7	**Keep management informed about environmental performance**	7.1	Provide regular reports about environmental performance, instances of potential or actual non-conformance and incidents and the actions taken in each case
		7.2	Report opportunities and recommendations for improvements
		7.3	Seek manager's advice when challenges are beyond own scope of role or when input from environmental specialists may be required
8	**Maintain environmental records**	8.1	Ensure all required records are legible, accurate and satisfy workplace and legislative requirements
		8.2	Store environmental records to enable easy access and review by authorised personnel according to workplace procedures
		8.3	Regularly read and assess environmental records to identify significant trends and impacts
		8.4	Identify any problems with the maintenance and security of records and resolve them promptly

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027001 Coordinate environmental management activities

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027013 Coordinate environmental management activities

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- coordinated environmental management activities at a site, or within a project, to ensure compliance with relevant legislation, regulations, permits and licences on at least 2 occasions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental protection and management terminology, concepts and principles relevant to job role
- site and project characteristics, nature of activities conducted at site, environmental management values, environmental issues, and risks and impacts
- environmental legislative and regulatory requirements and responsibilities relevant to site or project
- workplace environmental management plans, procedures, control measures and management actions for site or project
- workplace procedures for identifying assessing environmental risks and impacts, managing stakeholder relations, responding to complaints, cultural and heritage finds and other environmental incidents, and record management and reporting
- interpersonal communication, negotiation and conflict resolution techniques
- problem-solving techniques
- environmental management hazards, health, safety and workplace emergency response procedures.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - site and project history

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- environmental legislation, codes, standards, workplace environmental management policies, plans, actions, procedures and checklists
- physical resources required for coordination activities, including maps, laptop computer, digital camera, and monitoring and sampling equipment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027014 Apply environmental legislation, codes and standards

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to interpret and apply relevant environmental legislation, codes and standards to activities associated with a work area, site, project or program. Personnel are required to access, review and interpret complex legal and technical documents, develop and revise site or project-specific environmental management procedures, explain the implications of these documents to site personnel, monitor work activities to ensure compliance and prepare reports.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. They may also work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Access and interpret relevant legislation, codes**	1.1	Read and interpret legislative, regulatory and licensing requirements and approvals that apply to site or project
		1.2	Analyse the broad significance of these requirements for

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	and standards		the organisation, key job roles and specific work activities
		1.3	Identify legal accountability, obligations and consequences of non-compliance
		1.4	Obtain advice from relevant personnel about environmental law matters that impact on work area and are outside own scope of knowledge
		1.5	Clarify own scope of responsibility and authority for achieving specific environmental outcomes
2	**Ensure project or site specific environmental management procedures comply with requirements**	2.1	Read and interpret workplace environmental management policies, plans and procedures in conjunction with legislative requirements
		2.2	Assess the need for project or site-specific environmental management procedures in consultation with manager
		2.3	Draft new or revised procedures to address any gaps or deficiencies
		2.4	Provide draft documentation to relevant personnel for review and approval prior to use
3	**Promote compliance by site personnel**	3.1	Distribute clear information about the environmental management roles and responsibilities of site personnel
		3.2	Provide clear information about workplace environmental management policies, plans and procedures and work instructions
		3.3	Explain the implications of non-compliance to all site personnel in work area
		3.4	Empower site personnel through coaching and mentoring to manage their own environmental responsibilities
4	**Ensure that work**	4.1	Plan work activities to ensure environmental compliance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	activities meet compliance requirements	4.2 Recognise when current or planned activities may require changes to existing licences and approvals and notify relevant personnel
		4.3 Implement environmental management policies, plans and procedures to ensure compliance and achieve environmental objectives and key performance indicators
		4.4 Collect and collate environmental data to support preparation of required reports and compliance information
		4.5 Review environmental data for completeness and accuracy and identify opportunities for improving compliance
		4.6 Complete reporting requirements in accordance with workplace procedures and legislative requirements
5	**Maintain knowledge of legislative requirements**	5.1 Monitor sources of information for changes to legislation, codes and standards
		5.2 Regularly update information for site personnel and explain changes to legal requirements that impact on work area

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027002 Apply environmental legislation, codes and standards.

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Assessment Requirements for MSS027014 Apply environmental legislation, codes and standards

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- researched, interpreted, applied and promoted environmental legislative requirements, codes and standards for at least 2 sites, projects or program activities.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- legal terminology, including statute, acts, regulations and ordinances
- sources of environmental legislative information and changes
- responsible bodies at federal and state and territory levels
- major features of federal and state and territory environmental legislation, regulations and local government by-laws, policies and plans that apply to the work area, site, project or program
- organisation's environmental management plans, policies, procedures and work instructions that apply to the work area, site, project or program
- workplace procedures for the development, revision and improvement of environmental management policies, plans, procedures and work instructions
- workplace environmental reporting requirements for the work area, site, project or program and reporting procedures
- types of site personnel.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - a standard work space equipped with basic computer equipment and access to organisation's information management system; maps, digital camera; and monitoring and sampling equipment
  - documentation, including site/project history, workplace environmental management policies, plans, actions, procedures and checklists.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027015 Provide environmental advice to clients

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to provide verbal or written advice to clients about environmental issues, problems or aspects of environmental management plans, policies and procedures that are relevant to a specific site, project or program. Personnel are required to identify and analyse the issue or problem, source relevant information, formulate advice from a range of options and communicate the authorised advice clearly to the client.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. They may also work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop and maintain specialist environmental knowledge**	1.1	Research and read examples of environmental management best practice to improve quality of own work outputs
		1.2	Use networking to build and maintain a comprehensive

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			knowledge and understanding of environmental issues
2	**Define and analyse the request for advice**	2.1	Confirm and record the source, nature and priority of the client request
		2.2	Clarify the issue, problem or requested information and analyse the risks involved with providing advice
		2.3	Clarify workplace communication protocols
		2.4	Redirect the request or seek guidance from relevant personnel
3	**Gather and analyse information**	3.1	Identify the information required to formulate useful advice
		3.2	Identify available sources of information that are relevant and reliable
		3.3	Obtain external expert opinion and advice in accordance with workplace procedures
		3.4	Analyse available information to identify issues, principles, legal requirements, patterns and trends in data that are of interest to the client
4	**Formulate advice**	4.1	Develop advice options that are based on clear legislative requirements and sound environmental management practices
		4.2	Clearly distinguish between fact and opinion
		4.3	Justify any assumptions made and support conclusions with reasoned arguments and evidence
		4.4	Discuss options with client and relevant personnel, incorporate their feedback and finalise advice
		4.5	Ensure that advice is accurate and meets the client's needs

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		4.6	Obtain authorisation to release advice to client in accordance with workplace communication protocols
5	**Communicate advice to client**	5.1	Provide timely, authorised advice in accordance with workplace policies and procedures and in a format or manner that suits the client
		5.2	Check and confirm client's understanding of the advice provided
		5.3	Use feedback from clients to improve the way advice is developed and provided
6	**Record details of the request and advice**	6.1	Record accurate details of request, client contact and advice in accordance with workplace procedures
		6.2	File records in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027003 Provide environmental advice to clients.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027015 Provide environmental advice to clients

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- provided reliable environmental advice both verbally and in writing to at least 2 different clients about environmental issues, problems or aspects of environmental management plans, policies and procedures that are relevant to a specific site, project or program.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental protection and management terminology, concepts and principles relevant to job role
- sources of environmental information relevant to job role
- environmental legislative and regulatory requirements and responsibilities relevant to site, project or program
- workplace environmental management plans, workplace procedures for identifying and assessing environmental risks and impacts, providing advice and responding to environmental incidents
- specific site, project or program characteristics, nature of activities conducted at site, environmental management values, environmental issues, risks and impacts; recommended control measures and management actions
- workplace procedures for managing security and confidentiality of information, managing client relations, responding to complaints, release of authorised advice, records management and reporting.
- external experts.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS027016 Contribute to improving environmental performance

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to perform activities associated with the review or internal audit of the environmental performance of a workplace. Personnel work under the guidance of a manager or a lead auditor and the scope of activities performed will depend on their job role, the size of the workplace and complexity of its environmental management system (EMS) and auditing requirements.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. They may also work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Plan review or audit activities with manager or lead auditor**	1.1	Read and interpret legislative and regulatory compliance requirements and workplace policies and procedures
		1.2	Clarify review or audit objectives, scope risks, constraints and resources available

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Clarify site, sections, work areas, functions and practices to be reviewed or audited
		1.4	Confirm own role and responsibility for specific review or audit tasks
		1.5	Plan the review or audit activities to minimise workplace disruption and ensure they can be safely conducted within agreed timeframes
2	**Prepare for assigned review or audit activities**	2.1	Gather and read background information relevant to site, sections, work areas, functions and practices to be reviewed or audited
		2.2	Scrutinise the review or audit criteria, tools and evidence requirements to enhance own objectivity and attention to detail
		2.3	Identify any technical and equipment requirements for review or audit and if support personnel are required
		2.4	Inform all personnel involved and arrange meetings or appointments
3	**Conduct assigned review or audit activities**	3.1	Collect a representative sample of site documentation
		3.2	Collect sufficient information from observations and interviews to provide reliable evidence of environmental performance
		3.3	Work cooperatively with personnel to maximise their ownership of the review or audit and identify opportunities to improve environmental performance
		3.4	Keep accurate records of observations and interview responses
4	**Analyse information and evaluate**	4.1	Analyse information to identify significant performance trends, patterns, gaps and areas of risk
		4.2	Recognise instances of non-conformance and

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
performance		non-compliance and identify options for improving performance
	4.3	Evaluate performance against specified benchmarks and identify evidence based corrective or preventative actions and improvement strategies
	4.4	Provide recommendations that are supported by evidence based findings
	4.5	Seek manager or lead auditor's advice when issues or problems are beyond own scope of role or when input from environmental specialists may be required
5 **Report review or audit results**	5.1	Document results in accordance with standard and workplace procedures and compare with initial objectives
	5.2	Confirm results with manager or lead auditor
	5.3	Report results to relevant personnel for action in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027005 Contribute to improving environmental performance.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027016 Contribute to improving environmental performance

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- facilitated the development, documentation and evaluation of at least 1 social sustainability strategy across the whole or part of an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- purpose of social sustainability strategy
- social sustainability issues, practices and approaches in the organisation and its value chain that may provide strategic opportunities for the business
- stakeholders and their roles in the organisation
- strategies for equitable stakeholder participation
- strategic analysis and planning techniques
- processes for risk management
- processes for planning and managing change
- legislative and regulatory requirements that have social sustainability implications
- voluntary codes and standards that have social sustainability implications including Global Reporting Initiative (GRI) reporting and ISO 26000:2010 Guidance on social responsibility or equivalent.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027017 Contribute to environmental decision making

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to gather and analyse information about environmental issues to inform workplace decision making and make valid decisions within a defined scope of responsibility. Personnel are required to implement relevant workplace policies and procedures; consult with and involve interested parties; develop well researched positions; make decisions; provide recommendations and to inform others about decisions.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. They may also work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm decision-making process with manager**	1.1	Identify site, project or program environmental issues or problems that require decisions
		1.2	Read and interpret workplace environmental policies and procedures to identify the decision maker and

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			decision-making process
		1.3	Scope the issue or problem, context, possible causes, the needs or concerns of interested parties and the risks involved
		1.4	Seek timely advice about issues, problems or decisions that have impacts beyond own scope of responsibility
		1.5	Confirm own role in the decision-making process and the timeline, constraints and resources available
2	**Identify information needs, sources and collection methods**	2.1	Identify the information required for a reliable decision
		2.2	Confirm that available sources of information are reliable and sufficiently comprehensive for the required context
		2.3	Select information collection methods that are efficient, cost-effective and ethical
		2.4	Seek external expert opinion and advice in accordance with workplace procedures
3	**Engage interested parties to inform decision making**	3.1	Identify interested parties, their respective interests, needs and expectations, and assess their ability to contribute
		3.2	Identify engagement strategies and activities to encourage effective participation in the decision-making process
		3.3	Explain the engagement objectives and constraints and the level of influence that participants have on decisions
		3.4	Use active listening to seek input and a balanced exchange of views
		3.5	Provide accurate and balanced information using a language, style and format that is readily understood
		3.6	Acknowledge differences of opinion to encourage rigorous examination of all options

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.7	Seek feedback to ensure that the views expressed by all participants have been understood
		3.8	Keep interested parties informed about engagement outcomes and progress of decision making
4	**Gather and analyse information needed for decision making**	4.1	Gather sufficient information using methods that comply with workplace policies and procedures and legislative requirements
		4.2	Set clear objectives for analysis of information
		4.3	Analyse available information to identify significant issues, principles, legal requirements, patterns and trends
		4.4	Clearly distinguish between fact and opinion
		4.5	Justify assumptions made and support conclusions with reasoned arguments and evidence
		4.6	Record outcomes of analysis in sufficient detail to enable transparent decision making
5	**Make decisions and provide recommendations**	5.1	Consider feasible options for addressing the issue or problem and the associated risks, costs and benefits of each
		5.2	Check that the preferred option complies with legislative requirements and workplace policies and procedures
		5.3	Obtain advice from relevant personnel if unsure about decisions or draft recommendations
		5.4	Make valid, timely decisions when issue or problem is within own scope of responsibility
		5.5	Provide recommendations to relevant personnel in time to inform decision making and enable effective action to be taken
6	**Communicate**	6.1	Provide timely, authorised information in accordance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	information and decisions		with workplace policies and procedures and in a form or manner that suits the needs of recipients
		6.2	Check and confirm recipients' understanding of the information provided
		6.3	Use feedback from recipients to improve the way information is provided
7	**Review contribution to decision-making process**	7.1	Review information collection strategies, engagement activities and contribution to decision-making process to identify opportunities for improvement
		7.2	Report findings to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027004 Contribute to environmental decision making.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027017 Contribute to environmental decision making

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- made decisions and provided recommendations to address at least 2 environmental issues or problems (within scope of job role).

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental protection and management terminology, concepts and principles relevant to job role
- site, project, program characteristics, nature of activities conducted, environmental management values, environmental issues, risks and impacts
- environmental legislative and regulatory requirements, approvals, permits, licences and responsibilities relevant to site, project, program
- risk impact assessments, workplace environmental management plans, procedures, control measures and management actions for site, project, program
- workplace procedures for engaging interested parties, managing stakeholder relations, responding to complaints and requests for information, and record management and reporting
- good practice models for community engagement and environmental decision making
- strategies and activities to encourage effective participation in decision making
- techniques covering interpersonal communication, negotiating, lobbying, influencing, problem-solving and conflict resolution
- hazards, health, safety and workplace emergency response procedures for work role.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS027018 Undertake complex environmental project work

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to carry out complex environmental project activities and/or coordinate the activities of concurrent projects. Personnel are required to review and confirm the requirements of each project activity, organise and carry out project activities, oversee the progress of projects activities and finalise the work in each case. They may be responsible for all or some project deliverables, work in teams on aspects of projects, and may liaise with multiple clients.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. They may also work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS025023	Plan and conduct environmental project work

Competency Field

Project management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 **Review and**	1.1 Confirm own role, limits of responsibility and reporting

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	confirm project requirements with manager	requirements for assigned projects
		1.2 Read and interpret workplace project management procedures and controls
		1.3 Read and interpret background information for each project to clarify intended outcomes, key stakeholders, drivers and likely constraints
		1.4 Read and interpret project plans and clarify roles and responsibilities of project team members, deliverables, timeframes, stakeholder involvement and available resources
		1.5 Negotiate changes to project plans in accordance with workplace project management procedures
		1.6 Update project plans with confirmed information for milestones, resources, team members and stakeholder details
2	**Organise and undertake project activities**	2.1 Use project management tools to achieve efficient integration and sequencing of projects activities
		2.2 Consolidate schedules of activities, timeframes and milestones on a single planning management framework to enable efficient monitoring of each project activity
		2.3 Identify possible and actual clashes in activities and negotiate alternatives with management
		2.4 Carry out own project tasks in accordance with project plans and manage any variations in accordance with workplace project management procedures
		2.5 Capture, record and store required project information and data
		2.6 Support project team members to achieve project milestones and assigned outputs with resources available
		2.7 Seek manager's advice when challenges are beyond own technical competence or when input from environmental specialists is required

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
3	**Manage the progress of multiple projects**	3.1	Anticipate risks to progress or achievement of project outcomes and notify relevant personnel in accordance with risk management plans
		3.2	Monitor completion of project activities and progress against targets and milestones
		3.3	Negotiate and implement corrective actions with project team members and managers in accordance with workplace project management procedures and controls
		3.4	Develop solutions in response to project problems and unforeseen or changed circumstances in consultation with manager
		3.5	Provide regular project reports in accordance with project plans and workplace project management procedures
4	**Finalise project activities**	4.1	Provide deliverables for each project activity in accordance with the specified timeframe and quality standards
		4.2	Provide deliverables for each project activity in accordance with the specified timeframe and quality standards
		4.3	Ensure all project records are accurate and complete
		4.4	Evaluate project processes to identify unresolved issues and recommend opportunities for improvement of future project activities
		4.5	Write timely and accurate project reports in accordance with workplace project management procedures and using the specified style, language and formats
		4.6	Archive project information and return borrowed and unused resources in accordance with workplace project management procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027010 Undertake complex environmental project work.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS027018 Undertake complex environmental project work

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- scoped, planned and managed at least 2 projects or project activities that involved complex environmental work (either individually or as part of a team), including managing or monitoring projects and activities associated with one or more of the following:
  - planning, operation or closure of construction, infrastructure, industrial and mining sites
  - rehabilitation of sites
  - revegetation of sites
  - management of pests
  - acid sulphate soils
  - acid rock drainage
  - wetlands
  - stormwater systems
  - air quality, dust and emissions or odours
  - water quality and water supply or use issues
  - contaminated sites
  - waste, stockpiles and waste rock dumps
  - protection of biodiversity
  - acquisition and commissioning of complex equipment
  - significant quality improvement projects
  - set-up and operation of remote sensing sites
  - set-up and operation of groundwater bores
  - investigating a multifaceted or difficult environmental complaint, non-conformance or incident.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

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- environmental protection and management terminology, concepts and principles used in job role
- legislative, regulatory, permit, licensing and approval requirements and processes relevant to site and project activities
- workplace business goals, key performance indicators and key result areas relevant to site and project activities
- site and project characteristics, nature of activities conducted at site, environmental management values, environmental issues, risks and impacts
- workplace environmental management plans, procedures, control measures and management actions for site and project activities
- project management principles
- project plan components
- project management software and tools
- project information and data
- workplace project management procedures and controls, including:
  - project governance requirements
  - stakeholder management
  - quality standards
  - risk management plans
  - record management and reporting, confidentiality and security of information
  - quotation, tendering, procurement and contract management procedures, and delegations
  - financial management procedures
  - human resource management procedures and industrial agreements
- solutions to project problems
- techniques for achieving effective communication, teamwork and cooperation; negotiating and resolving conflict
- troubleshooting and problem-solving techniques.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS027019 Implement and maintain the site health and safety management system

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to implement and maintain the work health and safety (WHS) management system for a site or work group. Personnel work in accordance with health and safety management policies, plans and procedures which incorporate all relevant aspects of WHS legislation and the codes, guidelines, regulations and Australian Standards that apply to the site.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors who have access to a workplace manager and internal or external expert WHS advice.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSL944002 Maintain laboratory or field workplace safety

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm**	1.1 Check WHS responsibilities and duties are documented

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	requirements for WHS management system		and accountability processes are in place
		1.2	Check WHS policies and procedures are documented and that documents are accessible to all relevant personnel
		1.3	Recognise limits of own expertise and consult manager and WHS specialists
2	**Implement and maintain participative arrangements for WHS management**	2.1	Implement and maintain participative processes with site personnel and their representatives in accordance with WHS legislation and standards
		2.2	Provide information to site personnel in a format that is accessible and readily understood
		2.3	Address issues raised through participation and consultation promptly and effectively
		2.4	Provide information about the outcomes of participation and consultation to site personnel
3	**Implement and maintain WHS risk management processes**	3.1	Check hazard, incident and injury reporting and investigation processes are in place to meet prevention and legislative requirements
		3.2	Implement a process of hazard identification and risk assessment
		3.3	Check risk controls and hazard specific procedures for risk control comply with legislation and the hierarchy of control
4	**Implement and maintain WHS training programs**	4.1	Conduct a training needs assessment for site personnel that takes account of legislative requirements, workplace policies and procedures and risk control requirements
		4.2	Develop and implement training programs to meet the WHS training needs of site personnel
5	**Implement and maintain WHS**	5.1	Identify and address the legal requirements for record keeping

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	record keeping system	5.2	Ensure that records are accurately completed, collected and stored
		5.3	Identify and access sources of WHS information
6	**Initiate and maintain WHS management system improvements**	6.1	Collect and analyse information to regularly evaluate WHS management system performance
		6.2	Recognise instances of non-conformance or non-compliance and identify opportunities for improving performance
		6.3	Initiate authorised improvements in consultation with relevant personnel and update system documentation
		6.4	Monitor the effectiveness of improvements in consultation with site personnel
7	**Keep management informed about WHS performance**	7.1	Provide regular reports about WHS performance, instances of potential and actual non-conformance and incidents and the actions taken in each case
		7.2	Report opportunities and recommendations for system improvements in accordance with workplace procedures
		7.3	Report implementation and effectiveness of system modifications

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027012 Implement and maintain the site health and safety management system.

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Assessment Requirements for MSS027019 Implement and maintain the site health and safety management system

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- implemented and maintained the health and safety management system for at least 1 site or work group, including:
  - consulting with employees and other stakeholders on at least 1 occasion about safety issues, hazard identification, risk assessment, selection and implementation of control measures and their review
  - developing and implementing at least 1 improvement in work practices and procedures to reduce the risk of illness and injury and meet WHS legislative requirements
  - developing and implementing at least 1 training program to meet the identified WHS training needs of site personnel
  - preparing reports for WHS committee, WHS representatives, managers and supervisors.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- terminology, principles and practices of effective WHS management
- nature of site safety hazards and hazard identification processes
- risk assessment, risk control and hierarchy of control processes, including:
  - analysing the effectiveness of existing controls
  - determining the likelihood of each consequence considering exposure and hazard level
  - combining these in some way to obtain a level of risk
  - comparison of the determined risk with pre-established tolerance criteria and ranking of risks requiring control.
- procedures, standards, legislation and regulator's guidelines relating to WHS management systems, record keeping, reporting and consultation
- key personnel identified in workplace management structure and WHS management systems
- sources of WHS management information, including specialist advisors
- workplace WHS and management policies and procedures, plans, housekeeping, inspections and audits

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- roles and responsibilities of employers and employees under WHS legislation, including managers, supervisors and contractors
- characteristics and composition of the workforce and how they impact on WHS management
- participative consultation processes relating to WHS management systems
- workplace purchasing policy and procedures for safety related supplies and equipment.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - WHS legislation and regulations, codes of practice
  - workplace WHS policies, management plans, procedures and tools.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402001 Apply competitive systems and practices

Modification History

Release 1 - Supersedes and is equivalent to MSS402001A Apply competitive systems and practices

Application

This unit of competency covers the skills and knowledge required to implement basic improvement practices within an organisation using competitive systems and practices. The unit focuses on bringing together the basic concepts and the holistic application of these basic concepts and processes to operations. It would typically be carried out working as part of a team.

This unit applies to an individual in an organisation that has embarked on competitive systems and practices. The unit covers the skills and knowledge required to contribute to the competitive systems and practices processes and assumes that they are to be used within the scope of the individual's job and authority.

This unit requires the application of skills associated with planning and organising an individual's own role within the competitive systems and practices framework.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Identify own place in the value chain**	1.1	Identify customers relevant to own work and their needs/requirements.
		1.2	Identify suppliers for own work.
		1.3	Identify value contributions along the chain.
		1.4	Identify and recommend methods of increasing own contribution to the value chain.
2	**Improve the product and process value**	2.1	Identify customer features/benefits in the product and process.
		2.2	Identify aspects of product and process which contribute to customer features/benefits.
		2.3	Identify aspects of product and process which do not contribute to customer benefits/features.
		2.4	Recommend methods of reducing waste and increasing features/benefits.
3	**Use competitive systems and practices**	3.1	Identify competitive systems and practices used in organisation and own work area.
		3.2	Apply practices appropriate for the job or process.
		3.3	Monitor the job/process and make adjustments to improve it in accordance with procedures.
		3.4	Identify own skill requirements and seek skill development, if required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Customers include one or more of:

- internal or external customers and should be sufficiently close to the individual's work as to be easily identifiable
- final customers used as the basis for the identification of value and waste.

Suppliers include one or more of:

- internal suppliers
- external suppliers sufficiently close to the individual's work as to be easily identifiable.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions

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- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402001A Apply competitive systems and practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402001 Apply competitive systems and practices

Modification History

Release 1 - Supersedes and is equivalent to MSS402001A Apply competitive systems and practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to always apply competitive systems and practices to their own job to:

- identify own place in the value chain relevant to their job
- use competitive systems and practices tools and thinking
- recommend improvements in product and/or process.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- customer requirements and their role in fulfilling them
- the value chain for products they make and their place in it
- identification of muda (waste) and its reduction.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the application of competitive systems and practice in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402002 Sustain process improvements

Modification History

Release 1. Supersedes and is equivalent to MSS402002A Sustain process improvements

Application

This unit of competency covers the skills and knowledge required by an individual to prevent process improvements in their own work from slipping back to former practices or digressing to less efficient practices.

This unit applies to organisations implementing competitive systems and practices and continuous improvement. It covers the skills needed to ensure that process improvements are sustained and opportunities taken to suggest further improvements.

Improvement initiatives can be made by any of a number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known to employees.

The unit can be applied to all areas of an organisation, including production, maintenance, logistics and office functions.

This unit requires the application of skills associated with problem solving, initiative and enterprise and self-management in order to understand implement and monitor improvement practices. It also requires the ability to identify and address personal skill gaps in order to manage own ability to implement change.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Examine previous improvements**	1.1	Identify impact of previous process improvements to equipment, operations, services or products in own work area.
		1.2	Identify improvements where objectives have not been met.
2	**Implement corrective actions**	2.1	Identify corrective actions that can be taken by self on process improvements that have not met objectives.
		2.2	Obtain any required approvals.
		2.3	Identify any additional, personal skill gaps and seek skill development.
		2.4	Adopt improved processes.
3	**Check changes**	3.1	Identify claimed improvements.
		3.2	Identify methods of observing and measuring claimed improvements in own work area.
		3.3	Check if claimed improvements are occurring and report problems in accordance with procedures.
4	**Check for further improvements**	4.1	Look for areas of possible further improvement.
		4.2	Discuss further improvements with peers and supervisors.
		4.3	Take action to implement improvements in accordance with procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Customers include one or more of:	• internal customers • external customers sufficiently close to the individual's work as to be easily identifiable • final customers used as the basis for the identification of value and waste.
Suppliers include	• internal suppliers

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one or more of:	• external suppliers sufficiently close to the individual's work as to be easily identifiable.
Measuring improvements includes one or more of:	• personally taking measurements • arranging for measurements to be taken/made by appropriate personnel.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Corrective actions to sustain improvements include one or more of:	• techniques for preventing mistakes by designing the operations process, equipment and tools so that an operation literally cannot be performed incorrectly (e.g. baka-yoke) • techniques that generate warning signals where a mistake is about to be performed (poka-yoke) • administrative techniques, such as procedure/work instruction changes • skilling techniques, such as training, mentoring, demonstration • process techniques, such as changing the process/conditions/variables.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402002A Sustain process improvements

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402002 Sustain process improvements

Modification History

Release 1. Supersedes and is equivalent to MSS402002A Sustain process improvements

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to examine three (3) or more previous improvements, including one (1) or more where improvement objectives have not been met, and to:

- identify corrective actions that can be taken by self
- implement those corrective actions
- check whether the claimed improvements have occurred
- check for further improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- muda (waste)
- indicators of processes not delivering claimed improvements
- baka-yoke and poka-yoke techniques.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include actions to sustain process improvements in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402010 Manage the impact of change on own work

Modification History

Release 1. Supersedes and is equivalent to MSS402010A Manage the impact of change on own work

Application

This unit of competency covers the skills and knowledge required by an individual to effectively manage the changes in their own work resulting from their organisation's implementation of competitive systems and practices.

This unit applies to an individual in an organisation implementing competitive systems and practices that affect the individual's own work. The unit includes the skills required to positively participate in ongoing and continuous change as it affects their work. The individual will be expected to deal with these changes as part of a team and to give feedback from their own perspective.

This unit requires the application of skills associated with problem solving, planning and organising and self-management for assessing and managing the impact of change on own work. This unit also requires the ability to seek information and feedback from team members on the impact of changes and suggested improvements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Examine the impact of change on own work practices**	1.1	Identify competitive systems and practices relevant to changes in own work.
		1.2	Examine changes to work flow.
		1.3	Examine changes to equipment/process/physical environment.
		1.4	Examine changes to work relationship with team members and other teams.
		1.5	Examine changes to data collection needs.
		1.6	Examine changed work for impacts on health, safety and environment (HSE).
		1.7	Examine changes to quality requirements.
		1.8	Identify any additional individual skill needs.
		1.9	Identify other areas requiring assistance.
2	**Implement change**	2.1	Review changes which may have an adverse impact with team leader.
		2.2	Adopt changes to individual work practice.
		2.3	Seek assistance in gathering/processing data, as required.
		2.4	Implement the data collection/processing and take actions on resulting information in accordance with procedures.
		2.5	Seek assistance/training to meet needs caused by change.
3	**Implement continuous improvement**	3.1	Critically examine all changes.
		3.2	Identify impacts of changes both up and down the immediate value stream.

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3.3 Identify areas for improvement.

3.4 Make recommendations for improvement in accordance with procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Impact of change	• elements being undertaken individually or as part of a team

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may include one or more of:	• seeking assistance from team leaders for areas outside the employee's range of responsibility and authority.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Gathering and monitoring performance data include one or more of:	• manual gathering by individual employees through charts, tally sheets or keypad/board entry • automatic collection through software, such as SCADA software, ERP systems, MRP and proprietary systems.
Continuous improvement (kaizen) includes evaluation of one or more of:	• time required • resources used • resultant quality • other aspects relevant to the process.
Stages where value stream actions may occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402010A Manage the impact of change on own work

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Links

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Assessment Requirements for MSS402010 Manage the impact of change on own work

Modification History

Release 1. Supersedes and is equivalent to MSS402010A Manage the impact of change on own work

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more changes, to:

- identify competitive systems and practices used in their own workplace
- identify change and its impact on own work practices in relation to implementation of competitive systems and practices
- adopt change and seek any required assistance
- identify areas for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision:

- features of common competitive systems and practices in use in own workplace
- sources of data on the process/plant
- methods of determining own skill needs
- health, safety and environment (HSE) principles relevant to own job
- change implementation contacts and procedures
- employee assistance mechanisms within organisation.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include evidence of responding to change in own workplace

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  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including, relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS402020 Apply quick changeover procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402020A Apply quick changeover procedures

Application

This unit of competency covers the skills and knowledge required to apply quick changeover procedures in an organisation implementing competitive systems and practices.

This unit applies to individuals in an organisation which is implementing competitive systems and practices and is pursuing quick changeover as one of its competitive operations tools. The unit can apply to quick changeovers of equipment, processes, batches or product type. It requires the application of skills associated with applying quick changeover procedures, including the planning and organising of own work, identifying problems and making suggestions for improvement of procedures.

Particular technical skills may also be required in some operations sectors and for some jobs. These skills should be gained from the Training Package relevant to the individual's industry and occupation.

This unit may not be applicable to a totally continuous operation producing only the one product, or simultaneous range of products. The unit is also not applicable to a maintenance/PVI shutdown as experienced by continuous process manufacturers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for changeover**	1.1	Determine when changeover will be required.
		1.2	Review plans and instructions for quick changeover.
		1.3	Identify role of others in quick changeover.
		1.4	Obtain all required tools/parts/materials for changeover.
		1.5	Organise process and tools/parts/materials ready for changeover.
2	**Make quick changeover**	2.1	Plan changeover according to quick changeover principles.
		2.2	Liaise and work with relevant people in quick changeover.
		2.3	Complete changeover according to procedures.
		2.4	Check output meets specification.
		2.5	Debrief with all relevant stakeholders.
		2.6	Note any steps which cause a problem.
		2.7	Recommend changes to problematic steps.
3	**Improve work health and safety (WHS)**	3.1	Identify hazards to self or others in all steps/actions.
		3.2	Determine risks from each hazard.
		3.3	Identify actions which may be performed in a more ergonomic manner.
		3.4	Recommend changes to improve WHS.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Changeover may include one or more of:	• an exchange of equipment (often dies or tools (traditional)) • a change between products/batches or between campaigns or processes. It may be any quantum change to produce a different product or undertake a different process.

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Set-up can be divided into two types:	• internal set-up (requires work to stop, work that can be done only when the machine or process is not actively engaged in production, computers etc. need to be reset and restarted) • external set-up (work can continue during the changeover, work can be done concurrently with the machine or process performing production duties).
Set-up time includes:	• the work time required to change over a machine or process from one item or operation to the next item or operation.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402020A Apply quick changeover procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402020 Apply quick changeover procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402020A Apply quick changeover procedures

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for three (3) or more quick changeovers, to:

- identify the scope and equipment to be used in a quick changeover implemented in their own workplace
- plan and complete changeover
- identify problems in quick changeovers
- contribute suggestions for improvement.

Knowledge Evidence

- Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision and to solve routine problems, including knowledge of:
- principles of quick changeover, including:
  - setting of target time for changeover
  - conversion of internal set-up time to external set-up time, where appropriate
  - simplification of changeover steps
  - monitoring and continuous improvement of changeovers
- purpose and requirements of changeover
- minimisation of changeover waste (e.g. scrap and energy)
- quality requirements for products and purposes
- relevant operational procedures
- health, safety and environment (HSE) principles relevant to own job.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace

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  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include actual quick changeovers, the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402021 Apply Just in Time procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402021A Apply Just in Time procedures

Application

This unit of competency covers the skills and knowledge required to work in an organisation implementing and/or utilising Just in Time (JIT) procedures.

This unit applies to an individual working in an organisation following JIT who will need to follow procedures which are specific to JIT, such as the controlled flow of material (e.g. the use of kanban and elimination of waste). This will involve the individual in the application of the pull system to their job and the authorisation of product/material flows in accordance with procedures and their level of authority.

This unit requires the application of skills associated with planning and organising and self-management to deliver product on demand using necessary tools, equipment and processes to meet production requirements. The unit also requires an ability to recognise and act on problems that may interfere with meeting production demands.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Respond to indicator of demand**	1.1	Identify pull of product through work role.
		1.2	Recognise indicator of flow authorisation.
		1.3	Identify production or service required.
2	**Make products or deliver service to demand**	2.1	Make product or deliver service as required by ticket.
		2.2	Identify any factors likely to prevent demand being satisfied in own work or work of the team.
		2.3	Take action in accordance with procedures.
3	**Update demand information as required**	3.1	Record information on ticket to procedures, as required.
		3.2	Facilitate operation of flow authorisation as part of work.
4	**Recommend improvements**	4.1	Examine the operation of the JIT system as it relates to own work.
		4.2	Identify areas for improvement.
		4.3	Identify any additional personal skill requirements to implement JIT procedures.
		4.4	Recommend improvements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work

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situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
JIT requires availability:	• precisely when the service, product or operation is to be produced or undertaken • in the right quantity and at the right quality.
Product includes one or more of:	• a physical product • a supporting utility service, such as water, gas and power • some other service (e.g. cranes and forklifts).
Indicator of demand includes one or more of:	• kanban bin, ticket or similar • some other indicator of demand pull which authorises production or movement of an item (in some plants, this may also include authorisation using SCADA software).
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets

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- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402021A Apply Just in Time procedures

Links

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Assessment Requirements for MSS402021 Apply Just in Time procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402021A Apply Just in Time procedures

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more JIT procedures, to:

- identify the indicators of demand and the flow authorisation system in their own workplace
- relate products and services supplied by suppliers and customers to the flow authorisation system
- interpret received indicators of demand correctly for quantity, quality and time of delivery
- contribute suggestions for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- JIT methods relevant to own job
- relevant indicator of demands for own job
- own role in flow authorisation
- faults and other issues that may threaten the JIT delivery of own product or service
- procedures for recommending improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include JIT procedures in own workplace

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  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS402031 Interpret product costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS402031A Interpret product costs in terms of customer requirements.

Release 2. Unit code in Application updated. Equivalent outcome.

Application

This unit of competency covers the skills and knowledge required by an individual to be able to identify the major cost components of either products or processes, the basic relationship of these to customer benefit, and use this to help minimise waste (defined as anything not delivering value as defined by the customer). It has a different focus to *MSS402082 Apply cost factors to work practices*, which focuses on costs in isolation, whereas this unit regards all costs not directly leading to customer benefit as waste.

This unit applies to an individual who uses their understanding of the customer's requirements of the product or process being undertaken as the basis for investigating work processes to identify waste sources and then takes action relevant to their level of competency and authority to reduce this waste. It requires an understanding of both the cost factors in the products they make and also the benefits which the customer derives from the product.

This competency may be performed individually or in a team-based environment.

This unit requires the application of skills associated with analysis and problem solving to identify waste and determine ways to minimise waste. This unit requires initiative and enterprise and application of learning in concepts of waste and waste minimisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify cost components deriving from customer benefit and other costs**	1.1	Identify customer features/benefits in product or process being undertaken.
		1.2	Identify cost components which deliver customer features/benefits and those which do not.
2	**Compare required performance of product or process steps with actual performance**	2.1	Identify performance required to meet customer needs in own work and that of team.
		2.2	Identify actual performance.
		2.3	Compare cost components of products or process with current customer-related targets.
		2.4	Separate costs components into those that contribute to customer features/benefits and those that do not.
		2.5	Determine non-contributing cost components which are under control of the individual or team.
3	**Minimise waste**	3.1	Recommend changes to eliminate or reduce waste.
		3.2	Adopt changes which minimises waste.
		3.3	Monitor effect of changes to ensure gains are made against customer features/benefits.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect

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performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just In Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Customer features/ benefits include all of:

- characteristics of the product or service which the customer perceives as meeting their need
- characteristics of the product or service which the customer perceives as adding value
- financial or features items which the customer perceives and a benefit.

Performance includes all of:

- takt - the allowable time to produce one product at the rate and quality customers are demanding it
- the rate of output of the plant compared to the takt time.

Customer-related targets includes all of:

- internally set financial targets that contribute to meeting customer features/benefits
- operational targets that contribute to meeting customer features/benefits
- other targets that contribute to meeting customer features/benefits.

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Contributing cost components include all of:	• costs that make a direct contribution to customer features/benefits. • costs that need to be incurred (although they may be minimised) in order to gain the customer feature/benefit.
Non-contributing cost components include all of:	• costs that do not contribute to customer features/benefits • costs that must be maintained, such as regulatory compliance costs which do not contribute to customer features and so should be minimised • costs that neither contribute to customer features/benefits nor must be maintained (muda) and so should be eliminated if possible.
Muda (waste) includes all of:	• any activity which does not contribute to customer or organisation benefit/features in the product • activities which do not yield any benefit to the organisation or any benefit to the organisation's customers • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402031A Interpret product costs in terms of customer requirements

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402031 Interpret product costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS402031A Interpret product costs in terms of customer requirements.

Release 2. Unit code in Application updated. Equivalent outcome.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, on **one (1)** or more occasions to recommend muda reduction related to their workplace, and to:

- identify and distinguish between cost components leading to customer benefit or otherwise
- take steps to minimise muda in their workplace.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- contributions towards customer perceived benefit
- concepts of expense, income and capital
- fixed and variable cost components relevant to own work:
  - power/energy
  - materials, plant and equipment
  - production or process time, including impact of salary and wages
  - office expenses
  - government taxes and charges
- relative impact of each of these
- financial and non-financial impacts of cost reductions
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402040 Apply 5S procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402040A Apply 5S procedures

Release 2. Duplicated performance Criteria removed. Equivalent outcome.

Application

This unit of competency covers the skills and knowledge required by an individual to apply 5S procedures to their own job and work area. The unit assumes the individual has a particular job and an allocated work area and that processes in the work area are known by the individual.

This unit applies to an individual in an organisation who works in an operational position as part of production, maintenance, logistics, etc. The unit can also apply to individuals in other organisations who have a discrete role and responsibility for individually managed processes.

This unit applies where an organisation has decided to embark on a competitive systems and practices strategy and as part of this has adopted the philosophy of 5S as one of the tools to improve performance. The employee needs to apply 5S to their job and work area and maintain the housekeeping and other standards set by 5S.

This unit requires the application of skills associated with planning and organising, problem solving and self-management, in order to identify and implement 5S housekeeping practices.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Sort needed items from unneeded**	1.1	Identify all items in the work area.
		1.2	Sort items to achieve deliverables and value expected by downstream and final customers.
		1.3	Sort items required for regulatory or other required purposes.
		1.4	Place any non-essential item in an appropriate place other than the workplace.
		1.5	Regularly check that only essential items are in the work area.
2	**Set the workplace in order**	2.1	Identify the best location for each essential item.
		2.2	Place each essential item in its assigned location.
		2.3	After use immediately return each essential item to its assigned location.
		2.4	Regularly check that each essential item is in its assigned location.
3	**Shine the work area**	3.1	Keep the work area clean and tidy at all times.
		3.2	Conduct regular housekeeping activities during shift.
		3.3	Ensure the work area is neat, clean and tidy at both beginning and end of shift.
4	**Standardise activities**	4.1	Follow procedures.
		4.2	Follow checklists for activities, where available.
		4.3	Keep the work area to specified standard.
5	**Sustain the 5S system**	5.1	Clean up after completion of job and before commencing next job or end of shift.
		5.2	Identify situations where compliance to standards is unlikely and take actions specified in procedures.

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5.3 Inspect work area regularly for compliance to specified standard.

5.4 Recommend improvements to lift the level of compliance in the workplace.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

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5S includes all of:
- sort
- set in order
- shine
- standardise
- sustain.

Sort includes all of:
- separating necessary from unnecessary items (equipment and supplies)
- keeping only what is absolutely necessary for the work processes that comprise the job
- disposing of (or relocating) all other items.

Set in order includes all of:
- assigning required equipment and materials appropriate locations in the work area
- consideration of frequency of use, ergonomics and work health and safety (WHS)
- provision of facilities to maintain the locations.

Shine includes one or more of:
- keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process
- keeping work area organised
- noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention.

Best location includes one or more of:
- changes to the layout of furniture
- arrangement of equipment
- provision of services
- location of personnel.

Standardising includes one or more of:
- activities that help maintain the order and the housekeeping standards
- using procedures and checklists developed from a procedure.

Sustain includes one or more of:
- making sure that daily activities are completed every day regardless of circumstance
- cleaning up after a job
- undertaking inspections, including:
- informal inspections carried out often, at least weekly

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- formal inspections carried out at least monthly
- generating continuous improvement actions from daily activities
- following up specific actions to generate continuous improvement.

Items in work area include one or more of:

- tools
- jigs/fixtures
- materials/components
- plant and equipment
- manuals
- personal items (e.g. bags, lunch boxes and posters)
- safety equipment and personal protective equipment (PPE)
- other items which happen to be in the work area.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402040A Apply 5S procedures

Release 2. Equivalent to MSS402040 Apply 5S procedures Release 1.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402040 Apply 5S procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402040A Apply 5S procedures

Release 2. Duplicated performance Criteria removed. Equivalent outcome.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, in one (1) or more allocated areas, to:

- implement and sustain 5S in own workplace
- identify own tasks and responsibilities
- contribute suggestions for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- purpose of 5S in the workplace
- meaning and application of 5S steps to own workplace and job
- principles of efficient workplace organisation
- identifying waste (muda)
- procedures for recommending improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the application of 5S procedures in a work area where 5S has not previously been undertaken, or, demonstration of sustaining 5S principles in a work area that has already undergone prior 5S procedures
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402041 Apply 5S in an office

Modification History

Release 1. Supersedes and is equivalent to MSS402041A Apply 5S in an office

Application

This unit of competency covers the skills and knowledge required by an office employee to apply 5S procedures to their own job or to assist in a cooperative 5S implementation for a larger office area. The unit includes the skills required to adapt a traditional 5S approach to the particular issues and needs in an office implementation.

This unit applies to an individual in an office environment who is required to apply the structured approach known as 5S.

While covering the traditional 5S skills, the unit also requires the application of skills associated with planning and organising, problem solving and self-management in order to identify and implement 5S practices in an office environment.

The office environment for 5S may include administrative, transactional or service-based processes in, or attached to, a manufacturing organisation, within their value stream or similar environments, such as health care, education, financial, construction or Defence services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for implementation of 5S**	1.1	Identify own functions in the target work area in terms of internal and/or external customer requirements.
		1.2	Identify how own and office team tasks contribute to the office functions.
		1.3	If required, assist with process mapping to identify any gaps or clarification of customer expectations of office functions.
		1.4	Confirm arrangements for assistance and reporting for 5S implementation.
2	**Sort needed items from unneeded**	2.1	Identify all items in own and wider office area.
		2.2	Distinguish between essential and non-essential items.
		2.3	Place any non-essential item in an appropriate location other than the work area/space.
		2.4	Regularly check that only essential items are in the work area.
3	**Set the workplace in order**	3.1	Identify the best location for each essential item.
		3.2	Place each essential item in its assigned location.
		3.3	After use immediately return each essential item to its assigned location/state or condition.
		3.4	Regularly check that each essential item is in its assigned location/state or condition.
4	**Shine the work area**	4.1	Keep the work area clean, tidy and organised at all times.
		4.2	Conduct regular ‘shine’ activities during shift.
		4.3	Ensure the work area is neat, clean, tidy and organised at

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			both beginning and end of shift.
		4.4	Report any malfunction, damage and/or safety risks that require immediate attention.
5	**Standardise activities**	5.1	Follow procedures.
		5.2	Follow checklists for activities, where available.
		5.3	Keep the work area to specified standard.
6	**Sustain the 5S system**	6.1	Clean up/organise workspace after completion of job and before commencing next job or end of shift.
		6.2	Identify situations where conformance to standards is unlikely and take actions specified in procedures.
		6.3	Inspect work area regularly for conformance to specified standard.
		6.4	Recommend improvements to lift the level of conformance in the workplace.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three

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of:	sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
5S includes all of:	• sort • set in order • shine • standardise • sustain.
Items in work area include one or more of:	• office supplies • materials • paperwork • furniture • storage systems and cabinets • lighting, wiring, plumbing and other services designed to support a working environment in the office • manuals • personal items (e.g. bags, phones, lunch boxes, clothing, photos and ornaments) • safety and personal protective equipment (PPE) • any other item which happens to be in the work area.
Appropriate places include areas designated for one or more of:	• recycling • rubbish removal • staff room/lunch room/kitchen • office supplies, filing and other storage • functions, such as printing/copying

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	• holding until status is confirmed.
Target work area includes a physical or virtual workspace for one or more of:	• use by a person, a team or a cross-functional group • common to part/s of a process or value stream (already defined) • shared by people who undertake a defined procedure or set of procedures • needed to support a particular function.
Best location includes one or more of:	• changes to the layout of furniture • arrangement of equipment • provision of services • location of personnel.
Sort includes all of:	• separating necessary from unnecessary items (equipment and supplies) • keeping only what is absolutely necessary for the work processes that comprise the job • disposing of (or relocating) all other items.
Set in order includes all of:	• assigning required equipment and materials appropriate locations in the work area • consideration of frequency of use, ergonomics and work health and safety (WHS) • provision of facilities to maintain the locations.
Shine includes one or more of:	• keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process • keeping work area, including virtual work area, organised • noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention.
Standardising includes one or more of:	• activities that help maintain the order and the 5S standards • using procedures and checklists developed from a procedure.
Sustain includes one or more of:	• making sure that daily activities are completed every day regardless of circumstance • undertaking inspections, including: • informal inspections that should be carried often, at least

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weekly
- formal inspections that should be carried out at least monthly.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402041A Apply 5S in an office

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402041 Apply 5S in an office

Modification History

Release 1. Supersedes and is equivalent to MSS402041A Apply 5S in an office

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, in one (1) or more allocated areas, to:

- implement and sustain 5S in own workplace
- identify the scope of the services and/or functions supplied by the office and the deliverables expected by customers
- identify own tasks and responsibilities as they relate to the organisation and customer requirements
- contribute suggestions for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- 5S concepts and procedures as applied to an office environment, including:
  - meaning and application of 5S to own job and to office
  - purposes of 5S
- standard office procedures for own activities and of others in team
- identifying office waste (muda)
- procedures for recommending improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency

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  - must include the application of 5S procedures in an office setting where 5S has not previously been undertaken, or, demonstration of sustaining 5S principles in an office that has already undergone prior 5S procedures
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402050 Monitor process capability

Modification History

Release 1. Supersedes and is equivalent to MSS402050A Monitor process capability

Application

This unit of competency covers the skills and knowledge required for gathering of data and the interpretation of simple information to determine the compliance of the process and the taking of action as defined by the procedures where the information reveals the process is out of control parameters.

This unit applies to an individual in an organisation adopting specific competitive systems and practices, usually either six sigma or statistical process control/three sigma, as a means of determining and improving the capability of their process to customer requirements. The individual is involved in collecting specified data and performing specified manipulations to the data (typically by plotting on a chart or by entering into a nominated computer program). The information is typically presented to team members in terms of graphs/charts which they are expected to interpret at a basic level and then take action in accordance with procedures to restore the process to being under control parameters.

This unit requires the application of skills associated with entering and monitoring operational data and information and requires initiative, enterprise and problem solving in identifying production variations and making improvement recommendations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Collect and process data**	1.1	Take specified measurements/readings/observations, as required.
		1.2	Enter data in log, computer or other record.
		1.3	Manipulate and/or chart data as required by procedures.
2	**Identify variations that are not random and take action**	2.1	Examine chart and/or reliability information.
		2.2	Distinguish between random variations and those with an identifiable cause.
		2.3	Take action specified in procedures when a variation with an identifiable cause occurs.
3	**Assist in process improvement**	3.1	Collect data for process capability improvement trials.
		3.2	Make recommendations for improvement.
		3.3	Implement revised capability monitoring procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems	• lean operations

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and practices include one or more of:	• agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Process capability includes one or more of:	• the capability of the process to deliver to customer defined requirements • process stability against standardised practices and documentation to eliminate variation against customer requirements • statistical capability to deliver product within a specified range • a statistical technique to determine the range within which a product might be expected to fall.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402050A Monitor process capability

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402050 Monitor process capability

Modification History

Release 1. Supersedes and is equivalent to MSS402050A Monitor process capability

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to assist in one (1) or more process improvements and to routinely:

- collect and process data
- identify non-random variations and take the action specified in the procedures
- make recommendations for improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- defects and defective product
- variation and the related statistical distribution
- control charting (or similar) methods
- analysis of information to identify trends or other non-random results
- determination of identifiable causes from variation information
- process capability determination from variation data.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include routine collection of data and identification of non-random variation in own workplace
  - must include participation in a process capability improvement project

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  - will typically include the use of appropriate statistical tools, aids and apps.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402051 Apply quality standards

Modification History

Release 1. Supersedes and is equivalent to MSS402051A Apply quality standards

Application

This unit of competency covers the skills and knowledge required to apply quality standards to work operations in an organisation. The unit is designed to complement competitive systems and practices units.

This unit applies to an individual who is expected to take responsibility for the quality of their own work, and to take actions specified in the procedures and within the scope of their job and authority to ensure that quality standards are met.

This unit requires the application of skills associated with interpreting and applying workplace standards and identifying and addressing problems that interfere with quality outcomes. The unit requires initiative, enterprise and self-management to ensure quality standards are achieved.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Assess own work**	1.1	Continuously check completed work against workplace standards relevant to the operation being undertaken.
		1.2	Demonstrate an understanding of how the work activities and completed work relate to the next production process or processes and to the final products or services concerned.
		1.3	Identify and isolate faulty components, products or processes.
		1.4	Record and/or report faults and any identified causes to the supervisor concerned, where required, in accordance with workplace procedures.
2	**Assess quality of received components, parts or materials**	2.1	Continuously measure/check received components, parts, materials, information, service or final products against workplace standards and specifications for conformance.
		2.2	Demonstrate an understanding of how the received components, parts or materials, information or service relate to the current operation and how they contribute to the final quality of the product or service.
		2.3	Identify and isolate faulty components, parts, materials or information that relate to the operator's work.
		2.4	Record and/or report faults and any identified causes in accordance with workplace procedures.
		2.5	Identify causes of any identified faults and take corrective action as specified in workplace procedures.
3	**Investigate causes of quality deviations**	3.1	Record information on quality and other indicators of process performance.
		3.2	Investigate and report causes of deviations from specified quality standards for components.
		3.3	Recommend suitable preventative action based on workplace quality standards and the identified causes of deviations from specified quality standards of materials.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Quality parameters include one or more of:

- finish
- size
- durability
- product or process variations
- materials
- alignment
- colour
- damage and imperfections

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	• time • is complete/contains all required information/data • complies to template • uses the correct styles and formats.
Quality checks include one or more of:	• visual inspection • physical measurements • chemical tests • checks against patterns, templates, styles, formats and guides • processing time.
Materials include one or more of:	• physical raw materials • orders, forms and other documentation • services required for undertaking an operation (e.g. power, water, compressed air and fuel).
Procedures (written, verbal, visual, computer based, etc) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Indicators of production performance include one or more of:	• number of items/production rate • delays and causes of delays (where known) • other information as specified in the procedures.
Data entry/recording includes one or more of:	• keyboard • written (including ticks or signs) • verbal.
Sources of information/ documents include one or more of:	• quality and Australian Standards and procedures • work instructions, patterns, designs and recipes • organisation work procedures • manufacturer instructions for materials and equipment • organisational or external personnel

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	• customer requirements.
Investigate and report requires following set procedures which include one or more of:	• verbal instructions • documented procedures • other quality procedures as implemented within an organisation or work environment.

Workplace context includes one or more of:	• work organisation procedures and practices relating to the manufacture and quality outcomes for products
	• conditions of service, legislation and industrial agreements, including:
	  • workplace agreements and awards
	  • federal or state/territory legislation
	  • standard work practice.

Reporting/communication includes one or more of:	• verbal and written communication in accordance with organisational policies and procedures • oral, written or visual communication, including simple data.
Being responsible for the maintenance of own work quality includes one or more of	• contributing to the quality improvement of team or section output, where necessary, in accordance with workplace procedures • following safety, environmental, housekeeping and quality procedures as specified by materials/machine/equipment manufacturers, regulatory authorities and the organisation.
Applicable regulations and legislation include one or more of	• work health and safety (WHS) legislation relevant to workplace activities • workers compensation legislation.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402051A Apply quality standards

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402051 Apply quality standards

Modification History

Release 1. Supersedes and is equivalent to MSS402051A Apply quality standards

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more products/processes, to:

- check and measure relevant quality parameters
- interpret results of quality checks in terms of specifications, patterns and work standards
- take required action where standards of materials, component parts, final product or work processes are found to be unacceptable
- maintain accurate records.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- relevant quality standards, policies and procedures
- relevant production processes, materials and products
- relevant measurement techniques and quality checking procedures
- reporting procedures.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the application of quality standards to own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402052 Implement continuous improvements based on standardised work practices

Modification History

Release 1. Supersedes and is equivalent to MSS402052A Implement continuous improvements based on standardised work practices

Application

This unit of competency covers the basic skills and knowledge required for individuals to apply standardised work practices as part of implementing continuous improvement in an organisation.

The implementation of standardised work may apply in a manufacturing, office, logistics or other service environment along any part of the value stream. It applies to the person's own job at whatever organisational level they are employed. The standard work procedures may apply to every step of the job or it may apply to procedures which allow discretion in the application.

The person will typically be working closely with others, as part of a formal team, an ad hoc team or otherwise. They will liaise and communicate with these others as required by the job and standard procedures.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify standardised procedures applicable to work**	1.1	Identify current operation and tasks in own work.
		1.2	Check each operation and task to ensure it is required to meet customer need.
		1.3	Select relevant procedures applicable to operations and tasks to meet customer, regulatory and other required needs.
		1.4	Obtain takt time required for each selected operational step and task and compare with available time.
		1.5	Incorporate takt time and selected operational step and task in daily work plan, as appropriate.
		1.6	Take required action when time to complete operational steps and tasks exceeds takt time.
		1.7	Liaise with relevant people regarding need to undertake any operations and tasks not directly related to customer benefit.
2	**Follow standardised practices**	2.1	Complete own required operations following standardised procedures and practices.
		2.2	Note factors preventing the full application of standardised procedures and practices.
		2.3	Identify variability in actual processes and products.
		2.4	Identify waste which arises from following standard procedures and practices.
3	**Make improvements**	3.1	Suggest possible improvements for identified problems in accordance with continuous improvement procedures.
		3.2	Check suggested improvement in accordance with continuous improvement procedures.
		3.3	Examine outcome of checking process and standardise improvement, if appropriate.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Customer includes one or more of:	• internal customers • external customers • the final customer.

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Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Takt time (the time required to complete one job cycle if the customer's time and volume expectations are to be met) includes one or more of:	• time per piece where applied to piece work • time per tonne or litre when applied to bulk product • time per work item when applied to an office or service environment • deadlines required to meet delivery dates when applied to project work • target cycle time for sporadic processes or processes not linked to a customer requirement (e.g. a regulatory requirement) • other measures appropriate to the process.
Required action includes one or more of:	• reporting to appropriate person • prioritising work according to standardised procedures • acquiring/allocating additional resources according to standardised procedures • other actions specified in the procedures.
Causes of time to complete exceeding takt time include one or more of:	• cycle time (mean time taken to actually do the job) is longer than takt time • multiple jobs required in the same timeframe (i.e. priority conflict) • takt time cannot be met with resources available • takt time is longer than available time.
Variability includes one or more of:	• different times taken to do the same thing • different effort taken to do the same thing • different results from applying the same effort (i.e. variation in quality) • amount of rework required.
Muda (waste)	• activity that does not contribute to value as perceived by the customer

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includes all of:

- overproduction
- waiting
- transporting
- inappropriate processing
- unnecessary inventory
- excess motion
- defects
- underutilised employees.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402052A Implement continuous improvements based on standardised work practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402052 Implement continuous improvements based on standardised work practices

Modification History

Release 1. Supersedes and is equivalent to MSS402052A Implement continuous improvements based on standardised work practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to suggest two (2) or more improvements and to:

- use standardised procedures
- identify variability and muda
- develop a daily plan using takt time and available time.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- determination and use of takt time
- determination and use of available time
- identification of variability and muda
- approaches to continuous improvement.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include suggesting continuous improvements in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402053 Participate in breakthrough improvements in an office

Modification History

Release 1. Supersedes and is equivalent to MSS402053A Participate in breakthrough improvements in an office

Application

This unit of competency covers the skills and knowledge required by an office employee to participate in team activities to identify how to radically improve selected office-related processes to eliminate waste and improve value-add to the customer and to implement and sustain the changes in their own work.

The unit covers team members contributing to the breakthrough improvements based on knowledge of their own and the broader office functions and how they contribute to meeting customer requirements.

This unit assumes that one or more processes in the office have been mapped and a target area for breakthrough improvement has been identified.

The office environment may include administrative, transactional or service-based processes in or attached to a manufacturing organisation, within their value stream or similar environments, such as health care, education, financial, construction or Defence services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Contribute to planning improvement events**	1.1	Identify own role and functions and those of the broader office and how they contribute to value to the customer.
		1.2	Make suggestions for changes that might lead to improvements in the targeted process.
		1.3	Participate in team activities to identify breakthrough improvements to be implemented.
		1.4	Identify own project tasks and task sequencing for improvements.
2	**Assist in making improvements**	2.1	Identify metrics relevant to own role in the target process.
		2.2	Gather baseline data on these metrics.
		2.3	Undertake tasks as allocated in the project plan.
		2.4	Communicate with team and project leader on progress, achievements and difficulties.
		2.5	Contribute to making adjustments and finding solutions to problems.
3	**Contribute to evaluating improvements**	3.1	Gather comparative data on the metrics once changes have been made.
		3.2	Participate in team activities to evaluate the outcomes of the event.
		3.3	Make suggestions for additional changes and/or improvements for areas of poor performance.
4	**Sustain improvements**	4.1	Consistently apply the new procedures/processes in own work area.
		4.2	Apply monitoring mechanisms.

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4.3 Report non-conformances and suggestions for further improvements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
A physical or virtual office includes one or more of:	• conducts information/administrative/transaction/service-based functions • produces information and/or services as deliverables to internal or external customers

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	• stores records in hard copy or electronically.
Breakthrough improvement includes all of:	• delivers a significant level of improvement e.g. a better ratio of value-add to non-value add from the customer perspective • uses a formal process • is a discrete targeted activity that is achieved in a relatively short timeframe.
Monitoring mechanisms include one or more of:	• scheduled audits • regular monitoring and/or reporting activities • communications, such as standing items for team meetings • tracking and visual display of performance measures.
Muda (waste) includes one or more of:	• errors in documents or data • transport of documents • doing unnecessary work • waiting for the next process step • process of getting approvals • unnecessary motions • backlog in work queues • underutilised employees • too many signature/approval levels • unclear job descriptions • obsolete databases/files/folders • collecting unnecessary data • interruptions that do not add value • purchase orders not matching quotation • full or bulk printouts when partial printout would do • printing out when electronic files could serve the purpose • holding unnecessary stock of office supplies • generating reports that are not read • other activities which do not yield any benefit to the organisation or any benefit to the organisations customers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402053A Participate in breakthrough improvements in an office

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Assessment Requirements for MSS402053 Participate in breakthrough improvements in an office

Modification History

Release 1. Supersedes and is equivalent to MSS402053A Participate in breakthrough improvements in an office

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, on one (1) or more occasions, to:

- participate in a breakthrough improvement activity
- implement improvements relevant to own job
- contribute to evaluation of improvements
- sustain improvements in own job/work area.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- breakthrough improvement/kaizen blitz processes
- kaizen and kaizen blitz, their differences and complementarity
- performance metrics – gathering and using
- evaluation of improvements
- methods of monitoring and sustaining performance.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402061 Use SCADA systems in operations

Modification History

Release 1. Supersedes and is equivalent to MSS402061A Use SCADA systems in operations

Application

This unit of competency covers the skills and knowledge required by an individual to interact with a System Control and Data Acquisition (SCADA) system as part of their job.

This unit applies to an individual in an organisation using a SCADA system and the individual must interface with that system. The individual will need to access this system as part of their routine and take actions based on the information they obtain from the SCADA system in accordance with procedures.

This unit requires the application of skills associated with using communication tools and technology for management of own work, planning and problem solving.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Use operator interface**	1.1 Identify SCADA terminals relevant to own workstation and functions.

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		1.2	Use keyboards, track ball, monitor and/or stand-alone controllers to access/interrogate system.
		1.3	Use correct level of access and find all relevant screens and information.
		1.4	Access message section and acknowledge messages.
		1.5	Input and output information correctly according to program and organisation requirements.
2	**Use information**	2.1	Obtain data and information from SCADA, as required, including process, supply and product chain data.
		2.2	Interpret data and information as required by own job.
		2.3	Find and use relevant historical data and information.
		2.4	Use manufacturer manuals or specifications, as required, to expand knowledge of SCADA system relevant to own work.
		2.5	Determine and prioritise required actions.
3	**Make required changes in accordance with procedures**	3.1	Adjust production/process in response to SCADA information.
		3.2	Record adjustments and variations to specifications/schedules and report to appropriate personnel.
		3.3	Seek feedback and information on adjustments to further improve procedures, where required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402061A Use SCADA systems in operations

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402061 Use SCADA systems in operations

Modification History

Release 1. Supersedes and is equivalent to MSS402061A Use SCADA systems in operations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for three (3) or more adjustments to production/process utilising SCADA information, to:

- identify scope and relevance of SCADA system to own work
- access correct levels of SCADA system
- enter and retrieve data, including normal performance and variations
- use SCADA system to assist in own work.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- hierarchy of SCADA system and operation
- available information from, and controls exercised by, SCADA system.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include use of SCADA systems in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

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- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402080 Undertake root cause analysis

Modification History

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

Application

This unit of competency covers the skills and knowledge required to undertake root cause analysis (RCA). This unit also covers the competencies needed by operators to contribute to an advanced maintenance strategy using RCA coupled with diagrams and charts.

This unit applies to individuals working in an organisation that is applying competitive systems and practices strategies. The unit applies to the formal problem solving to root cause that the individual must undertake in their own work area or where the individual contributes to problem solving to root cause as part of a team.

This unit requires an ability to seek and apply information from a variety of sources in order to inform RCAs. Initiative and enterprise is also required to identify quick fix and permanent solutions to problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Recognise problems**	1.1	Identify features or occurrences indicative of a problem.
		1.2	Use appropriate tools, techniques and charts to define the problem.
2	**Implement quick fix**	2.1	Recommend a quick fix within the scope of competency and authority.
		2.2	Use technology or processes relevant to the problem to implement quick fix.
3	**Determine root cause**	3.1	Identify a range of possible causes.
		3.2	Gather data and other information to eliminate or confirm possible causes.
		3.3	Use available data and information to link causes and effects.
		3.4	Seek assistance to obtain additional information if problem is beyond own competency/authority.
		3.5	Identify root cause.
4	**Develop permanent solution**	4.1	Identify a range of methods to eliminate the root cause or break the cause tree.
		4.2	Select the most appropriate solution.
		4.3	Liaise with relevant people.
		4.4	Recommend or implement solution within the limits of competency and authority.
		4.5	Monitor impact of solution and make further recommendations, as required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Problems include one or more of:

- variation to normal plant or equipment operation
- unplanned or non-conforming process or operations outcomes
- out of specification products
- excess scrap
- accidents and emergencies
- regulatory breaches
- customer returns and complaints
- reduction or loss of sales.

Techniques/charts include one or more

- control charts
- Pareto charts

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of:

- run charts
- flow charts
- cause and effect diagrams
- tree diagrams
- 5 Whys analysis
- organisation specified/mandated methods.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402080 Undertake root cause analysis

Modification History

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more problems, to:

- undertake problem identification
- use appropriate processes to achieve root cause identification
- recommend solutions and implementation procedures to problems within own area
- monitor implementation of solutions.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- methodology of root cause analysis, including:
  - difference between quick fix and root cause elimination
  - breaking of causal tree
- indicators of problems and variances to normal operation
- relevant analysis tools (e.g. Pareto charts, 5 Whys).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include a root cause analysis in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402081 Contribute to the application of a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS402081A Contribute to the application of a proactive maintenance strategy

Application

This unit of competency covers the skills and knowledge required by an individual to make a positive contribution to proactive maintenance strategies, including actions that contribute to equipment uptime and overall equipment effectiveness (OEE). This unit applies in an organisation which is following a predictive, preventative or reliability-centred maintenance strategy and which requires commitment from all employees. The employee should 'own' their equipment/plant and take an active part in the implementation of the strategy within the scope of their authority.

This unit requires the application of skills associated with accessing and maintaining equipment/plant documentation. It also requires problem solving, initiative and enterprise to continually monitor and maintain operational performance of equipment/plant used in work role.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Maintain equipment/plant**	1.1	Keep equipment/plant within area of responsibility clean.
		1.2	Ensure equipment/plant is serviced and adjusted, as required, in accordance with procedures and own level of responsibility.
		1.3	Access manufacturer manuals and specifications, where required, to expand knowledge on the maintenance of equipment/plant.
		1.4	Access and update documentation on equipment/plant operation and maintenance in accordance with workplace procedures.
2	**Monitor operation of equipment/plant**	2.1	Regularly check key conditions of the equipment/plant as defined in workplace procedures.
		2.2	Regularly check equipment/plant OEE.
		2.3	Note any deviation from conditions specified in procedures.
3	**Identify deviations and patterns**	3.1	Identify any previous occurrences of a deviation.
		3.2	Identify any related deviations which have occurred.
		3.3	Identify any unusual occurrence which may be related to a deviation.
4	**Take action appropriate to competency and authority on deviation**	4.1	Liaise with relevant people regarding the deviation and the solution.
		4.2	Implement solution and/or assist with the implementation of the solution, as appropriate.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- OEE
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Uptime includes one or more of:

- the overall availability of the plant
- the inverse of downtime or the unavailability of the plant
- the fraction, percentage or time the plant is available for production.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions

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- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402081A Contribute to the application of a proactive maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402081 Contribute to the application of a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS402081A Contribute to the application of a proactive maintenance strategy

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include the ability to monitor equipment/plant in one (1) or more areas, and to:

- maintain the equipment/plant to the required standard
- identify deviations in OEE requiring action
- take the action required by the procedures.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- interpretation of trends or other non-random variation
- determining OEE (availability x performance x quality rate) and uptime metrics
- principles of operation of plant/equipment and factors likely to cause deviations in performance
- identifying deviations requiring action
- appropriate actions for dealing with deviations.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the application of proactive maintenance in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402082 Apply cost factors to work practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to identify cost components in work practices and determine, in general terms, the cost impacts of alternative actions.

The unit applies to assessing the relative costs of the alternatives and using this as one of the key factors in making decisions. Decisions are made within the scope of the employee's authority and according to procedures. Typical decisions include those that contribute to the efficient organisation of own work and the improvement of production time and cycle times.

Employees are required to use problem solving to identify cost factors and cost implications of own work and self-management to apply cost-effective practices.

This unit applies to an individual who is required to contribute to, and be involved in, the assessment of cost factors in their work. This may be done individually or in a team environment.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Identify the major cost**	1.1 Identify cost components in the product or process in own work area

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
components of product or process in own work area	1.2	Recognise the impact of current or alternative actions on costs
2 **Identify constraints to cost-efficiency**	2.1	Identify required production or process rate and major costs
	2.2	Identify costs factors under individual or team control
	2.3	Relate identified costs factors to impact on overall cost of production or process
	2.4	Identify cost factors that are a constraint to cost-efficiency in own work area
3 **Apply cost-efficient work practices**	3.1	Identify and explain to relevant people the implications of actions and changes to improve cost-efficiency in simple financial terms
	3.2	Identify non-financial implications of proposed changes in discussion with relevant people
	3.3	Select actions which minimise overall costs
	3.4	Monitor actions to ensure cost-efficiency in own work area is maintained

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402030 Apply cost factors to work practices.

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Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402082 Apply cost factors to work practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified cost factors and cost implications of at least 1 product or process in own work and applied cost-effective practices.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concepts of expense, income and capital
- relative impact of fixed and variable cost components relevant to own work, including:
  - power and energy
  - materials, plant and equipment
  - production or process time, including impact of salary and wages
  - office expenses
  - government taxes and charges
- financial and non-financial impacts of cost reductions
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402083 Use planning software systems in operations

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to access planning software (often known as Enterprise Resource Planning (ERP), Materials Resource Planning (MRP and MRPII), and often by a proprietary name, to make routine business decisions required of the person as a regular part of their job.

This unit applies to an individual in an organisation using a planning software system and who must interface with that system. The unit applies to both accessing information from the planning software system and using it as an aid to decision making. This unit requires the application of communication, planning, and problem solving associated with using planning software in own work.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Use interface**	1.1 Identify terminals relevant to own workstation and functions
		1.2 Use peripherals to access system

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Navigate through system and screens to find program menu and data relevant to own work
		1.4	Identify and input information on own work processes at required frequency and to required detail
		1.5	Access message section and read and acknowledge messages
		1.6	Identify problems and make suggestions for improvements to relevance of planning software to own work
2	**Access information**	2.1	Identify work processes that require information from planning software system
		2.2	Obtain data and information on current operations from the planning software system
		2.3	Identify the status of items in the value stream
		2.4	Access and read historical data and information
		2.5	Read and interpret information and identify and prioritise actions required in response to information
3	**Take action in accordance with procedures**	3.1	Take action in response to information obtained from planning software
		3.2	Follow up to ensure anticipated results have occurred
		3.3	Record adjustments and variations
		3.4	Identify any learning needs to use planning software and seek support

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402060 Use planning software systems in operations.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402083 Use planning software systems in operations

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit and:

- used planning software systems for at least 3 different purposes, utilising outcomes to aid decision making.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- planning software system and operation, including:
  - terminal locations and types
  - security and access arrangements
  - information held in planning software relevant to own work
  - data collection methods for operations in work area
  - assistance arrangements for users of planning software
  - business activities exercised with the planning software system
- procedures for recommending improvements
- data and information sources.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - planning software systems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

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MSS403001 Review competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403001A Implement competitive systems and practices

Application

This unit of competency covers the skills and knowledge required by an individual to review competitive systems and practices in their own work in a way that integrates with others in the team or work area who are also implementing competitive systems and practices. The unit focuses on the holistic application of competitive systems and practices to achieve improved performance in own work and in activities with others in the team or work area that contribute to improving customer benefit. Depending on the operations or processes in the team or work area the unit may also include interaction with other teams and work areas.

The unit is suitable for individuals who have formal responsibility for the work of others, such as team leaders. It is also suitable for individuals, such as technicians and tradespeople, who must integrate the application of their technical skills with the implementation of competitive systems and practices in an organisation.

The unit applies to the areas of cost, quality, delivery, safety/environment, and employee capability, including continuous reviewing of performance against these five areas in liaison with other relevant people. Improvement initiatives in these five areas are usually developed and implemented with the support of technical support staff. Whereas other units may emphasise the competence to use one or more competitive practices, this unit emphasises the ability to advance on all five key areas over a moderate time period.

This unit requires the application of skills associated with problem solving and initiative and enterprise in order to identify opportunities to make improvements and maximise performance. Communication, the ability to work in a team and planning and organising skills are required to implement improvements and address any conflicts that arise. This unit also requires an ability to identify appropriate technology, and to consider and integrate feedback on how personal performance can be improved.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Contribute to the improvement of the operations system in team or work area**	1.1	Identify key performance indicators (KPIs) for area of operations.
		1.2	Review competitive systems and practices to improve health, safety and environment (HSE) performance of self and others.
		1.3	Review competitive systems and practices to maximise quality consistency.
		1.4	Review competitive systems and practices and identify any skill and training issues that need to be addressed to improve capability of self and others.
		1.5	Review competitive systems and practices to maximise customer benefit/cost ratio.
		1.6	Review competitive systems and practices to reduce lead time to delivery within the scope of authority and responsibility.
		1.7	Work with relevant stakeholders to resolve conflicts which arise from implementation of competitive systems and practices.
		1.8	Select improvements which will deliver the greatest overall benefit for the resources required/available without reducing current performance on individual factors.
2	**Implement improvements**	2.1	Implement the chosen improvement/s.
		2.2	Check the selected improvements improve the system as

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a whole and do not result in unintended consequences.

2.3 Monitor implementation and make adjustments, as required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Customer includes one or more of:	• internal customers • external customers

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	• final customer.
Supplier includes one or more of:	• internal supplier • external supplier • ultimate source of inputs (e.g. raw materials) to the process.
Muda (waste) includes all of:	• any activity which does not contribute to customer perceived benefit/features • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • other activities which do not yield any benefit to the organisation or any benefit to the organisations customers.
Operations includes all of:	• process • plant and equipment • procedures and practices • skills and work organisation of the workforce • other components which make up the productive organisation.
Implement improvements within one or more of:	• own job role • processes and operations in the work area or team.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403001A Implement competitive systems and practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403001 Review competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403001A Implement competitive systems and practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to contribute to and implement improvements on one (1) or more occasions and to improve performance in:

- cost
- quality
- delivery
- safety/environment
- employee capability.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- techniques for monitoring cost, quality, delivery, safety/ environment and employee capability
- muda (waste)
- kaizen (continuous improvement)
- key performance indicators (KPIs), their use and problems
- cost components of products (goods or services)
- techniques for identifying and improving employee capability.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403005 Facilitate use of a Balanced Scorecard for performance improvement

Modification History

Release 1. Supersedes and is equivalent to MSS403005A Facilitate use of a Balanced Scorecard for performance improvement

Application

This unit of competency applies in organisations using a Balanced Scorecard approach to performance improvement. In these organisations the unit applies to individuals in a team or workgroup who facilitate the use of the Balanced Scorecard through leading, assisting and/or motivating others in using the Balance Scorecard approach.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative, enterprise, and planning and organising in order to provide leadership in the interpretation, review and strategic response to Balanced Scorecard results.

This unit has a strong emphasis on identifying and reviewing required performance measures and requires an ability to use new information to improve performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Interpret Balanced Scorecard results**	1.1	Identify patterns of performance shown on strategy map.
		1.2	Identify actions indicated by Balanced Scorecard results.
		1.3	Discuss results with fellow employees and other relevant stakeholders.
		1.4	Facilitate the selection of required actions with employees and other stakeholders.
		1.5	Facilitate the development of implementation plans for team or individuals.
		1.6	Facilitate the implementation of required actions from developed plans.
		1.7	Follow up on implementation to ensure it occurs as planned.
2	**Review key performance indicators (KPIs) in the Balanced Scorecard for the organisation and work area**	2.1	Relate area and other KPIs to strategy map/strategic objective.
		2.2	Review the actions required by self and others to meet each KPI.
		2.3	Compare current actions to the optimal actions to achieve strategy.
		2.4	Discuss with employees and other stakeholders any modifications to KPIs which will better meet strategy.
		2.5	Recommend amendments to KPIs to relevant personnel.
3	**Review reporting systems for Balanced Scorecard information**	3.1	Review reporting systems to ensure information needed by self, other employees in area and organisation is available.
		3.2	Review the mix of operational and strategic information to ensure it is appropriate for work area.
		3.3	Review information provided for relevance and currency, and that it is meaningful and not excessive.
		3.4	Recommend improvements to reports and reporting

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system, as appropriate.

4	**Lead improvement to work area total performance**	4.1	Compare actual performance of teams, work areas or individuals with desired total performance using KPIs and other Balanced Scorecard information.
		4.2	Discuss with team ways of improving total performance.
		4.3	Lead processes for improvement in total performance.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems ,including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving

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- run charts
- standard procedures
- current reality tree.

Team includes one or more of:

- all individuals in the target work area who are involved in the implementation and use of the Balanced Scorecard
- formally designated team working to a team leader
- informal or *ad hoc* team/group of people.

Balanced Scorecard includes all of:

- an organisation's vision and strategy
- establishing and measuring enterprise activity in a number of different financial and non-financial perspectives
- use of KPIs related to an overall strategy map
- use of metrics for KPI components, such as customer, environmental, internal business process and learning and growth.

KPIs include all of:

- financial performance measures
- non-financial performance measures against targets
- other performance indicators relevant for informing the teams activities (e.g. performance indicators for other areas or sections, suppliers or customers).

Actions include one or more of:

- corrective action for poor results
- confirming action for acceptable results
- taking steps to ensure actions for good results are consistently maintained
- changes to performance indicators or performance measurement.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403005A Facilitate use of a Balanced Scorecard for performance improvement

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403005 Facilitate use of a Balanced Scorecard for performance improvement

Modification History

Release 1. Supersedes and is equivalent to MSS403005A Facilitate use of a Balanced Scorecard for performance improvement

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to review Balanced Scorecard use on two (2) or more occasions and to:

- interpret Balanced Scorecard results
- review key performance indicators (KPIs)
- review reporting
- use this to help improve total performance.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- components of the Balanced Scorecard, including perspectives, feedback loops, targets and metrics, and reporting systems
- analysis of Balanced Scorecard information
- uses and limitations of KPIs and the alignment of KPIs with the organisations strategy map
- how to identify areas for improvement from Balanced Scorecard information.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - single projects which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403006 Facilitate implementation or review of competitive systems and practices in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403006A Facilitate implementation of competitive systems and practices in an office

Application

This unit of competency covers the skills and knowledge required by individuals who are responsible for facilitating or leading the implementation/review of competitive systems and practices in an office or administration environment and considering the implications of competitive operations beyond their own job. Examples include individuals who have formal or informal responsibility for the work of others, such as team leaders; senior administrative staff who must mentor others; individuals participating in a competitive systems and practices implementation team; and technical and administrative specialists who must integrate the application of their technical skills with the implementation of competitive systems and practices in the office and the organisation as a whole.

This unit applies where a decision has already been made to improve the efficiency of an office or administrative system through the use of competitive systems and practices. The unit applies after a business case has been approved.

The unit includes checking that there is commitment to the implementation of competitive systems and practices and sufficient basic skills and knowledge held by employees in the office to allow implementation of competitive systems and practices.

This unit does not supply the detailed skills and knowledge in individual competitive systems and practices techniques but rather provides the overview skills across competitive systems and practices and techniques needed to lead an office implementation. In-depth skills and knowledge may be gained by completing other more specialist units.

This unit does not cover lean six sigma and proactive maintenance which may be required for particular organisations and offices. Specialist units of competency in these techniques are available.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

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Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish scope of office processes to be included**	1.1	Identify office process links to other departments and external organisations.
		1.2	Establish deliverables expected by internal and external customers, including regulators, if any.
		1.3	Identify existing processes completely internal to the office.
		1.4	Confirm management support and identify any imposed exclusions or limits to the office competitive systems and practices implementation process.
		1.5	Identify any required budget and reporting processes.
2	**Facilitate engagement by office or administration work group with competitive systems and practices**	2.1	Determine extent of capacity and commitment to efficiency improvement.
		2.2	Explain competitive systems and practices concepts.
		2.3	Gain commitment to competitive systems implementation.
		2.4	Agree with other employees on visual indicators to be used and their location.
		2.5	Determine skill base of office or administration employees in competitive systems and practices and techniques and arrange for any required training.

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		2.6	Encourage or develop communications between employees and specialists outside the team.
3	**Facilitate implementation of competitive systems and practices**	3.1	Guide others in the process of selecting/reviewing competitive practices.
		3.2	Collectively examine known customer requirements.
		3.3	Identify process stages.
		3.4	Establish/review triggers and indicators for customer pull in the office.
		3.5	Participate in and guide setting/resetting of key performance indicators (KPIs).
		3.6	Encourage and lead implementation of competitive system and selected practices.
		3.7	Identify muda (waste) using implemented competitive systems and practices.
		3.8	Set up/review processes for classifying and reducing muda.
4	**Facilitate continuous improvement**	4.1	Review functioning of competitive systems and practices with office employees.
		4.2	Identify barriers to improvement from initial implementation.
		4.3	Gain commitment to continuous improvement (kaizen).
		4.4	Apply appropriate tools to remove barriers to improvement and to establish continuous improvement.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Office is a physical or virtual location performing one or more of:	• information functions • administrative functions • transaction based functions • document storage (hard copy or electronically) • ordering and quoting • sales and marketing • contracts and tendering • customer service.

Leading implementation includes one or more of:	• having formal leadership responsibility, such as a team leader
	• individuals who are required to have the ability to lead by example and mentor others, such as:
	  • experienced or senior operators
	  • specialists who must use their technical expertise to facilitate

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implementation of competitive systems and practices.

Imposed exclusions include one or more of:

- muda (waste) that is required but does not add value
- equipment excluded from efficiency or layout review because of budget constraints, licences, and so on
- regulatory requirements that do not add value
- enterprise requirements, policies or procedures beyond the influence of the team.

Muda (waste) includes one or more of:

- errors in documents or data
- transport of documents
- doing unnecessary work
- waiting for the next process step
- process of getting approvals
- unnecessary motions
- backlog in work queues
- underutilised employees
- too many signature/approval levels
- unclear job descriptions
- obsolete databases/files/folders
- collecting unnecessary data
- interruptions that do not add value
- purchase orders not matching quotation
- full or bulk printouts when partial printout would do
- printing out when electronic files could serve the purpose
- holding unnecessary stock of office supplies
- generating reports that are not read.

KPIs include one or more metrics:

- process/cycle time, lead time, response time and value-add time
- changeover time between different work processes
- customer demand rates
- inventory/work in progress/inbox
- equipment/technology access and reliability
- energy use
- waste to landfill
- percentage complete and accurate.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403006A Facilitate implementation of competitive systems and practices in an office

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403006 Facilitate implementation or review of competitive systems and practices in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403006A Facilitate implementation of competitive systems and practices in an office

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to facilitate implementation of competitive systems and practices on one (1) or more occasion and to:

- identify the scope
- facilitate engagement
- facilitate implementation
- facilitate continuous improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- principles of competitive systems and practices, common tools, and their application to the office environment
- methods of gathering data against key performance indicators (KPIs)
- muda in an office environment (and required muda)
- current office processes
- visual indicators.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403007 Map an office value stream

Modification History

Release 1. Supersedes and is equivalent to MSS403007A Map an office value stream

Application

This unit of competency covers the skills and knowledge required to identify and visually document a value stream in an office environment for the purposes of determining improvements in meeting customer requirements and in minimisation of muda (waste).

This unit applies to individuals who have a competitive systems and practices implementation role in an office, including identifying the elements of the office-related value stream and ways to improve the ratio of value-add to non-value add within the value stream.

The value stream may comprise one process or several processes across functions or divisions within a business that require involvement or support by an office.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Identify a value stream**	1.1 Identify office deliverables to which the value stream applies.

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		1.2	Identify ultimate customers.
		1.3	Identify ultimate suppliers.
		1.4	Identify the office processes that contribute to achieving the deliverables.
		1.5	Identify stakeholders to participate in the mapping.
		1.6	Identify sources of information to populate and validate the map.
2	**Map the value stream**	2.1	Liaise with stakeholders to capture the office-related activities for each step in the value stream.
		2.2	Liaise with stakeholders to document the flow of content information, materials and process information through the value stream.
		2.3	Develop a visual representation, in hard copy or using software, of the value stream current state.
3	**Analyse the value stream**	3.1	Examine each step in the value stream to identify the value added for the customer.
		3.2	Measure and document performance along the value stream.
		3.3	Identify where value stream improvements can be made.
		3.4	Select which improvements will deliver the most value to the customer.
4	**Develop improvement plan**	4.1	Decide the order in which to implement the improvements.
		4.2	Identify actions and resources needed to make the improvements.
		4.3	Liaise with management to gain approval and budget for implementation of improvements.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Deliverables for a section of or for a whole value stream include one or more of:	• planned/intended outcomes from processes that are desired/required by the customer • measurable outcomes from processes that are desired/required by the customer • other quantifiable/observable outcomes from processes that are desired/required by the customer.
Value stream	• sales outlet/representative

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actions may occur at one or more of:	• information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.
Value stream map includes all of:	• the actual flow of content information, materials and process information through the value stream • lead time • process time • quantity of work in progress • resources used.
Performance measures relate to customer requirements and include one or more of:	• lead time • processing time • percentage complete and accurate • changeover time for equipment and processes • hours office staff can be contacted by customers • hand off processes • distance and frequency of movement.
Value stream improvements include one or more of:	• reducing lead time • removing bottlenecks • improving process steps • removing unnecessary steps • reducing muda (waste).
Stakeholders include one or more of:	• people with significant knowledge of the flow of work within the value stream • customer perceptions of value of the value stream deliverables.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403007A Map an office value stream

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Assessment Requirements for MSS403007 Map an office value stream

Modification History

Release 1. Supersedes and is equivalent to MSS403007A Map an office value stream

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop an improvement plan for an office value stream on one (1) or more occasions by:

- mapping a value stream
- analysing a value stream
- identifying improvements and developing an improvement plan.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- value stream mapping techniques and symbols
- types of office muda that can be identified through value stream mapping
- methods of gathering data against performance variables
- value stream analysis techniques
- methods of prioritising possible improvements
- requirements for gaining approval to implement improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real office value stream analysis in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

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- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403010 Facilitate change in an organisation implementing competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403010A Facilitate change in an organisation implementing competitive systems and practices

Application

This unit of competency covers the skills and knowledge required by individuals responsible for facilitating change processes in an organisation implementing competitive operational practices.

This unit applies to individuals who facilitate the change process resulting from implementing one or more competitive systems or practices. This implementation may also be associated with other changes, such as the introduction of new products, processes or equipment. The unit will usually apply to individuals whose responsibility is at the team, area or section level rather than the whole organisation. The responsibility may be formally designated or be informal, as in mentoring and assisting fellow employees.

This unit assumes that consultation and agreement on the implementation of the competitive systems and practices and other associated changes has already occurred and the nature and extent of the change has been agreed.

This unit does not cover the negotiation of change in a formal industrial relations sense but does cover the skills needed to identify real or potential change implementation issues, including those that may need to be referred to formal consultation and/or dispute settlement procedures.

This unit has a strong emphasis on planning, encouraging and facilitating in a changing environment within the organisation, including using appropriate communication, teamwork, problem solving, initiative and self-management.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Define nature and impact of change for designated area and processes**	1.1	Identify the organisation's aims and objectives for the competitive systems and practices techniques related to the change process.
		1.2	Identify opportunities for implementation of change within work area.
		1.3	Determine impacts of change for work area, including potential benefits and impacts on own work and work of fellow employees.
2	**Identify key performance indicators (KPIs)**	2.1	Liaise, where required, with managers, engineers and other staff responsible for designing and/or implementing change.
		2.2	Identify KPIs for own work responsibility and that of the work area.
		2.3	Communicate KPIs to fellow employees.
		2.4	Check that data collection and processing are appropriate for KPIs.
		2.5	Raise and resolve issues related to KPIs with relevant personnel.
3	**Liaise with key stakeholders**	3.1	Identify key stakeholders impacted by the change.
		3.2	Communicate with key stakeholders within scope of authority.
		3.3	Identify and address issues and concerns of each

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			stakeholder if within scope of authority.
		3.4	Develop and/or locate information required to address key concerns.
		3.5	Refer issues and concerns outside of scope of authority to appropriate personnel.
4	**Develop a strategy to help implement change**	4.1	Identify or develop a work plan for implementing change.
		4.2	Make information required to support change available to team members.
		4.3	Communicate/circulate draft work plan to other employees in work area, supervisors, technical experts and other appropriate personnel for comment.
		4.4	Assess suggested changes and incorporate into work plan, where appropriate.
5	**Implement change**	5.1	Obtain authorisation to commence change implementation in accordance with organisation procedures.
		5.2	Implement change in accordance with work plan and organisational work health and safety (WHS) and consultation procedures.
6	**Monitor implementation of change**	6.1	Maintain open communication channels with all stakeholders during implementation.
		6.2	Monitor KPIs during implementation.
		6.3	Encourage and facilitate improvement suggestions of team members.
		6.4	Identify areas requiring improvement in change implementation.
		6.5	Make improvements to implementation according to organisation procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Work plan for change includes one or more of:	• timetables • KPIs • training needs • WHS implications • contingency plans • responsibilities with team members and senior managers, engineers and other staff responsible for designing and/or implementing change.

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Issues and concerns include one or more of:	• individual and group concerns • those expressed by and through industrial processes.
Gathering and monitoring performance data includes one or more of:	• manually by individual employees through charts, tally sheets or keypad/board entry • automatically through software, such as SCADA software, ERP systems, MRP and proprietary systems.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403010A Facilitate change in an organisation implementing competitive systems and practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403010 Facilitate change in an organisation implementing competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403010A Facilitate change in an organisation implementing competitive systems and practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more changes, to:

- identify competitive systems and practices in own workplace
- identify changes to own work and work area flowing from implementation of relevant competitive systems and practices
- consult with stakeholders regarding changes and issues
- develop a strategy to implement required changes
- make suggestions for improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- features of competitive operational practices in own work area
- health, safety and environment (HSE) principles and requirements for area of responsibility
- change implementation procedures
- planning and implementation strategies
- employee assistance mechanisms within organisation.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency

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  - must include facilitating change in relation to the implementation of competitive operational practices in own work area
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403011 Facilitate implementation of competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403011A Facilitate implementation of competitive systems and practices

Application

This unit of competency covers the skills and knowledge required by individuals who facilitate, lead or mentor others in competitive systems and practices implementation in a work area.

This unit applies to people responsible for facilitating others in implementing competitive systems and practices in their work. It may apply to formally designated team leaders or people given special roles in the implementation process that go beyond their own work and which involve guiding, facilitating or mentoring others. The unit applies to competitive systems and practices implementation activities at the work area or section level.

The unit requires an individual to integrate a range of competitive systems and practices knowledge and skills as part of their role. The unit covers assisting others to understand and apply a holistic view of their job and their role within an organisation, including the objectives that must be met as part of competitive systems and practices used by the organisation.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management. This unit has a strong emphasis on planning and implementation, and also requires an ability to learn from experience and feed new information back into strategies to improve own performance and that of others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Facilitate the development of process and competitive systems and practices knowledge**	1.1	Ensure necessary technical documentation and information about the process and competitive systems and practices is available.
		1.2	Assist and mentor others in accessing information.
		1.3	Identify work activities which may inhibit the ongoing development of competitive systems and practices skills and knowledge of others.
		1.4	Arrange for the provision of workforce development and training for self and others, as appropriate.
		1.5	Encourage others to apply technical knowledge to the improvement process.
2	**Facilitate commitment to efficiency improvements**	2.1	Ensure budgets, operating procedures and other related documentation is available.
		2.2	Assist others to apply this information to their work responsibilities.
		2.3	Encourage the identification of waste.
		2.4	Encourage an environment where efficiency improvements are recommended by fellow employees.
3	**Encourage a competitive systems and practices**	3.1	Encourage and, where necessary, develop communications between specialists and work group members.
		3.2	Lead development of strategies to monitor and deal with

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	approach to work		identified waste issues.
		3.3	Resource and encourage other employees to identify and take action on potential problems.
		3.4	Arrange for workforce development and training for self and others, as required, in relevant competitive systems and practice procedures and techniques.
		3.5	Guide others in relating identified problems to the maintenance strategy, and developing any required changes, to ensure awareness, learning and commitment.
4	**Implement process and organisation improvements**	4.1	Plan the implementation of work group suggestions and externally suggested improvements.
		4.2	Facilitate commitment to, and involvement in, the implementation planning of improvements and to follow improvements to their conclusion.
		4.3	Encourage the application of the 'plan, do, measure, improve, control' approach to the job.
		4.4	Arrange for workforce development and training, as required, to facilitate continued involvement by others in improvement processes.
		4.5	Involve work group and other key personnel in identification of skill needs and means of skills acquisition to fill any identified gaps.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work

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situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Budgets include one or more of:

- financial
- time
- materials/products
- other business plans which are relevant to the team and the work area.

Categories of waste include one or more of:

- excess production and early production
- delays
- movement and transport
- poor process design
- inventory
- inefficient performance of a process
- making defective items
- activities which do not yield any benefit to the organisation or any benefit to the organisations customers.

Key reliability issues include one or more

- cleanliness
- poor lubrication

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of:

- incorrect adjustment
- poor training and instructions for employees.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403011A Facilitate implementation of competitive systems and practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403011 Facilitate implementation of competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403011A Facilitate implementation of competitive systems and practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for three (3) or more organisation improvements which include the facilitation of competitive systems and practices, to:

- identify processes and products of the organisation and work area
- analyse future skill development needs of work group
- mentor effectively in a one-on-one situation
- facilitate communication between work group and external competitive systems and practices specialists and managers
- lead work group in identifying efficiency improvements and elimination of waste.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- information technology systems used in the organisation
- features of competitive operational practices in own work area
- monitoring and data gathering systems in work area (e.g. SCADA, ERP and MRP)
- methods of gathering data against key performance indicators (KPIs)
- facilitation techniques to encourage work group development and improvement.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency

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  - must include facilitation of competitive systems and practices implementation in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403013 Lead team culture improvement

Modification History

Release 1. Supersedes and is equivalent to MSS403013A Lead team culture improvement

Application

This unit of competency covers the skills and knowledge required by a team leader or other person responsible for developing a culture within a team appropriate for supporting competitive systems and practices.

This unit applies where an organisation has embarked on competitive systems and practices and a team leader or other responsible person is required to change or improve the team culture to maximise the benefits from competitive systems and practices.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management in order to provide leadership in a changing team environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Facilitate the team's understanding of the competitive systems and practices strategy**	1.1	Communicate with all team members the objectives and benefits of the competitive systems and practices strategy.
		1.2	Review with team members the techniques and methods that will be used in achieving the competitive systems and practices strategy.
		1.3	Using a systems approach, help team members understand how the team fits into the organisation.
		1.4	Establish appropriate communication and teamwork within the team and with other teams.
		1.5	Develop a work structure with the team that allows for everyone to participate in the application of the competitive systems and practices strategy.
2	**Facilitate application of knowledge about the importance of controlling variation in competitive systems and practices**	2.1	Develop the application of a statistical approach by all team members to all relevant facets of the system with a view to reducing variation.
		2.2	Encourage the approach of building quality and ensuring team members assist each other in meeting requirements.
3	**Facilitate the development of skills and knowledge within the team**	3.1	Encourage appropriate training for all team members.
		3.2	Involve team members in identification of skill needs and skill gaps, and in development of a strategy for training, skills acquisition and self-improvement so as to ensure awareness, learning and commitment.
4	**Facilitate the development of commitment within the team to the competitive systems and practices strategy**	4.1	Ensure that the team has sufficient resources and adequate equipment available to meet the requirements of the competitive systems and practices strategy.
		4.2	Encourage the adoption of continuous improvement.
		4.3	Encourage employee acceptance of responsibility for the quality of own work.

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4.4 Provide continuous feedback and communication of progress at all levels in implementing the strategy.

4.5 Involve team members in relating identified problems and opportunities for improvement to the competitive systems and practices strategy, and involve them in developing any required changes, to ensure awareness, learning and commitment.

4.6 Establish and monitor indicators of team culture.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Systems approach includes consideration of the role and requirements of one or more of:	• customers • suppliers • employees • other value stream members • members of the public and community groups • other external individual, group or organisation • technical processes and equipment • statutory and regulatory requirements, including work health and safety (WHS) and environment legislation and regulations • quality standards.
Team culture can be monitored by one or more of:	• surveys • evaluation of toolbox or other regular meetings • direct discussion with team members • monitoring of other indicators (e.g. error rates and absenteeism) • analysis of root cause related to status of team culture.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403013A Lead team culture improvement

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403013 Lead team culture improvement

Modification History

Release 1. Supersedes and is equivalent to MSS403013A Lead team culture improvement

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more team culture changes, to:

- identify the competitive systems and practices used by the team
- identify changes to the work of the team flowing from the implementation of the relevant competitive systems and practices
- facilitate and monitor changes designed to improve team culture
- communicate effectively with team members providing relevant feedback.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- features of competitive operational practices in the team's work area
- principles of change management
- facilitation techniques to encourage team development and improvement.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

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- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403021 Facilitate a Just in Time system

Modification History

Release 1. Supersedes and is equivalent to MSS403021A Facilitate a Just in Time system

Application

This unit of competency covers the skills and knowledge required to facilitate the implementation/operation of a Just in Time (JIT)/kanban system in a team or work area.

This unit applies to a person who needs to monitor the operation of a JIT system and facilitate its working in a team or work area. This will involve liaison with stakeholders as well as examining the data generated and being alert to potential problems and areas for improvement.

This unit requires the application of skills associated with gathering, analysing and communicating information to facilitate implementation of the JIT system. It requires planning and organising skills and has a strong emphasis on communication and teamwork skills to ensure the JIT system is being effectively implemented. This unit also requires the ability to problem solve and take the initiative to consider performance issues and learn from experience to improve future performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Monitor the operation of the JIT system**	1.1	Track value of key measures.
		1.2	Recognise indicators of poor performance.
		1.3	Take appropriate quick fix action.
2	**Liaise with relevant stakeholders**	2.1	Regularly communicate with team or work group members regarding the operation of the JIT system.
		2.2	Review JIT key performance indicators (KPIs) with team or work group members.
		2.3	Communicate with relevant personnel up and down the value stream regarding the operation of the JIT system.
		2.4	Identify issues with stakeholders and take appropriate quick fix action.
3	**Improve the JIT system**	3.1	Identify areas requiring improvement in the JIT system.
		3.2	Identify root cause of JIT-related problems.
		3.3	Review value of key measures.
		3.4	Recognise skill gaps in team members and other stakeholders.
		3.5	Determine any other issues in team or work group, other stakeholders and JIT system leading to poor performance indicators.
		3.6	Develop appropriate improvement solutions.
		3.7	Liaise with relevant people regarding improvement solutions.
		3.8	Implement and/or assist with the implementation of the solutions.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Key measures include one or more of:

- inventory levels
- lead time
- In Full, On Time and In Specification (IFOTIS) delivery
- productivity/production rate
- other measures of pull through the value stream
- quality.

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Stages where value stream actions can occur include one or more of	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403021A Facilitate a Just in Time system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403021 Facilitate a Just in Time system

Modification History

Release 1. Supersedes and is equivalent to MSS403021A Facilitate a Just in Time system

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for three (3) or more JIT related improvements, to:

- identify the JIT system and practices used in own work area
- identify and monitor JIT key measures
- solve JIT-related problems to root cause
- communicate effectively with stakeholders
- facilitate and monitor JIT-related changes to operations and practices.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- JIT methods relevant to own work area
- production data generated by the process and its application to JIT
- methods of gathering data against key performance indicators (KPIs)
- facilitation techniques to encourage work group development and improvement.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include facilitating the implementation of a Just in Time (JIT) system in in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS403023 Monitor a levelled pull system of operations

Modification History

Release 1. Supersedes and is equivalent to MSS403023A Monitor a levelled pull system of operations

Application

This unit of competency covers the skills and knowledge required to monitor the operation of a pull system in a work area and recommend improvements.

This unit covers the skills needed to monitor a pull operations system in a work area or team operation although knowledge of the overall pull system in the enterprise is also required. The unit is targeted at individuals, such as team leaders and senior operators, who have an overview of the work area or team operation and the ability to implement corrective action in the event of discrepancies.

The unit covers the skills needed to monitor daily working of the system, identify problems and take action on problems. The operations system may be a total demand pull system or it may be a mixed push/pull system.

This unit primarily requires the application of skills associated with using information and problem solving skills to monitor pull system and analyse discrepancies. It also requires skills in initiative and enterprise, and planning and organising to determine and act on opportunities for improvement. Aspects of self-management and learning are required to ensure own ability to improve systems.

The unit is based on manufacturing principles but can be contextualised for other types of organisations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Monitor the pull system**	1.1	Identify the pacemaker process.
		1.2	Identify rate of production set by the pull system.
		1.3	Determine actual rate of production at key parts of the process.
		1.4	Identify types of inventories within process.
		1.5	Compare actual inventories with planned inventories.
		1.6	Note discrepancies between actual and planned rates and inventories.
2	**Take corrective action**	2.1	Determine causes of discrepancies.
		2.2	Determine action required to rectify causes of discrepancies.
		2.3	Take action in conjunction with relevant stakeholders.
3	**Test/improve the pull system**	3.1	Identify recurrent discrepancies.
		3.2	Determine causes of discrepancies.
		3.3	Determine action required to rectify cause.
		3.4	Identify unnecessary levels of inventories.
		3.5	Discuss impacts of reduced inventories with relevant stakeholders.
		3.6	Take/initiate action to rectify recurrent discrepancies/reduce levels of unnecessary inventory.

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3.7 Monitor the system to determine the effects of changes.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Pull system includes one or more of:	• operations done to order and not for holding large inventories of parts and completed stock • work flow done according to demand pull from the next work

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	stage • operations in response to customer demand.
Production used in a manufacturing sense includes one or more of:	• repetitive production of items (e.g. components and whitegoods) • continuous or batch production (e.g. hydrocarbons, chemicals and cement).
Types of inventories include one or more of:	• cycle stock which reflects the replenishment quantity and frequency • buffer stock to meet demand variability and forecast errors • safety stock required to guard against quality and delivery failures upstream.
Determine cause for an individual/team leader includes one or more of:	• analysing cause themselves • identifying that expert analysis is required and requesting this analysis • setting up an improvement team to analyse cause • identifying that the cause of the discrepancy is upstream or downstream of the team or area.
Stakeholders include one or more of:	• managers • supervisors • employees • shareholders • worke health and safety (WHS) mechanisms/representatives • industrial relations mechanisms/representatives • suppliers • customers • service providers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403023A Monitor a levelled pull system of operations

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403023 Monitor a levelled pull system of operations

Modification History

Release 1. Supersedes and is equivalent to MSS403023A Monitor a levelled pull system of operations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for three (3) or more monitored discrepancies/problems, to:

- identify the demand pull system used in own work area
- identify pacemaker process
- identify types of inventories used by team or work area
- determine actions to rectify discrepancies between actual and planned rates of production
- facilitate and monitor changes to rectify discrepancies.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- operation and capabilities of equipment used in own work area
- abilities and skills of personnel in work area
- ultimate customer order process and relationship to demand pull for team or work area
- inventories held by enterprise
- stakeholders relevant to team or work area
- possible actions available to address discrepancies

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include monitoring the operation of a pull system in own workplace

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  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403024 Work within a constrained process

Modification History

Release 1. Supersedes and is equivalent to MSS403024A Work within a constrained process

Application

This unit of competency covers the skills and knowledge required to apply the theory of constraints to a process which has a constraint.

This unit applies to individuals who, as part of their work, are able to apply the theory of constraints to improve the operability of a constrained process (a process with at least one constraint) where it occurs in their team or work area or as part of their responsibilities. This unit identifies and works within the imposed constraint. This process may be colloquially known as 'drum-buffer-rope' approach. The unit will normally be applied as part of an organisation's improvement strategy and in conjunction with other competitive systems and practices units.

The person will typically be a technician, team leader or other person who works with others in the bringing of change to an organisation as part of a formal team or otherwise. The unit includes liaison and communication with others, as required.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Identify the system constraint (bottleneck)**	1.1	Identify desired output from process/system.
		1.2	Determine throughput of process/system steps.
		1.3	Identify capacity constrained resource (bottleneck).
		1.4	Confirm maximum/optimum throughput for this capacity constrained resource.
2	**Manage capacity constrained resource (drum)**	2.1	Determine required time buffers for capacity constrained resource.
		2.2	Translate time buffer into physical buffers, as appropriate.
		2.3	Establish required buffers.
		2.4	Examine capacity constrained resource to ensure optimum use of capacity.
3	**Determine schedule based on capacity constrained resource**	3.1	Implement supply schedule appropriate for capacity constrained resource.
		3.2	Determine delivery schedule based on capacity of capacity constrained resource.
		3.3	Compare delivery schedule with externally required delivery rate and take action.
4	**Examine operation of system/process**	4.1	Determine throughput of process/system steps.
		4.2	Identify any additional/new capacity constrained resource.
		4.3	Take action.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403024A Work within a constrained process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403024 Work within a constrained process

Modification History

Release 1. Supersedes and is equivalent to MSS403024A Work within a constrained process

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for at least one (1) constrained process, to:

- identify capacity constrained resource (bottleneck) in own work area
- manage capacity constrained resource (drum)
- determine schedule based on capacity constrained resource.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- theory of constraints
- concepts of weakest link (often colloquially known as the drum)
- duration (in production applications this is often known as material release buffer or inventory to protect the weakest link/constraint)
- release timing of buffer (colloquially called 'rope')
- processes, products, internal and external customers for own work area.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include working within a constrained process in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403032 Analyse manual handling processes

Modification History

Release 1. Supersedes and is equivalent to MSS403032A Analyse manual handling processes

Application

This unit of competency covers the skills and knowledge required to analyse manual handling in terms of its efficiency and safety.

This unit applies to an individual who is required to examine the manual handling component of a job and improve it in terms of safety, effort required and efficiency. This may be conducted for a job performed by others or it may be for the person's own job.

This unit primarily requires the application of skills associated with problem solving, initiative and enterprise to identify safe and efficient manual handling, and planning and organising to ensure processes are implemented. This unit also requires communication with, and involvement of, others to ensure they understand the approach and to facilitate training.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Assess manual**	1.1 Identify manual handling hazards in work area.

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	handling risks	1.2	Assess risks arising from manual handling hazards.
2	**Analyse physical effort requirements of job**	2.1	Determine basic manual handling requirements of job.
		2.2	Analyse requirements in terms of components, such as lift, move, place and hold.
		2.3	Analyse items to be handled in terms such as weight, size, shape or other hazards.
3	**Determine time/effort components of physical effort**	3.1	Break required movement pattern down into movement components.
		3.2	Determine time and effort requirements for movements.
		3.3	Develop alternative movement patterns.
		3.4	Determine time and effort requirements for alternative movements.
		3.5	Determine handling aids required to assist movement.
		3.6	Determine preferred movement pattern.
4	**Analyse the ergonomics of physical effort**	4.1	Analyse the ergonomics of the preferred movement pattern.
		4.2	Develop substitute movements for any movement which is not ergonomically sound.
		4.3	Determine handling aids required to improve ergonomics of required movements.
5	**Optimise application of physical effort**	5.1	Select movement patterns which are ergonomically sound and time and effort efficient.
		5.2	Ensure all relevant people are trained to use these methods.
		5.3	Ensure procedures and practices reflect the optimum methods.

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5.4 Communicate with team members and involve them in development of alternatives to ensure awareness and facilitate learning.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Procedures (written,	• work instructions

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verbal, visual, computer based, etc.) include one or more of:	• standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Manual handling hazards include one or more of	• loads that pose a risk of injury • ergonomically unsound movements • hazard requirements as defined by relevant work health and safety (WHS) Acts and regulations, industry standards and best practice.
Ergonomically unsound movements include one or more of	• awkward and repetitive movements • carrying, pushing, pulling or lifting of heavy loads • carrying or movement of hard, sharp, slippery or other difficult to grasp loads.
Ergonomically sound movements include one or more of	• keeping loads close to the body and near the person's centre of gravity • using diagonal foot positions for lifting • moving loads at waist height rather than directly from the floor.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403032A Analyse manual handling processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403032 Analyse manual handling processes

Modification History

Release 1. Supersedes and is equivalent to MSS403032A Analyse manual handling processes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for at least (1) one job/process, to:

- analyse manual handling requirements and risks
- distinguish between ergonomically sound and unsound movement
- analyse manual handling movements and risks for an individual
- relate manual handling requirements to job efficiency.

Knowledge Evidence

- Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:
- principles of ergonomics/safe movement
- principles of work analysis
- relevant work health and safety (WHS) Acts and regulations as they apply to manual handling
- principles of job and work method design as applied to efficient and safe movement
- aids that can assist with or substitute for manual handling.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include analysing manual handling processes in own workplace

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  - will typically include the use of appropriate manual handling guides, tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403033 Map an operational process

Modification History

Release 1. Supersedes and is equivalent to MSS403033A Map an operational process

Application

This unit of competency covers the skills and knowledge required to identify and visually document the sequence and interactions of related steps, activities or tasks that make up an individual operational process, from beginning to end.

For the purposes of this unit, an operational process is a group of structured and identifiable activities that contribute to delivering a specified and measurable result, such as a product, deliverable or service.

The process mapping may be done for a number of purposes, including identifying the scope and purpose of a process, identifying opportunities for improvement using other competitive systems and practices techniques, or increasing the knowledge and engagement of others with the process. The specific aspects to focus on in the mapping should align to the goal or reason for the mapping.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Define the scope of the process map**	1.1	Identify the purpose for the process mapping.
		1.2	Define the boundaries of the process to be mapped.
		1.3	Identify process stakeholders to participate in the mapping.
		1.4	Identify the aspects to be mapped.
		1.5	Select an appropriate process mapping technique.
		1.6	Identify sources of information to populate and validate the process map.
2	**Map the process**	2.1	Liaise with process stakeholders to identify steps in the process.
		2.2	Rank information gained about process steps into critical, important and optional steps.
		2.3	Document the agreed process steps using the selected process mapping technique.
		2.4	Document the aspects being mapped using the selected process mapping technique, and show how they relate to the steps.
		2.5	Validate steps and techniques with appropriate internal or external sources of information.
3	**Apply the map**	3.1	Analyse the process map to ensure that it is fit for its intended purpose.
		3.2	Identify any further changes needed to the process map as a result of the analysis.
		3.3	Validate changes and finalise process map.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Appropriate process mapping techniques produce hard or soft copy visual representation and include one or more of:

- supplier-input-process-output-customer (SIPOC)
- high-level process map
- process flow chart
- top down
- responsibility matrix
- document map
- cross-functional or swim lanes process map
- work flow diagram
- Visio
- computer-aided design/drafting (CAD) programs
- Microsoft Project
- other graphic, modelling or flow chart applications.

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Aspects to focus on include one or more of:	• process activities
	• flow of information and/or documents
	• decision points
	• ranking of process steps into:
	  • essential (process essential for achieving outcomes/goals)
	  • important (process which improves outcomes/goals through greater speed or quality)
	  • optional (current or required process not related to achievement of outcomes/goals)
	• personnel and levels of responsibilities
	• cross-functional interactions
	• work flow and bottlenecks
	• quantifiables, such as lead time, work volume and handoffs.

Process stakeholders include one or more of:	• the person undertaking a single-person process • a sample/representative of people undertaking each activity or step in a multi-person process • line managers • senior managers • internal customers • external customers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403033A Map an operational process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403033 Map an operational process

Modification History

Release 1. Supersedes and is equivalent to MSS403033A Map an operational process

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to map an operational process on one (1) or more occasions and to:

- scope the mapping exercise
- identify and consult with stakeholders
- develop a map to conform with the scope
- validate and finalise the map.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- purposes of process mapping
- methods of process mapping, including use of relevant software
- implications of including or excluding specific activities and/or people from the mapping process
- customer requirements
- methods of identifying and evaluating options
- analysis and validation of process maps.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real process mapping activity in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403034 Organise products into groups

Modification History

Release 1. Supersedes and is equivalent to MSS403034A Organise products into groups

Application

This unit of competency covers the skills and knowledge required to organise products and processes into groups, or to re-examine the current organisation into groups, using techniques such as the Glenday Sieve, Pareto analysis or similar. This may be done to assist in moving to flow-based operations or to identify other strategies for improving customer benefits/features and the elimination of muda (waste).

This unit applies to individuals who, as part of their work role, need to analyse an organisation's products or processes (physical or otherwise) so as to identify the most significant groups. There are several ways in which this may be done and this unit covers all of these ways. Typically the sorting into groups is not an end in itself but simply a way of identifying groups of products to which other competitive systems and practices may be applied.

The person will typically be a team leader, manager, senior operator or other person who has a role in implementing competitive systems and practices. They will work with others in the organising of products into groups either as part of a formal team or otherwise. They will liaise and communicate with these others as required.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine the basis of product organisation**	1.1	Identify stock keeping units (SKUs) for analysis.
		1.2	Determine relevant metric as the basis of organisation.
		1.3	Determine time basis for analysis.
		1.4	Collect selected metric over the time period for each SKU.
2	**Apply analysis tool**	2.1	Select appropriate analysis tool.
		2.2	Apply the tool.
		2.3	Test for sensitivity, as appropriate.
		2.4	Confirm ranking of product groupings.
		2.5	Tabulate and communicate the results.
3	**Develop a strategic response to the results**	3.1	Analyse product groupings for opportunities for increased flow based on customer pull and elimination of waste.
		3.2	Select relevant competitive systems and practices tools.
		3.3	Develop a strategy deployment plan.
		3.4	Obtain required approvals.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Stock keeping unit (SKU) is a unique identifier applying to one or more of:

- items that are purchased
- items that are offered for sale
- items that are manufactured/conducted internally
- countable services/events (e.g. time slots available for service calls charged by the hour, insurance claims).

Relevant metric includes one or more of:

- sales volume
- profit
- profitability
- sales/profit growth
- other metrics appropriate to the analysis tool.

Time basis includes one or more of:

- one year
- one business cycle
- one seasonal cycle

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	• one/two quarters • one period related to the business/product.
Analysis tool for grouping the SKUs includes one or more of:	• Glenday Sieve • Pareto analysis • 80:20 rule • similar grouping tools.
Sensitivity testing includes one or more of:	• repeating the analysis using a different tool • repeating the analysis using a different metric • repeating the analysis using a different time basis.
Strategic response incudes one or more of:	• the levelling of production • the creation of different virtual production processes • the application of kaizen blitz to some groups • other relevant tool or strategy.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403034A Organise products into groups

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403034 Organise products into groups

Modification History

Release 1. Supersedes and is equivalent to MSS403034A Organise products into groups

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to organise products into groups on one (1) or more occasions and to:

- determine the basis for the organisation
- apply an appropriate analysis tools
- test sensitivity
- develop a strategic response.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- methodologies for sorting of products and service events and their advantages and disadvantages (e.g. Pareto analysis and the Glenday Sieve)
- analysing operations to identify current batching and non-flow related activities
- identifying opportunities for increased customer pull and flow-based operations
- ways of developing a strategic response.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real activity of organising products into groups in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403035 Implement the visual workplace

Modification History

Release 1. Supersedes and is equivalent to MSS403035A Implement the visual workplace

Application

This unit of competency covers the skills and knowledge required to implement improvements to an existing visual workplace or undertake initial implementation of a visual workplace.

This unit applies to an individual who, as part of their work role, will implement a visual workplace, either their own workplace or another's workplace. The implementation will usually occur in conjunction with the implementation of other competitive systems and practices. It applies to manufacturing, office, logistics or other service environments along any part of the value stream. It includes the development of the visual concepts and the implementation of the visual workplace. The unit does not cover the generation of the content to be included in visual devices or displays.

The person will typically be a team leader, manager, senior operator or other person who has this role. They will work with others in the development of the visual workplace either as part of a formal team or otherwise. They will liaise and communicate with these others as required.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine needs of visual workplace**	1.1	Identify information needs of personnel in each visual workplace area.
		1.2	Identify relevant procedures and standards.
		1.3	Identify directions required in workplace.
		1.4	Determine controls required in the workplace.
		1.5	Draft a statement of needs for the workplace.
2	**Determine possible locations of visual devices**	2.1	Analyse sight lines for personnel in the workplace.
		2.2	Identify primary and secondary locations for possible visual devices.
		2.3	Identify constraints on deploying visual devices.
		2.4	Take reasonable actions to allow appropriate deployment of required visual devices.
3	**Develop visual devices in liaison with workplace personnel**	3.1	Identify possible visual displays and devices for items on statement of needs.
		3.2	Try out possible visual displays and devices in the workplace.
		3.3	Select appropriate display types for items on statement of needs.
		3.4	Allocate visual devices to an appropriate location.
4	**Facilitate implementation of visual workplace**	4.1	Arrange for agreed visual devices to be implemented.
		4.2	Arrange for feedback on visual workplace.
		4.3	Analyse relevant metrics on workplace performance.
		4.4	Promote benefits of visual workplace.

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4.5 Make changes to improve visual workplace.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Information needs include one or more of:	• workplace metrics • quality metrics • scheduling/priority information

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	• procedures/aide memoir.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Controls include all feedback and include one or more of:	• timeliness/timelines • volume/number required • quality/specification/standard to be met.
Statement of needs includes one or more of:	• information • procedures and standards • directions • controls.
Visual devices include one or more of:	• graphs • diagrams • photos • colour codes • lines and zones • tape • markings • flags • andon lights • charts • words and numbers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403035A Implement the visual workplace

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403035 Implement the visual workplace

Modification History

Release 1. Supersedes and is equivalent to MSS403035A Implement the visual workplace

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for at least one (1) workplace, to:

- develop and locate appropriate visual displays
- facilitate the use of visual workplace
- analyse feedback and data from visual workplace and make improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- key variables leading to success in the workplace
- range of visual devices which may be deployed
- infrastructure required for different visual devices
- preferred locations for visual devices
- methods of converting data into easily interpreted visual displays
- methods of mocking up a visual display to allow for trying out
- updating needs, techniques and costs (including personnel time) for visual devices.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403039 Facilitate and improve 5S in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403039A Facilitate and improve 5S in an office

Application

This unit of competency covers the skills and knowledge required by an individual to facilitate and improve the 5S in an office environment. The unit includes the skills required to adapt a traditional 5S approach to the particular problems and needs in an office implementation. The facilitation may be undertaken by formally designated supervisory staff, such as team leaders or other individuals in a competitive systems and practices implementation role for an office who need to provide support and encouragement to others to facilitate the achievement of 5S outcomes in the workplace.

The unit applies to offices using formally designated team-based work structures, work groups or other forms of work organisation.

The office environment for 5S may include administrative, transactional or service-based processes in, or attached to, a manufacturing organisation, within their value stream or similar environments, such as health care, education, financial, construction or Defence services.

This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Plan for 5S implementation**	1.1	Facilitate agreement within the work group on prioritising and scheduling the application of 5S across target work areas.
		1.2	Assist individuals to identify own and collective office work group functions in the target work areas in terms of internal and/or external customer requirements.
		1.3	Assist individuals to identify how their own and collective office work group tasks contribute to the office functions.
		1.4	Establish communication and reporting processes with work group.
		1.5	Facilitate management support for 5S.
2	**Facilitate the set-up of 5S**	2.1	Assist work group to determine what are necessary and unnecessary items in the work area.
		2.2	Assist work group to determine optimum assigned location for all necessary items.
		2.3	Liaise with relevant production and work health and safety (WHS) personnel to determine optimum locations.
		2.4	Assist work group to determine the appropriate place for unnecessary items.
		2.5	Assist work group to determine 5S schedule.
3	**Facilitate the implementation of 5S**	3.1	Ensure procedures reflect 5S practices.
		3.2	Assess skill base of work group in 5S and arrange for any required training.

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		3.3	Ensure that any damage and/or safety risks reported by the team are addressed through correct mechanisms.
4	**Monitor 5S**	4.1	Check work area for 5S implementation as part of normal routine.
		4.2	Identify non-conformances.
		4.3	Negotiate solutions to non-conformances.
5	**Improve 5S**	5.1	Work with work group to find areas for improvement.
		5.2	Assist work group to develop improvement solutions.
		5.3	Facilitate the availability of resources required for the improvement solution.
		5.4	Facilitate the implementation of the improvement solution.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations

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control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

5S includes all of:
- sort
- set in order
- shine
- standardise
- sustain.

Sort includes all of:
- separating necessary from unnecessary items (equipment and supplies)
- keeping only what is absolutely necessary for the work processes that comprise the job
- disposing of (or relocating) all other items
- computer files and icons.

Set in order includes all of:
- assigning required equipment and materials appropriate locations in the work area
- consideration of frequency of use, ergonomics and WHS
- provision of facilities to maintain the locations
- efficient file structures and desktops (computer and actual).

Shine includes one or more of:
- keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process
- keeping work area, including virtual work area, organised
- noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention
- keeping file structures and desktops organised and efficient.

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Standardising includes one or more of:	• activities that help maintain the order and the 5S standards • using procedures and checklists developed from a procedure.

Sustain includes one or more of:	• making sure that daily activities are completed every day regardless of circumstance
	• undertaking inspections, including:
	  • informal inspections that should be carried often, at least weekly
	  • formal inspections that should be carried out at least monthly.

Items in work area include one or more of:	• office supplies • materials • paperwork • furniture • storage systems and cabinets • lighting, wiring, plumbing and other services designed to support a working environment in the office • manuals • personal items (e.g. bags, phones, lunch boxes, clothing, photos and ornaments) • safety and personal protective equipment • any other item which happens to be in the work area.
Work group includes one or more of:	• formal teams • informal teams • people working in the same area.
Target work area may be a physical and/or virtual workspace and include one or more of:	• used by a person, a team or a cross-functional group • common to part/s of a process or value stream (already defined) • shared by people who undertake a defined procedure or set of procedures • needed to support a particular function.
Appropriate places include areas designated for one or more of:	• recycling • rubbish removal • staff room/lunch room/kitchen • office supplies, filing and other storage • functions, such as printing/copying

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	• holding until status is confirmed.
Management support includes one or more of	• provision of facilities for meetings, records and communications • release for training when needed • support and authorisations for changes when required • financial resources for any new or modified equipment • any other support outside of that able to be generated within the 5S implementation group.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403039A Facilitate and improve 5S in an office

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403039 Facilitate and improve 5S in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403039A Facilitate and improve 5S in an office

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, in one (1) or more allocated areas, to:

- identify the scope of the services and/or functions supplied by the office and the deliverables expected by customers
- facilitate a systematic approach to identifying and reducing office waste (muda) in work areas
- lead and motivate others in achieving 5S outcomes and make improvements to the 5S systems
- set up systems for monitoring and improving 5S implementation in an office
- manage non-conformances in implementation of 5S.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- principles and purpose of 5S
- types of office waste (muda)
- methods of identifying waste in the work area, such as:
  - waste walk
  - document tagging
  - tracking/log sheets
  - spaghetti diagrams
- monitoring and data gathering systems used by organisation, such as:
  - customer relationship management (CRM) database
  - accounting packages
  - business intelligence
  - other office process-related database programs and proprietary systems
- methods of identifying and evaluating options
- work health and safety (WHS) requirements relevant to the target work areas
- principles of efficient workplace organisation.

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Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the implementation of 5S procedures in an office setting where 5S has not previously been undertaken, or, demonstration of improving 5S application in an office that has already undergone prior 5S procedures
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403040 Facilitate and improve implementation of 5S

Modification History

Release 1. Supersedes and is equivalent to MSS403040A Facilitate and improve implementation of 5S

Application

This unit of competency covers the skills and knowledge required by an individual to facilitate the implementation and improvement of the 5S by self and others in a team or work area. The facilitation may be undertaken by formally designated supervisory staff, such as team leaders or other individuals in a competitive systems and practices implementation role, who need to provide support and encouragement to others to facilitate the achievement of 5S outcomes in the workplace.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management in order to provide leadership in a 5S environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Facilitate the set-up of 5S**	1.1	Assist others to determine what are necessary and unnecessary items in the work area.
		1.2	Assist others to determine optimum assigned location for all necessary items.
		1.3	Liaise with relevant production and work health and safety (WHS) personnel in determining optimum locations.
		1.4	Assist others to determine optimum location for unnecessary items.
		1.5	Assist others to determine 5S schedule.
		1.6	Assist others to achieve the required level of skill.
2	**Facilitate the implementation of 5S**	2.1	Ensure procedures reflect 5S practices.
		2.2	Assess skill base of team or work group members in 5S and arrange for any required training.
		2.3	Ensure that any damage and/or safety risks reported by the team or work group are addressed through correct mechanisms.
3	**Monitor 5S**	3.1	Check work area for 5S implementation as part of normal routine.
		3.2	Identify non-conformances.
		3.3	Negotiate solutions to non-conformances.
4	**Improve 5S**	4.1	Work with others to find areas for improvement.
		4.2	Assist others to develop improvement solutions.
		4.3	Facilitate the availability of resources required for the improvement solution.
		4.4	Facilitate the implementation of the improvement solution.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

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5S includes all of:	• sort • set in order • shine • standardise • sustain.
Sort includes all of:	• separating necessary from unnecessary items (equipment and supplies) • keeping only what is absolutely necessary for the work processes that comprise the job • disposing of (or relocating) all other items.
Set in order includes all of:	• assigning required equipment and materials appropriate locations in the work area • consideration of frequency of use, ergonomics and WHS • provision of facilities to maintain the locations.
Shine includes one or more of:	• keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process • keeping work area, including virtual work area, organised • noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention.
Standardising includes one or more of:	• activities that help maintain the order and the 5S standards • using procedures and checklists developed from a procedure.

Sustain includes one or more of:	• making sure that daily activities are completed every day regardless of circumstance
	• undertaking inspections, including:
	  • informal inspections that should be carried often, at least weekly
	  • formal inspections that should be carried out at least monthly.

Items in work area include one or more of:	• office supplies • materials • paperwork

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- furniture
- storage systems and cabinets
- lighting, wiring, plumbing and other services designed to support a working environment in the office
- manuals
- personal items (e.g. bags, phones, lunch boxes, clothing, photos and ornaments)
- safety and personal protective equipment
- any other item which happens to be in the work area.

Teams include one or more of:

- formal teams
- informal teams
- people working in the same area.

Target work area may be a physical and/or virtual workspace and includes one or more of:

- used by a person, a team or a cross-functional group
- common to part/s of a process or value stream (already defined)
- shared by people who undertake a defined procedure or set of procedures
- needed to support a particular function.

Appropriate places include areas designated for one or more of:

- recycling
- rubbish removal
- staff room/lunch room/kitchen
- office supplies, filing and other storage
- functions, such as printing/copying
- holding until status is confirmed.

Optimum assigned location includes:

- making changes to the layout of furniture, equipment and personnel in order to facilitate the smooth and continuous flow of work through process steps taking into account WHS considerations.

Non-conformance includes:

- incorrect or incomplete application of 5S procedures, including any daily tasks, scheduled inspections and continuous improvement procedures.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403040A Facilitate and improve implementation of 5S

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403040 Facilitate and improve implementation of 5S

Modification History

Release 1. Supersedes and is equivalent to MSS403040A Facilitate and improve implementation of 5S

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, in one (1) or more allocated areas, to:

- identify the scope of the services and/or functions supplied to and by the team or work area and the deliverables expected by customers, including the ultimate customer
- facilitate a systematic approach to implementing 5S
- lead and motivate others in achieving 5S outcomes and making improvements to the 5S systems
- set up systems for monitoring and improving 5S implementation
- manage non-conformances in implementation of 5S.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- principles and purpose of 5S
- methods of identifying waste in the work area, such as:
  - waste walk
  - document tagging
  - tracking/log sheets
  - spaghetti diagrams
  - existing information technology and enterprise resource systems (e.g. SCADA, ERP and MRP)
- methods of identifying and evaluating options
- work health and safety (WHS) requirements relevant to team and work areas
- processes for identifying and addressing skill gaps.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:

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  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the implementation of 5S procedures in a work area where 5S has not previously been undertaken, or, demonstration of improving 5S application in a work area that has already undergone prior 5S procedures
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403041 Facilitate breakthrough improvements

Modification History

Release 1. Supersedes and is equivalent to MSS403041A Facilitate breakthrough improvements

Application

This unit of competency covers the knowledge and skills required to facilitate implementation of discrete targeted improvement activities to achieve breakthrough improvements in selected processes, operations or products. Typically this approach is used for improvements in areas of waste identified through value stream mapping.

This unit applies to team leaders and others who are providing guidance and support to assist a team of employees to identify improvements that can be implemented to operations, processes or products in a brief intensive project.

The unit also covers ensuring that the improvements are sustained. The process of achieving breakthrough improvements is often called kaizen blitz in lean terminology.

This unit assumes that one or more processes and operations have been mapped.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for improvement event**	1.1	Engage team members in the improvement event.
		1.2	Identify process or processes to be targeted in the improvement event.
		1.3	Assist team members to identify how their own roles contribute to value to the customer.
		1.4	Assist team to identify the boundaries of the event, including any imposed exclusions.
		1.5	Identify key process indicators and other information required for improvement event.
		1.6	Identify skill needs for personnel engaged in breakthrough improvement event and arrange for any required training.
		1.7	Establish communication processes with sponsor and stakeholders.
2	**Identify improvements**	2.1	Assist team to review current processes, operations or products and identify options for radical improvements.
		2.2	Facilitate team activities and other relevant personnel to evaluate the options and agree on improvements to be made.
		2.3	Encourage and assist team and others to plan the activities and identify metrics to be monitored.
		2.4	Facilitate allocation of resources and strategies to manage impact on routine work.
3	**Facilitate the event**	3.1	Assist team to gather baseline data on the selected metrics.
		3.2	Assist team to identify and address barriers to making the improvements.
		3.3	Monitor team dynamics and facilitate team focus and

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			cooperation.
		3.4	Liaise with sponsor to communicate progress and maintain their support.
4	**Evaluate improvements**	4.1	Assist team to gather and interpret data on the metrics.
		4.2	Facilitate team activities to evaluate the outcomes of the event.
		4.3	Identify causes for areas of poor performance from changes and identify any additional changes to address them.
		4.4	Report to sponsor and other stakeholders on the outcomes of the event.
5	**Embed improvements**	5.1	Establish mechanisms to ensure new systems and/or practices are communicated to relevant personnel.
		5.2	Motivate team to apply the new systems and/or practices and sustain improvements.
		5.3	Ensure the new systems and/or practices are reflected in relevant procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems	• lean operations

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and practices include one or more of:	• agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Team in this unit is any group of employees engaged in a breakthrough improvement event and includes one or more of:	• a permanent formally identified team • a sub-group of a team • a formally designated teams • an informal groups of employees • other stakeholders who may be brought together for a breakthrough improvement event • a specially established group for the breakthrough event (e.g. a combined production/administration/ logistics group convened for a breakthrough event addressing delivery issues).
Scope and benefit statements include one or more of:	• description of the business • the target work process • what key stakeholders seek from the improvement project • a mission for the event • a set of goals • a statement of the do's and don'ts for the improvement project.
Boundaries define one or more of:	• the start and end point of the process being targeted • the steps of the process to be included and excluded • specific job roles or related processes to be included or excluded • timeframe for the event.

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Breakthrough improvement (also known as kaizen blitz) is characterised by one or more of:	• using a formal process • being a discrete targeted activity that is achieved in a relatively short timeframe • delivering significant level of improvement.
Mechanisms to communicate and sustain improvements include one or more of:	• scheduled audits • regular monitoring and/or reporting activities • use of visual aids, such as targets and progress boards, process charts and procedure posters • communications, such as standing items for team meetings, email reminders or updates.
Imposed exclusions include one or more of:	• equipment excluded from efficiency or layout review because of budget constraints • regulatory requirements that do not add value • organisation requirements, policies or procedures beyond the influence of the team • other required muda.
Key process indicators include one or more of	• statistical process control data/charts • orders • lost time, injury and other work health and safety (WHS) records • equipment reliability charts.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403041A Facilitate breakthrough improvements

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403041 Facilitate breakthrough improvements

Modification History

Release 1. Supersedes and is equivalent to MSS403041A Facilitate breakthrough improvements

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more breakthrough improvement events, to:

- interpret operations, processes and products in terms of value to the customer
- identify, analyse and evaluate information from a variety of sources to identify opportunities for breakthrough improvements
- lead and motivate others in planning, implementing and sustaining improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- team and organisation deliverables and processes used to achieve them
- how organisation operations and processes contribute to the value stream
- types of waste (muda) and imposed exclusions
- methods of identifying and evaluating options
- work health and safety (WHS) requirements relevant to the target work areas.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.
  -

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403042 Facilitate mistake proofing in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403042A Facilitate mistake proofing in an office

Application

This unit of competency covers the skills and knowledge required to facilitate changes to office processes to prevent errors and regression to pre-improvement levels of practices and move the office towards a culture of zero defects.

The unit applies to a person who needs to maximise the value of office processes to the customer through mistake proofing. The person facilitates changes to the process that will prevent errors, reduce their frequency or minimise their impact on the value to the customer. They also assist in embedding the changes into everyday practice and workplace culture. The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to mistake proof the process in their area. The unit can apply to a whole or part of an office.

This approach may be used in conjunction with process mapping and/or value stream mapping to identify office-related process steps and specific areas of waste in a process.

Office processes may include administrative, transactional or service-based processes in, or attached to, a manufacturing organisation, within their value stream or similar environments, such as health care, education, financial, construction or Defence services.

This unit has a strong emphasis on understanding value from the customer's perspective, analysis of errors to identify causes and planning, prioritising and facilitation skills.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for mistake proofing**	1.1	Engage management and team/work group to gain support for implementing mistake proofing.
		1.2	Provide information to others about the impact of errors and the concept of mistake proofing in an office environment.
		1.3	Where required, liaise with stakeholders to identify the steps in the office processes and the points where errors occur.
2	**Analyse processes**	2.1	Identify sources of variability/non-conformance against specifications and/or procedures.
		2.2	Analyse the conditions under which errors occur.
		2.3	Identify the root cause of errors.
3	**Identify options for mistake proofing**	3.1	Establish and prioritise mistake proofing options.
		3.2	Develop implementation plans for the selected mistake proofing activities and facilitate allocation of resources.
4	**Facilitate the implementation of mistake proofing**	4.1	Liaise with other office employees and other people to implement the selected mistake proofing activities into relevant systems and/or practices.
		4.2	Test and validate the mistake proofing activities.
		4.3	Identify causes for areas of poor performance in the mistake proofing and identify any additional changes to address them.

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5	**Embed mistake proofing**	5.1	Establish mechanisms to ensure new systems and/or practices are communicated to relevant personnel.
		5.2	Motivate others in the office to apply the new systems and/or practices.
		5.3	Ensure the new systems and/or practices are reflected in relevant procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Mistake proofing activities include one or more of:	• physical barriers that prevent errors (e.g. automatic shutoff guide rails, equipment, leads and supplies that can only be used the correct way, and secure areas) • 'virtual' barriers built into information technology (IT) and data systems (e.g. required fields, data validation rules, centrally managed templates and workflows, and password protected files) • visual or physical reminders of the correct action or sequence (e.g. colour coding, visual procedures and dividers) • visual or auditory alerts about incorrect action • reducing data errors through simplified forms or moving to electronic data capture • standardised workflows and templates for documentation.
Options for mistake proofing require consideration of one or more of:	• feasibility • cost • capacity to reduce muda (waste).
Criteria that support value to the customer require consideration of one or more of:	• ease and cost of implementation • capacity to prevent errors • the impact to the customer from the errors.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403042A Facilitate mistake proofing in an office

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403042 Facilitate mistake proofing in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403042A Facilitate mistake proofing in an office

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for two (2) or more errors, to:

- identify, analyse and evaluate information from a variety of sources to identify errors and options for mistake proofing
- facilitate implementation of mistake proofing activities that reduce waste
- facilitate sustaining the mistake proofing activities.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- principles, purpose and methods of mistake proofing
- root cause analysis techniques, such as:
  - 5 Whys
  - Pareto analysis
  - fishbone diagrams
- office deliverables in own workplace and processes used to achieve them
- contribution of office processes to the value stream
- methods of identifying and evaluating options
- work health and safety (WHS) requirements relevant to the target work areas
- principles of change management.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace

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  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include identified errors and mistake proofing in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403043 Facilitate breakthrough improvements in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403043A Facilitate breakthrough improvements in an office

Application

This unit of competency covers the skills and knowledge required to facilitate team implementation of discrete targeted improvement activities to achieve breakthrough improvements in selected office processes. Typically this approach is used for improvements in areas of muda (waste) identified through value stream mapping.

The unit applies to team leaders or others in a competitive systems and practices implementation role who need to provide guidance and support to assist a team to identify improvements in office processes that can be implemented in a brief intensive project while still producing the required deliverables. They also assist in ensuring that the improvements are sustained.

Office processes may include administrative, transactional or service-based processes in, or attached to, a manufacturing organisation, within their value stream or similar environments, such as health care, education, financial, construction or Defence services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for improvement event**	1.1	Engage team members, sponsors and other stakeholders in the event.
		1.2	Identify process to be targeted in the improvement event.
		1.3	Assist team to identify how their own roles contribute to value to the customer.
		1.4	Assist team to identify the boundaries of the event, including any imposed exclusions.
		1.5	Identify information and skill needs of the team and arrange for any required training.
		1.6	Establish communication processes with sponsors and stakeholders.
2	**Identify improvements**	2.1	Assist team to review current process and identify options for radical improvements.
		2.2	Facilitate team activities to evaluate the options and agree on improvements to be made.
		2.3	Assist team to plan the activities and identify metrics to be monitored.
		2.4	Facilitate allocation of resources and strategies to manage impact on routine work.
3	**Facilitate the event**	3.1	Assist team to gather baseline data on the selected metrics.
		3.2	Assist team to identify and address barriers to making the improvements.
		3.3	Monitor team dynamics and facilitate team focus and cooperation.
		3.4	Liaise with sponsor to communicate progress and maintain their support.

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4	**Evaluate improvements**	4.1	Assist team to gather and interpret data on the metrics.
		4.2	Facilitate team activities to evaluate the outcomes of the event.
		4.3	Identify causes for areas of poor performance from changes and identify any additional changes to address them.
		4.4	Report to sponsor and other stakeholders on the outcomes of the event.
5	**Embed improvements**	5.1	Establish mechanisms to ensure new systems and/or practices are communicated to relevant personnel.
		5.2	Motivate team to apply the new systems and/or practices and sustain improvements.
		5.3	Ensure the new systems and/or practices are reflected in relevant procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma

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	• Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Team includes one or more of:	• a permanent formally identified team • a sub-group of a team • a specially established group for the breakthrough event (e.g. a combined production/administration/ logistics group convened for a breakthrough event addressing delivery issues).
Boundaries defining the extent/limits of the improvement activity include all of:	• the start and end point of the process being targeted • the steps of the process to be included and excluded • specific job roles or related processes to be included or excluded • timeframe for the event.
Breakthrough improvement activity (kaizen blitz) is all of:	• a formal process • a discrete targeted activity that is achieved in a relatively short timeframe • delivers significant level of improvement. such as a better ratio of value-add to non-value add from the customer perspective.
Mechanisms to communicate and sustain improvements include one or more of:	• scheduled audits • regular monitoring and/or reporting activities • use of visual aids, such as targets and progress boards, process charts and procedure posters • communications, such as standing items for team meetings, email reminders or updates.
Imposed exclusions include one or more	• muda that is required but does not add value • equipment excluded from efficiency or layout review because of

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of:

budget constraints, licences, and so on
- regulatory requirements that do not add value
- organisation requirements, policies or procedures beyond the influence of the team.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403043A Facilitate breakthrough improvements in an office

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403043 Facilitate breakthrough improvements in an office

Modification History

Release 1. Supersedes and is equivalent to MSS403043A Facilitate breakthrough improvements in an office

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to facilitate one (1) or more breakthrough improvement activities in an office and to:

- prepare for the event
- facilitate the event
- facilitate the identification of improvements
- facilitate the embedding of improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- kaizen blitz (breakthrough improvement) facilitation
- facilitation of brain storming events
- office value stream and muda (waste)
- reasons for and impacts of exclusions
- setting of boundaries and their impacts
- collection and use of metrics
- methods of embedding improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real kaizen blitz (breakthrough improvement) event for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403044 Facilitate continuous improvement through the use of standardised procedures and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403044A Facilitate continuous improvement through the use of standardised procedures and practices

Application

This unit of competency covers the skills and knowledge required by individuals to assist others to use standardised work practices as a basis for continuous improvement in a competitive systems and practices environment.

The standardised work applies to the normal work of others and serves as the basis for continuous improvement. This may apply in a manufacturing, office, logistics, or other service environment along any part of the value stream. It applies to a person at whatever organisational level they are employed who facilitates this in others. The standardised work procedures may apply to every step of the job or may be procedures which allow discretion in the application.

The person will typically be a team leader or other person who works with, leads, facilitates and assists others. They will liaise and communicate with these others as required by the job and the standard procedures.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Facilitate the application of standardised procedures**	1.1	Ensure all required procedures are accessible by relevant personnel.
		1.2	Assist personnel access relevant procedures, as required.
		1.3	Facilitate the resolution of conflicts arising from job.
		1.4	Facilitate the completion of required work in accordance with standard procedures and practices.
2	**Facilitate the identification of improvement opportunities**	2.1	Analyse the job completion process.
		2.2	Ask questions of job incumbent which lead them to identify improvement opportunities.
		2.3	Encourage job incumbents to conceive and suggest improvements.
		2.4	Facilitate the trying out of improvements in accordance with procedures.
3	**Standardise and sustain improvements**	3.1	Facilitate the updating of standard procedures and practices.
		3.2	Check the capability of the work team aligns with the requirements of the procedure.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Customer includes one or more of:

- internal customer
- external customer
- final customer.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Takt time includes

- the time required to complete one job cycle if the customer's time and volume expectations are to be met (i.e. the available time

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one or more of:	divided by the number of units required) • time per piece where applied to piece work • time per tonne or litre when applied to bulk product • time per work item when applied to an office or service environment • deadlines required to meet delivery dates when applied to project work.
Conflicts arising from job include one or more of:	• cycle time (mean time taken to actually do the job) is longer than takt time • multiple jobs required in the same timeframe (i.e. priority conflict) • takt time cannot be met with resources available • takt time is longer than available time • factors restricting productive capacity.
Variability includes one or more of:	• any change which occurs in the job • different times taken to do the same thing • different effort taken to do the same thing • different results from applying the same effort (i.e. variation in quality) • amount of rework required.
Muda (waste) includes consideration of all of:	• overproduction • waiting • transporting • inappropriate processing • unnecessary inventory • excess motion • defects • underutilised employees.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403044A Facilitate continuous improvement through the use of standardised procedures and practices

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403044 Facilitate continuous improvement through the use of standardised procedures and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403044A Facilitate continuous improvement through the use of standardised procedures and practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to routinely facilitate:

- the use of standardised procedures
- continuous improvement
- the sustaining of improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- identifying customer requirements
- identifying variability
- available procedures and their application and updating
- takt time and cycle time
- muda
- continuous improvements processes
- questioning technique.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency

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  - must include the facilitation of others to use standardised work practices as a basis for continuous improvement in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403084 Improve changeovers

Modification History

Release 1. Supersedes and is equivalent to MSS403084A Improve changeovers

Application

This unit of competency covers the basic skills and knowledge required to improve changeovers.

This unit applies to an individual who is required to work on more than one product and to change between them as part of their work role. The product may be a physical or non-physical product and changeover may require a change of equipment or parts or it may require changing files, computer software, templates or some other changeover. It applies to the individual's own job at whatever organisational level they are employed and also applies to individuals who are assisting (or could assist) others to make a changeover.

The individual will typically be working closely with others, as part of a formal team, an ad hoc team or otherwise. They will liaise and communicate with these others, as required.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Record changeover process**	1.1	Identify customer requirements and other specifications for required product or service.
		1.2	Identify last off good product or service and check against customer requirements and specifications.
		1.3	Identify likely start and required finish situations for last off or first off good product or service.
		1.4	Process map required steps in changeover.
		1.5	Identify any optional or alternative process steps.
		1.6	Record times and other relevant data on map.
		1.7	Confirm changeover map with relevant people.
2	**Identify waste in changeover map**	2.1	Identify all muda (waste) in changeover map.
		2.2	Identify internal and external changeover activities.
		2.3	Propose changes to reduce changeover time.
3	**Make quicker changeover**	3.1	Obtain any required authorisations and resources for proposed changes.
		3.2	Check there are no adverse quality, health, safety and environment (HSE) implications.
		3.3	Try out proposed changeover.
		3.4	Standardise improvement in accordance with procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Changeover requires one or more of:

- a change of equipment or parts
- changing (computer or paper) files
- changing computer software or templates
- other changes.

Muda (waste) includes all of:

- overproduction
- waiting
- transporting
- inappropriate processing
- unnecessary inventory
- excess motion
- defects
- underutilised employees
- having no-one follow.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403084A Improve changeovers

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403084 Improve changeovers

Modification History

Release 1. Supersedes and is equivalent to MSS403084A Improve changeovers

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for at least two (2) changeovers, to:

- follow process maps
- categorise changeover steps as either internal or external
- perform changeovers in accordance with procedures
- recommend improvements to the changeover procedure.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- equipment and processes subject to changeover in own area
- drawing and interpretation of process maps
- principles and purpose of quick changeover
- authorisation processes for change.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include improvement of changeovers in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403085 Ensure process improvements are sustained

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to ensure that the gains which have been made by using improved methods, processes and/or equipment are sustained as the new baseline or standard for an area of work and so prevent regression to former practices, or digression to less efficient practices.

This unit applies to individuals working in a team or work area who have already implemented competitive systems and practices related improvements in their own work and who must work effectively with others implementing competitive systems and practices to ensure that performance improvement gains are sustained.

The unit applies to team leaders, senior operators, technicians or tradespeople who are required to mentor others and integrate the application of their technical skills with the implementation of competitive systems and practices in an organisation. Employees will be required to problem solve, show initiative, plan, organise and manage own output and development.

The unit applies to all areas of an organisation, including production, maintenance, logistics and office functions.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Examine previous improvements**	1.1	Identify impact of previous process improvements to systems, equipment, operations or products in work area
		1.2	Identify previous improvements that have not met objectives
2	**Ensure corrective actions are implemented**	2.1	Identify corrective actions that can be taken on process improvements that have not met objectives
		2.2	Liaise with relevant people associated with the anticipated corrective action
		2.3	Obtain any required approvals
		2.4	Arrange for the supply of resources
		2.5	Check impacts of corrective action on work health and safety (WHS), quality and environmental systems in work area and take action in accordance with procedures
		2.6	Check that self and others in team or work area have required skills for corrective actions
		2.7	Monitor implementation of corrective action
		2.8	Make required adjustments
3	**Verify systems support improvement**	3.1	Verify procedures reflect improvements
		3.2	Check that training and assessment activities in team or work area reflect improvements
		3.3	Liaise with relevant people to ensure their support of the new or modified system/s
4	**Audit the change**	4.1	Determine an audit period or cycle
		4.2	Agree measures and indicators for the improvement
		4.3	Measure performance at agreed times using agreed

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	measures
	4.4 Investigate causes of under-performance
	4.5 Take corrective action to improve performance
	4.6 Re-audit the improvement on an agreed basis

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403002 Ensure process improvements are sustained.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403085 Ensure process improvements are sustained

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified at least 1 previous improvement that has not met objectives and identified and implemented actions to correct this without adverse impact on other areas
- conducted at least 1 audit to measure the improvement from the change.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- muda and its causes
- processes and procedures for the organisation relevant to the work area
- sustaining approaches, including poka yoke, baka yoke
- measures of performance relevant to the work area and the improvement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403086 Improve cost factors in work practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required by an individual to evaluate the product or process outcomes of a team or work group in terms of their cost components and to be able to determine, in general terms, the cost impacts of alternative actions. This includes the efficient organisation of own work, and that of others in a work area or within a team, and the improvement of throughput and cycle times.

This applies to team members who will be required to problem solve, show initiative, plan, organise and manage own output and development. Decisions are made within the scope of the authority of the individual and other employees in the area or team and according to procedures.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse cost components of work area or**	1.1	Identify cost components in the product or process
		1.2	Identify costs factors under control of area or employees in the team

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	team function	1.3 Identify causes of variability in costs
		1.4 Analyse impact of costs on production or process activities undertaken
2	**Improve cost-efficiency of processes and procedures**	2.1 Identify methods of improving productivity and reducing costs within area or team's responsibility
		2.2 Calculate cost benefit ratio of alternative methods of improving productivity and reducing costs
		2.3 Consult with all stakeholders regarding possible changes
		2.4 Recommend changes which will increase productivity and reduce cost and variability
		2.5 Implement recommended changes in consultation with stakeholders

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403030 Improve cost factors in work practices.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403086 Improve cost factors in work practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified and analysed cost factors in work practices and made recommendations to improve costs on at least 1 occasion.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- cost components of products made
- costs concepts, including expense/capital, income and cost benefit ratios
- major cost contributors to product (including energy, materials and inputs, labour and distribution)
- difference between internally and externally controlled costs
- difference between overhead, capital, expense, labour and other consumables.
- causes of cost variances.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403087 Mistake proof an operational process

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to analyse a process that a team is responsible for and determine methods of mistake proofing it. This includes determining, implementing and sustaining improvement activities.

The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to mistake proof the production process in their area.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse process**	1.1	Identify sources of variability and non-conformance in the process
		1.2	Identify critical control points in process
		1.3	Analyse causes of variability and non-conformance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
2	**Develop preventative options**	2.1	Liaise with team members and other people to develop mistake proof options for performing operation
		2.2	Test and validate mistake proofing options
3	**Implement permanent fix**	3.1	Liaise with relevant people to have systems and procedures changed to implement solution
		3.2	Liaise with relevant people to implement the solution
		3.3	Liaise with relevant people to ensure self and others in the team or work area have appropriate skills
		3.4	Follow through to ensure implementation occurs
4	**Monitor implementation**	4.1	Critically observe the implementation
		4.2	Compare the results of the implementation against the expected outcomes
		4.3	Modify solution to improve outcomes
		4.4	Confirm procedures reflect change
		4.5	Confirm training and assessment reflects change
		4.6	Audit change at agreed period or cycle
		4.7	Address any observed deviation
5	**Seek improvements**	5.1	Observe and monitor changes
		5.2	Analyse process again to ensure improvements are sustained

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403051 Mistake proof an operational process.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403087 Mistake proof an operational process

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- mistake proofed (applied baka yoke or poka yoke) to at least 1 operational process.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- baka yoke and poka yoke approaches
- factors causing variability in the process and methods of controlling it
- error causes and control options
- cost benefit analysis, feasibility, regulatory compliance and perceived value to the customer
- validation of baka yoke and poka yoke proposals.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404052 Apply statistics to operational processes

Modification History

Release 1. Supersedes and is equivalent to MSS404052A Apply statistics to operational processes

Application

This unit covers the ability to gather and analyse process data to support the control of processes and operations. It includes interpretation of sampling procedures, frequency distributions, random and non-random variations in data/control charts; use of control limits to determine whether or not monitored processes are in control; and communicating this information to others.

This unit applies to a person working in an organisation applying statistical process control on processes or operations. The statistical process control will usually be used to monitor the processes or operations and determine when action needs to be taken. The appropriate action will then be taken in accordance with standard procedures.

This unit primarily requires the application of skills associated with gathering and analysing data and communicating statistical information to others. This unit also has a strong emphasis on problem solving, initiative and enterprise, planning and organising, and self-management to solve problems and manage processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Collect process data**	1.1	Interpret sampling scheme.
		1.2	Obtain measurements in accordance with standard sampling procedures.
		1.3	Handle data in accordance with procedures.
2	**Interpret data**	2.1	Plot data on appropriate control chart.
		2.2	Distinguish between random and non-random patterns of results.
		2.3	Identify results outside the control limits.
		2.4	Recognise situations requiring action.
		2.5	Take action in accordance with procedures.
		2.6	Determine cost of non-conformance.
3	**Calculate control limits**	3.1	Consult relevant stakeholders to determine appropriate limits.
		3.2	Use relevant methods to calculate/revise control limits.
		3.3	Plot limits on control chart and complete other records in accordance with procedures.
		3.4	Explain impact of limit to relevant stakeholders.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Sampling schemes include one or more of:

- sampling for attributes or sampling for variables
- batch, continuous or custom made products
- type of sample
- size of sample
- number of items/samples
- number/type of measurements to be done on each sample
- timing of sampling
- location of sampling points
- sampling equipment
- measurement/testing equipment/methods.

Checking, analysing and storing data includes one or more of:

- calculating means, ranges, mean of means and standard deviations (using appropriate calculation aids)
- entering data into a software package
- recording data either in writing or electronically

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- other required manipulations of the data.

Control charts include one or more of:

- run
- tally
- mean/range
- attributes
- other relevant charts.

Variations include all of:

- random variations for which no cause can be found
- non-random variations for which a cause can be found and so the cause of the variation eliminated (also called identifiable cause, assignable cause or special cause)
- non-random variations used to predict possible breaches of the control limits.

Limits include one or more of:

- control limits (also referred to as process capability) within which the process will operate if it is 'under control'
- appropriate limits: 1 sigma warning limits, 2 sigma warning limits, 3 sigma control limits, and 6 sigma limits.

Costs of non-conformance include one or more of:

- reprocessing/rework
- expediting
- unplanned service
- excess inventory
- complaint handline
- downtime
- returns
- scrap
- labour costs
- material costs
- infrastructure costs/overhead
- utility costs.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of

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the process.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404052A Apply statistics to operational processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404052 Apply statistics to operational processes

Modification History

Release 1. Supersedes and is equivalent to MSS404052A Apply statistics to operational processes

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment and must include on two (2) or more occasions:

- gathering, analysing and interpreting process data to support the control of processes and operations
- applying specified sampling procedures
- investigating the causes of variation in a process
- communicating with other employees to obtain samples/data and to explain results and limits
- calculating and plotting data and control limits
- completing other required documentation.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- purpose of sampling and measurement
- sampling methods to be used
- methods of calculating means, standard deviations and the like and their purpose in statistical control
- concept of limits, including 1, 2, 3 and 6 sigma limits
- types of control charts and their applications to different types of process/product and for different purposes
- process causes of variation and typical cause types of non-random variation
- non-process (e.g. measurement) causes of variation
- recognition of stable and unstable processes
- causes of stability/instability in the process
- calculation of control limits/process capability and the applications of different control limits
- the standard distribution curve and confidence limits.

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Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include the application of statistics to an operational process in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404053 Use DMAIC techniques

Modification History

Release 1. Supersedes and is equivalent to MSS404053A Use six sigma techniques

Application

This unit of competency covers the skills and knowledge required to apply the Define, Measure, Analyse, Improve, and Control and standardise (DMAIC) to improve quality, cost and delivery in operations and other supporting processes in the workplace. This will be undertaken with other members of the process team.

This unit requires the application of skills associated with using information, problem solving, initiative, enterprise, planning and organising in order to identify an area requiring improvement and develop a measured process to make improvements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify an area requiring improvement**	1.1	Identify customer needs from process.
		1.2	Identify customer benefits delivered by process.
		1.3	Identify areas requiring improvement.

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2	**Apply DMAIC process**	2.1	Define improvement project.
		2.2	Acquire required measurements/data.
		2.3	Analyse data and determine possible process improvements.
		2.4	Develop and test improvement solutions.
		2.5	Control and standardise the improvement.
3	**Review and confirm improvement**	3.1	Determine and document benefits.
		3.2	Ensure procedures and other relevant documentation is updated for improved procedure.
		3.3	Review process data after an appropriate period and confirm the improvement.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems ,including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems

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- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

DMAIC includes all of:

- define
- measure
- analyse
- improve
- control and standardise.

Define improvement project includes all of:

- 'as is' process map
- defining benefits from the project
- problem statement
- goal statement
- project scope.

Measurement includes one or more of:

- identification of key measures/attributes
- sampling schedule for project
- variations and limits.

Analyse includes one or more of:

- statistical analysis of data
- root cause analysis
- use of various problem solving/analysis tools.

Improvement includes one or more of:

- generation and testing of improvements
- selection of appropriate improvements.

Control and standardise includes

- documenting
- transferring ownership of improved process.

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one or more of:

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404053A Use six sigma techniques

Links

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Assessment Requirements for MSS404053 Use DMAIC techniques

Modification History

Release 1. Supersedes and is equivalent to MSS404053A Use six sigma techniques

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability on one (1) or more occasions to:

- identify a required improvement
- apply DMAIC to that improvement
- confirm the improvement has occurred.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- methods of identifying customer needs and benefits
- methods of identifying areas requiring improvement
- DMAIC processes
- methods of confirming benefits and improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real DMAIC approach to a workplace improvement.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404060 Facilitate the use of planning software systems in a work area or team

Modification History

Release 1. Supersedes and is equivalent to MSS404060A Facilitate the use of planning software systems in a work area or team

Application

This unit of competency covers the skills and knowledge required to facilitate the use of planning software in an organisation in an individual's work area or team. These systems are known by various generic names, such as Enterprise Resource Planning (ERP), Materials Resource Planning (MRPII, MRP III etc.) or by proprietary names.

This unit applies to an individual who will access the planning software system for their own work, but will also need to provide support and organise skill development programs for their team or work group members. The individual will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to facilitate the use of the planning software system. The planning software system will be used routinely in the work of the team or work group.

This unit primarily requires the application of skills associated with using communication technology and supporting team use of planning software. Problem solving, initiative and enterprise, and planning and organisational skills are required to ensure that planning software is used efficiently. This requires aspects of learning and self-management to ensure own performance and that of the team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify scope of planning software**	1.1	Identify categories of information held by planning software.
		1.2	Identify information categories relevant to team and area processes.
		1.3	Identify range of information able to be provided to planning software by team or work group.
		1.4	Identify range of information able to be provided to team or work group by planning software.
2	**Communicate using the planning software system**	2.1	Send and receive information using planning software.
		2.2	Send and receive messages using planning software.
3	**Make decisions using planning software**	3.1	Interrogate the planning software system to find required current, historical or predicted information.
		3.2	Take actions appropriate to the information in accordance with procedures.
4	**Monitor the use of planning software**	4.1	Routinely monitor planning software information.
		4.2	Review performance and use of planning software with team.
5	**Support others to use planning software**	5.1	Regularly communicate with team or other work group members, both using planning software and face to face.
		5.2	Identify improvements required.
		5.3	Take action to implement improvements in accordance with procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Planning software integrates a range of business information including one or more of:	• sales/order taking • finance/accounting • logistics • maintenance • human resources • production.

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Information and message categories include one or more of:	• orders • production/operations processes • scheduling (e.g. daily/weekly) • finance and accounting • human resources (e.g. rosters, reserves, training completed and scheduled) • quality requirements • customers • suppliers.
Stages where value stream actions occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404060A Facilitate the use of planning software systems in a work area or team

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404060 Facilitate the use of planning software systems in a work area or team

Modification History

Release 1. Supersedes and is equivalent to MSS404060A Facilitate the use of planning software systems in a work area or team

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, to facilitate and/or provide support on three (3) or more occasions, to:

- identify team or work group area information requirements and relate to planning software categories
- lead and motivate others in using planning software
- ensure information sent to planning software is accurate and appropriate
- obtain regular and one-off information from planning software
- make decisions using planning software generated information.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- hierarchy of planning software system and operation
- information available from/through the planning software system
- query facilities and information analysis capabilities offered by planning software
- support/training/skill development mechanisms available for access by team members.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include facilitating and/or support for teams or work groups using planning software systems in own workplace

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  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404061 Facilitate the use of SCADA systems in a team or work area

Modification History

Release 1. Supersedes and is equivalent to MSS404061A Facilitate the use of SCADA systems in a team or work area

Application

This unit of competency covers the skills and knowledge required by a team leader or technical expert to personally use and facilitate the use of System Control and Data Acquisition (SCADA), or other similar systems, and support the team in their use of SCADA.

This unit applies to individuals who will access the SCADA system for their own work, but will also need to provide support and organise skill development programs for their team members. It is also relevant to maintenance personnel using a SCADA system to coordinate maintenance activities.

This unit primarily requires the application of skills associated with using communication technology and supporting team use of SCADA systems. Problem solving, initiative and enterprise, and planning and organisational skills are required to ensure the system is used efficiently.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify scope of SCADA system**	1.1	Identify categories of information held in and control options of SCADA system relevant to team or area.
		1.2	Identify range of information able to be provided to SCADA system by team.
		1.3	Identify range of information able to be provided to team by SCADA system.
		1.4	Identify team or area functions impacted by SCADA system.
2	**Communicate using SCADA system**	2.1	Send and receive information using SCADA.
		2.2	Send and receive messages using SCADA.
3	**Make decisions using SCADA**	3.1	Interrogate the SCADA system to find required current, historical or predicted information.
		3.2	Take actions appropriate to the information.
4	**Monitor the use of SCADA**	4.1	Routinely monitor SCADA information.
		4.2	Identify poor uses of SCADA system within team and system inadequacies.
		4.3	Identify system improvements required.
		4.4	Take action to improve SCADA system and its use.
5	**Support team use of SCADA**	5.1	Regularly communicate with team, both using SCADA-based communication and face to face.
		5.2	Identify skill improvement needs.
		5.3	Identify team members who require additional support.
		5.4	Take action to provide support according to procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

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Stages where value stream actions occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404061A Facilitate the use of SCADA systems in a team or work area

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404061 Facilitate the use of SCADA systems in a team or work area

Modification History

Release 1. Supersedes and is equivalent to MSS404061A Facilitate the use of SCADA systems in a team or work area

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, to facilitate and/or provide support on three (3) or more occasions, to:

- identify team or area information and operations requirements and relate to SCADA system
- lead and motivate others in using SCADA system
- obtain regular and one-off information from SCADA system
- make decisions using SCADA generated information.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- hierarchy of SCADA system and operation
- information available from and controls exercised by/through the SCADA system
- query, control and other facilities and information offered by SCADA
- support/training/skill development mechanisms available for access by team members.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include facilitating and/or support for teams or work groups using SCADA systems in own workplace

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  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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MSS404081 Undertake proactive maintenance analyses

Modification History

Release 1. Supersedes and is equivalent to MSS404081A Undertake proactive maintenance analyses

Application

This unit of competency covers the skills and knowledge required to undertake the most common forms of analyses associated with predictive/preventative/reliability centred maintenance strategies.

This unit applies to a technical expert (usually an engineer, technician or tradesperson) who is required to undertake analyses for the purpose of predictive/preventative/reliability centred maintenance as part of a competitive systems and practices strategy.

This unit primarily requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, and planning and organising in order to undertake maintenance analyses. This is normally done in the context of using computer technology, and requires aspects of learning and self-management to ensure team involvement and facilitation of learning.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Liaise with operator**	1.1	Establish a relationship with the operator of equipment/plant.
		1.2	Ensure the operator has the required skills and resources to keep the equipment/plant clean.
		1.3	Ensure the operator is able to effectively monitor the operation of the equipment/plant.
		1.4	Regularly communicate with operator about the overall equipment effectiveness (OEE) of their equipment/plant.
		1.5	Involve operator, team leader and other key personnel in identification of skill needs and means of skill acquisition to fill any identified gaps.
2	**Analyse history**	2.1	Analyse mean time between failures (MTBF) from maintenance records.
		2.2	Analyse performance data of the equipment/plant.
		2.3	Identify causes of changes to historic trends/status.
		2.4	Determine methods of ensuring causes of improvements and resolution of deterioration are locked in.
3	**Undertake failure mode effects analysis (FMEA) or similar failure effects analysis**	3.1	Undertake analysis.
		3.2	Record results of analysis.
		3.3	Investigate methods of eliminating possibility of failure and/or minimising the impact of the failure.
		3.4	Liaise with operator, team leader and other key personnel regarding possible solutions.
		3.5	Select most appropriate solution.
		3.6	Implement selected solutions.
4	**Undertake condition monitoring**	4.1	Obtain data for condition monitoring analysis.
		4.2	Interpret condition monitoring data.

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analysis	4.3	Predict required maintenance type and timing from condition monitoring data.
	4.4	Liaise with operator, team leader and other key personnel regarding implications of condition monitoring report.
	4.5	Involve team members in development of changes to maintenance strategy to ensure awareness, learning and commitment.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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- run charts
- standard procedures
- current reality tree.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404081A Undertake proactive maintenance analyses

Links

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Assessment Requirements for MSS404081 Undertake proactive maintenance analyses

Modification History

Release 1. Supersedes and is equivalent to MSS404081A Undertake proactive maintenance analyses

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for two (2) or more items of equipment/plant, to:

- identify and analyse data and other information on the historical performance of equipment
- undertake MBTF, FMEA and condition monitoring analyses
- involve operators, maintenance and other stakeholders in decisions on proactive maintenance strategies
- identify root cause of failure and deterioration in equipment performance
- select and implement failure elimination or minimisation solutions.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- cleaning needs, techniques and principles of equipment in area of responsibility
- methods of assessing operator and maintenance skill gaps and filling them
- techniques for determining MTBF or similar
- techniques for undertaking FMEA or similar
- principles of competitive systems and practices strategies being implemented and how to adapt them to maintenance
- root cause analysis
- techniques to analyse condition monitoring data.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404082 Assist in implementing a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS404082A Assist in implementing a proactive maintenance strategy

Application

This unit of competency covers the skills and knowledge required by a maintenance person to assist in the implementation of a proactive maintenance strategy in an organisation. This unit includes the interaction between a maintenance worker and operators, as appropriate.

This unit applies to a maintenance person in an organisation that has adopted or is implementing total preventative/productive maintenance (TPM), reliability centred maintenance (RCM) or similar strategies. As part of this, the maintenance person is expected to assist in the implementation by determining appropriate maintenance related schedules and also by providing maintenance related assistance to non-maintenance personnel, such as assisting production personnel to fulfil their role in the TPM/RCM strategy.

This unit requires the application of skills associated with problem solving and initiative and enterprise in order to analyse maintenance requirements. Communication, teamwork and planning and organising skills will be required to implement reliability strategies. This requires aspects of self-management to ensure improvement of own performance and learning.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop components of reliability strategy for a work/plant area**	1.1	Determine manufacturer's recommended inspection, servicing and related schedules for relevant plant.
		1.2	Consult with relevant people with regard to appropriate inspections, services and schedules.
		1.3	Discuss any conflicts with relevant people and seek resolution of conflicts.
		1.4	Develop schedules in liaison with relevant people.
		1.5	Identify inspections and servicing which may be done by operations personnel in liaison with relevant stakeholders.
2	**Assess current practice for maintenance implications**	2.1	Identify the overall equipment effectiveness (OEE) or other organisation targets for equipment/plant.
		2.2	Evaluate procedures for plant/equipment reliability implications.
		2.3	Discuss current practices with relevant people to determine any plant/equipment reliability implications.
		2.4	Recommend changes to improve plant/equipment reliability in accordance with procedures.
3	**Assist in implementing the reliability strategy**	3.1	Arrange for schedules to be incorporated in relevant work plans.
		3.2	Identify training needs in discussion with relevant personnel.
		3.3	Assist personnel to develop required skills for inspections/ servicing within scope of authority.
		3.4	Collect data/information as required by own work plan.
		3.5	Compare data/information with performance indicators.
		3.6	Recommend improvements to reliability strategy in

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accordance with procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Strategies include one or more of:

- mean time between failure (MTBF) which is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is

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failing
- failure mode and effects analysis (FMEA) which is a systematic approach that identifies potential failure modes in a system, product or equipment based operations caused by either design or operation/process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring
- industry sectors have highly adapted forms of FMEA and which may practice traditional FMEA in their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification. HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability
- condition monitoring which often involves quite sophisticated monitoring of equipment, including such things as vibration monitoring, instrumental analysis of lubricating oil, and so on, to determine the current state of the equipment, monitor the change in this condition and predict when it needs servicing/maintenance to maintain reliability.

Inspection includes one or more of:
- reading dials, gauges and meters
- observations, including those using sight, hearing, smell and feel
- observations of product quality/faults/rejects.

Servicing includes one or more of:
- cleaning
- lubricating
- topping up
- adjusting.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:
- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404082A Assist in implementing a proactive maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404082 Assist in implementing a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS404082A Assist in implementing a proactive maintenance strategy

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more work/plant areas, to:

- source information from manuals and other technical documentation or software
- effectively communicate with users on equipment operational and maintenance history
- develop schedules for maintenance activities, including seeking technical assistance, where appropriate
- differentiate between proactive and traditional maintenance strategies.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- requirements of the proactive maintenance strategy being implemented
- operating principles and procedures for equipment/plant subject to proactive maintenance strategy
- purpose and processes for data collection in proactive maintenance strategies
- procedures relevant to own job and organisation implementation of proactive maintenance
- methods of making/recommending improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS404083 Support proactive maintenance

Modification History

Release 1. Supersedes and is equivalent to MSS404083A Support proactive maintenance

Application

This unit of competency covers the skills and knowledge required to lead a production team/work group or maintenance team in a proactive maintenance environment.

This unit applies in a competitive systems and practices organisation where proactive maintenance strategies, such as total preventative/productive maintenance (TPM) or reliability centred maintenance (RCM) are used. This unit applies to a team leader or other person who as part of their role assists others in implementing and following the proactive maintenance practices.

The unit covers the leading of a team in proactive maintenance activities, such as keeping records, visual checks, analysis of failures and effects on production and housekeeping. The unit does not cover breakdown maintenance, condition monitoring or non-destructive testing (NDT).

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative, enterprise, planning and organising in order to lead a team in the development and implementation of proactive maintenance strategies. This unit has a strong emphasis on developing and resourcing the team to interpret information and monitor equipment and operation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Lead team in monitoring process and equipment**	1.1	Demonstrate to team how to observe the process/equipment continuously and critically using appropriate senses (e.g. sight and hearing) to identify any potential or actual problems.
		1.2	Identify to team data indicators that must be monitored and recorded.
		1.3	Ensure team monitors identified data indicators frequently and critically.
		1.4	Ensure symptoms of operations outside the desired range of conditions and performance are recognised.
		1.5	Analyse cause of equipment non-standard performance within scope of knowledge and skill.
		1.6	Ensure team members take timely action to solve problems or to refer problems to appropriate manager or specialist.
2	**Apply proactive maintenance strategy**	2.1	Obtain and discuss maintenance strategy with relevant people.
		2.2	Identify aspects of maintenance strategy which require specific input from team.
		2.3	Discuss maintenance strategy with team members.
		2.4	Ensure team members have resources and training to be able to make the required contributions.
3	**Analyse standard procedures and work practices**	3.1	Examine team procedures and practices for compatibility with maintenance strategy.
		3.2	Identify areas where production procedures/practices

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			should be changed to comply with maintenance strategy.
		3.3	Identify areas where maintenance strategy should change to comply with production procedures and practices.
		3.4	Identify other activities or areas where changes might increase equipment reliability.
		3.5	Take action to have the required changes made.
4	**Facilitate team contribution to proactive maintenance**	4.1	Monitor team's contribution to proactive maintenance.
		4.2	Arrange for competency development of team members, as required.
		4.3	Facilitate ongoing examination by the team of process reliability and overall equipment effectiveness (OEE).
		4.4	Arrange for follow through and implementation of team originated improvements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations

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	control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Team includes one or more of:	• work teams from all sections of the organisation including production, maintenance, technical, administration/finance and sales/marketing • a formally designated team • a group of employees in a common work area.
Proactive maintenance strategies and associated analyses include one or more of:	• TPM and RCM • root cause analysis (RCA) • mean time between failures (MTBF) • failure mode and effects analysis (FMEA) • condition monitoring.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404083A Support proactive maintenance

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404083 Support proactive maintenance

Modification History

Release 1. Supersedes and is equivalent to MSS404083A Support proactive maintenance

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, in one (1) or more work areas, to:

- communicate effectively with team on the proactive maintenance strategy being adopted and the role expected by the team in its implementation
- identify data required from team and for team for the proactive maintenance strategy
- analyse proactive maintenance strategy and current work practices of the team to identify opportunities for better fit
- differentiate between proactive and traditional maintenance strategies.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- the production process as it applies to the team area of responsibility
- equipment controls and function used in team's work area
- data ranges and indicators for normal team operations
- data and equipment variations and fault indicators able to be identified by team during operations
- range of data required from team for proactive maintenance strategy
- typical analyses used by the proactive maintenance strategy and their implication for work of the team
- responsibilities of the team, maintenance staff and technical experts
- OEE and relationship to team's operational capability.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace

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  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include proactive maintenance practices in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS404084 Undertake process capability improvements

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to make process capability improvements, including analysing data from the process, developing improvements to eliminate variation due to assignable causes and then implementing actions.

This unit applies to a person who reviews a range of process capability data and information and makes (or arranges for) changes to be made to procedures, equipment or process and then recalculates the process capability and monitors resulting improvement actions. The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to suggest and justify process capability improvements.

Process capability may have been determined using either a six sigma or three sigma processes. This unit applies to the application of statistical methods and the determination of capability based on those methods.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Obtain required**	1.1 Identify process for study

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	data	1.2 Obtain or organise process to obtain required data and information
2	**Analyse information**	2.1 Read and interpret data and determine assignable causes
		2.2 Develop possible improvements to eliminate assignable causes
		2.3 Develop process improvement proposals
3	**Improve process capability**	3.1 Obtain required authorisations to implement improvements
		3.2 Liaise with relevant people to implement improvements
		3.3 Obtain or organise required data for improved process
		3.4 Recalculate process capability
		3.5 Implement revised data collection and processing and new capability information
		3.6 Monitor improvement actions and adjust

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404050 Undertake process capability improvements.

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Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404084 Undertake process capability improvements

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- planned and implemented at least 1 process capability improvement.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- data collection and manipulation techniques
- variability, normal distribution and three and six sigma limits
- type of variations:
  - random variation (no assignable cause)
  - non-random variation (which has an assignable cause).
- causes of non-random variation in the process
- approaches to reducing variability.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405001 Develop competitive systems and practices for an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405001A Develop competitive systems and practices for an organisation

Application

This unit of competency covers the skills and knowledge required to develop new strategies for competitive systems and practices or make improvements to existing systems and practices.

This unit applies to a manager, technical specialist or similar in an organisation implementing competitive systems and practices, or in an organisation wishing to embark on the competitive systems and practices path. The person needs to be able to analyse the needs of the organisation and develop strategies and systems for effective implementation and continuous improvement of competitive systems and practices in the organisation. They may be developing competitive systems and practices for the first time for this organisation, or may be developing/improving existing systems and practices.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine effective competitive systems and practices strategies for the organisation. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into competitive systems and practices strategies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine appropriate analytical techniques**	1.1	Liaise with key stakeholders to determine objectives of operations strategy.
		1.2	Examine current operations to determine major areas requiring improvement
		1.3	Compare possible strategies, techniques and tools against organisation needs.
		1.4	Select possible strategies, techniques and tools.
		1.5	Consult with key stakeholders to confirm selected strategies, techniques and tools.
2	**Develop competitive systems and practices strategies**	2.1	Estimate benefit/cost ratio for major stakeholders and the value stream overall.
		2.2	Determine preferred operations strategy.
		2.3	Examine and adapt strategy to organisation needs and priorities.
		2.4	Examine and adapt competitive systems and practices techniques and tools required to implement strategy.
		2.5	Negotiate with key stakeholders to develop an implementation plan.
		2.6	Determine key information and performance indicators required.
3	**Implement strategy**	3.1	Determine data collection required.
		3.2	Identify and evaluate methods of collecting and processing required data.

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		3.3	Determine hardware and other resources required.
		3.4	Evaluate skill needs required.
		3.5	Ensure all resources/training are available and completed.
		3.6	Implement strategy.
4	**Monitor implementation of strategy**	4.1	Compare information/performance indicators with desired levels.
		4.2	Liaise with key stakeholders regarding strategy issues.
		4.3	Identify areas requiring adjustment.
		4.4	Make required adjustments.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring

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	and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Competitive systems and practices techniques and tools include one or more of:	• value stream mapping • 5S • JIT • mistake proofing • process mapping • establishing customer pull • kaizen and kaizen blitz • setting of KPIs/metrics • identification and elimination of waste (muda) • standardisation.
Customer requirement stages where value stream actions may occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405001A Develop competitive systems and practices for an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405001 Develop competitive systems and practices for an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405001A Develop competitive systems and practices for an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop the competitive systems and practices of an entire organisation, department or equivalent and to:

- determine analytical techniques which are currently appropriate for the organisation
- develop/improve the strategies used
- implement and monitor the new/improved strategy.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop the organisation's competitive systems and practices, including knowledge of:

- competitive systems and practices tools which may be relevant
- kaizen and kaizen blitz techniques
- muda identification and minimisation
- benefit/cost determination and application
- matching and prioritising strategies to organisation goals.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project aimed at developing an organisation's competitive systems and practices for an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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MSS405002 Analyse and map a value stream

Modification History

Release 1. Supersedes and is equivalent to MSS405002A Analyse and map a value stream

Application

This unit of competency covers the skills and knowledge required to analyse and map a value stream, including the clear identification of the place of an organisation in the value stream and its contribution to the value stream. The unit includes the relationships and the activities undertaken by value stream organisations. The identification skills include identification at the virtual or information level, the technical or process level, and at the physical or logistic level.

The unit includes the analysis of value-adding and non-value adding activities and the information needs for successful value stream mapping, including information technology (IT) needs.

This unit covers the analysis of the supply chain, the demand chain as well as the overall value stream.

This unit applies to an individual in a senior role in an organisation, such as an operations manager, purchasing manager, senior technical officer performing planning or scheduling or similar who needs to analyse and map a value stream, a supply chain, or a demand chain in order to understand the interactions between all members and determine the value added/potential value added by each member. The value stream is represented visually according to organisation format requirements.

The value stream may be being mapped for the first time, or it may be an analysis and mapping of a previously mapped value stream. The analysis and mapping may be for an entire value stream, or a defined part of one.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Map the value stream**	1.1	Select a product/product group for analysis.
		1.2	Identify ultimate customer.
		1.3	Identify ultimate supplier.
		1.4	Identify all organisations between ultimate supplier and ultimate customer.
		1.5	Identify all steps in own organisation.
		1.6	Map value stream.
2	**Define customer need**	2.1	Determine the features/benefits obtained by customers from product.
		2.2	Determine methods of measuring the contribution to each feature/benefit.
		2.3	Identify possible data sources for required measures.
		2.4	Implement measurement of contribution to features/benefits.
3	**Assess the value added at each step**	3.1	Identify value contributed by each external organisation.
		3.2	Determine value added by each internal step.
		3.3	Determine method of measuring value added.

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4	**Reduce muda (waste)**	4.1	Compare value added to customer benefit/feature.
		4.2	Identify activities on value stream map which do not add to customer benefit/features.
		4.3	Liaise with external value stream members to determine methods to reduce overall waste.
		4.4	Take required actions to reduce waste.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts

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- standard procedures
- current reality tree.

Customer requirement stages where value stream actions may occur include one or more of:

- sales outlet/representative
- information gathering, data analysis and research
- product design
- raw material sourcing
- intermediate processing
- final assembler/collation/preparation
- support services (e.g. accounting, finance and legal)
- storage and delivery to customer
- after market support.

Value-added as perceived by the customer includes one or more of:

- technical benefits/features
- location benefits/features
- aesthetic benefits/features
- information benefits/features.

Techniques for value stream mapping include one or more of:

- hard copy (e.g. paper or whiteboard)
- appropriate software tools
- expert group
- participation by gemba representatives
- participation by all impacted personnel.

Muda (waste) includes all of:

- excess production and early production
- delays
- movement and transport
- poor process design
- inventory
- inefficient performance of a process
- making defective items
- activities which do not yield any benefit to the organisation or any benefit to the organisations customers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405002A Analyse and map a value stream

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405002 Analyse and map a value stream

Modification History

Release 1. Supersedes and is equivalent to MSS405002A Analyse and map a value stream

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to analyse and map one (1) or more value streams (either for the first time or subsequently) and to:

- develop an initial map of the value stream
- define customer perceived need and from this assess the value added by each step
- identify and minimise muda.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to analyse and map a value stream, including knowledge of:

- value stream mapping and analysis techniques
- muda identification and causes
- details of the process being mapped in sufficient depth to allow analysis of the map
- meaningful interactions of this value stream with other value streams
- concepts of value added/non-value added and methods of determining/quantifying this.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real value stream mapping exercise for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

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- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405003 Manage a value stream

Modification History

Release 1. Supersedes and is equivalent to MSS405003A Manage a value stream

Application

This unit of competency covers the skills and knowledge required to manage an overall value stream, a supply chain or a demand chain, including close liaison with suppliers and customers. It may be applied to the managing of the chain internally/externally within an organisation.

This unit applies to a person in a senior role in an organisation, such as a manager, technical specialist or similar, who needs to manage the value/supply/demand chain on an ongoing basis to achieve the best overall contribution of valued added to their product in terms of customer benefit/features. The unit can be applied to value streams of large or small organisations and to internal and external value streams or a combination value stream.

This unit assumes that the value stream has been mapped and that the mapping is available.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Evaluate the value stream**	1.1	Identify all members in the value stream for products in area of responsibility.
		1.2	Identify value added by each member of the chain.
		1.3	Identify non-value adding steps in the value stream.
		1.4	Identify acute and chronic issues which impact on the value stream.
		1.5	Develop priority list of items for improvement.
2	**Liaise regularly with chain members**	2.1	Establish and maintain regular liaison with all chain members.
		2.2	Identify current and forecast issues with each member.
		2.3	Work with members to help them address their issues.
		2.4	Build trust and confidence in the relationship.
		2.5	Develop with each chain member a priority list of items for improvement.
		2.6	Negotiate with all chain members to ensure improvements benefit chain members and improve the benefits/features perceived by the ultimate customer.
3	**Monitor the value added at each step**	3.1	Identify changes in value added by each chain member.
		3.2	Identify areas where changes to value added are required.
		3.3	Develop a priority list of required value-added changes.
		3.4	Work with chain member to bring about improvements to value added.
4	**Continue to reduce muda (waste)**	4.1	Identify muda (waste) in value stream.
		4.2	Work with chain members to continually reduce muda.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Customer requirement stages where value stream actions may occur include one or more of:

- sales outlet/representative
- information gathering, data analysis and research
- product design
- raw material sourcing
- intermediate processing
- final assembler/collation/preparation
- support services (e.g. accounting, finance and legal)
- storage and delivery to customer

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- after market support.

Value-added as perceived by the customer includes one or more of:

- technical benefits/features
- location benefits/features
- aesthetic benefits/features
- information benefits/features.

Techniques for value stream mapping include one or more of:

- hard copy (e.g. paper or whiteboard)
- appropriate software tools
- expert group
- participation by gemba representatives
- participation by all impacted personnel.

Muda (waste) includes all of:

- excess production and early production
- delays
- movement and transport
- poor process design
- inventory
- inefficient performance of a process
- making defective items
- activities which do not yield any benefit to the organisation or any benefit to the organisation's customers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405003A Manage a value stream

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405003 Manage a value stream

Modification History

Release 1. Supersedes and is equivalent to MSS405003A Manage a value stream

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to manage one (1) or more value streams and to:

- evaluate the performance of a value stream, its members and steps
- liaise regularly with value chain members to help them, and the value chain performance, to improve
- monitor value added and muda at each step to increase value added and reduce muda.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage a value stream including knowledge of:

- customer perception of value added and muda
- the process(es) covered by the value stream
- performance indicators for each value stream step
- value stream analysis and mapping
- methods of reducing muda/increasing perceived value added
- upstream and downstream components of the value stream which are beyond the individuals scope of authority to manage.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor, 360 degree or other third-party report focussing on consistent performance and problem recognition and solving. A third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency.
  - must include managing a value stream in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405004 Develop business plans in an organisation implementing competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS405004A Develop business plans in an organisation implementing competitive systems and practices

Application

This unit of competency covers the skills and knowledge required to develop business plans in an organisation implementing competitive systems and practices. This unit applies to an individual in an organisation implementing competitive systems and practices (e.g. a production/plant manager, purchasing/technical officer or similar) who is required to develop a section business plan to meet the requirements of the overall strategic plan of the organisation. The plan includes the impact on the value stream and other critical competitive systems and practices factors. Due to competitive pressures this may be a reasonably frequent activity and can occur at any time over the business cycle. The plan may be in response to a specific change, or it may be a plan for the next period.

This unit assumes that up-to-date information about the organisation's role in the value stream is available.

This unit primarily requires the application of skills associated with gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to develop an effective and measurable business plan. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into competitive systems and practices strategies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine purpose of plan**	1.1	Confirm reason for developing plan and expected outcomes from plan.
		1.2	Confirm purpose of plan with all relevant stakeholders.
		1.3	Check expected outcomes from plan with overall strategic plan for organisation.
		1.4	Identify any potential areas for conflict between proposed plan and strategic directions.
		1.5	Negotiate with relevant stakeholders to resolve issues.
2	**Develop objectives and strategies**	2.1	Draft objectives for business plan.
		2.2	Draft strategies to achieve these objectives.
		2.3	Determine implications for value stream.
		2.4	Determine capital or workplace layout/organisation implications for objectives and strategies.
3	**Develop plans to meet objectives and strategies**	3.1	Negotiate with relevant stakeholders over implications for objectives and strategies.
		3.2	Liaise with relevant stakeholders to develop plans to meet objectives.
		3.3	Determine relevant key performance indicators (KPIs) for plan.
		3.4	Check KPIs are appropriate for purpose of plan.
		3.5	Check plan will deliver planned purpose.
		3.6	Map plan to changed value stream.

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		3.7	Adjust plan to optimise value stream.
		3.8	Validate plan with relevant stakeholders.
4	**Monitor the implementation of the plan**	4.1	Release plan for implementation.
		4.2	Check the key progress points against the key stages of the plan.
		4.3	Note any discrepancies.
		4.4	Take action to ensure correct implementation of plan.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams

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	• overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Objectives include performance in one or more of:	• sales • profit • quality • work health and safety (WHS) • environment • competitive systems and practices • human, physical, financial and environmental/resource use.
Strategies to meet objectives include one or more areas:	• human and industrial relations practice • material/component and resources use • sustainable environmental practices • sales and marketing • financial • regulatory compliance.
Relevant stakeholders include one or more of:	• other team members • other workers • management • technical specialists • other members of the value stream.
Customer requirement stages where value stream actions may occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/ collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405004A Develop business plans in an organisation implementing competitive systems and practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405004 Develop business plans in an organisation implementing competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS405004A Develop business plans in an organisation implementing competitive systems and practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop one (1) or more business plans covering an organisation, department or section (or similar) and to:

- determine the purpose of the plan
- draft objectives of the plan and strategies for achieving them
- develop a plan which uses the strategies to deliver the objectives and optimise the value stream
- monitor the implementation of the plan and make changes as needed.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and modify a business plan, including knowledge of:

- techniques and purposes of developing business plans
- parameters for business plans, including scope, period and risk
- relationship between business plans and competitive systems and practices
- impacts of alternatives on the value stream
- key performance indicators (KPIs) and the characteristics of good (optimises the whole) and poor KPIs
- risk mitigation, including business, quality, sustainability and other risks.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real business plan development for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405005 Manage competitive systems and practices responding to individual and unique customer orders

Modification History

Release 1. Supersedes and is equivalent to MSS405005A Manage competitive systems and practices responding to individual and unique customer orders

Application

This unit of competency covers the skills and knowledge required to prepare for and manage the introduction of competitive systems and practices processes in an organisation (or that part of the organisation) that does not undertake repetitive processes or mass produce products and instead responds to individual and unique customer orders. Examples include one-off or small batch product or operations driven by individual and unique customer orders (e.g. overhaul of equipment, jobbing manufacture, supply of customised/bespoke services or product).

This unit describes the skills needed to restructure the process and work organisation to allow the application of competitive systems and practices tools and techniques. This may be the initial introduction of competitive systems and practices or the review and improvement of the application of competitive systems and practices.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to manage competitive systems and practices processes in a jobbing shop environment. This unit also requires communication and teamwork skills to gather information about processes and implement redesign plans.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse the existing operations**	1.1	Identify organisation capability for products and processes.
		1.2	Identify the major processing steps in meeting customer order or orders.
		1.3	Consult with employees, managers and other major stakeholders on major expected benefits from a move to a competitive systems and practices strategy.
		1.4	Identify lead times, throughput times and waiting times throughout process of meeting a customer order.
		1.5	Identify variations within the process.
		1.6	Identify causes of the variations.
2	**Develop an initial or updated virtual flow process**	2.1	Consider similarities in materials, processes and services for orders.
		2.2	Map flow of information, material, processes and people for each product family/cluster of similar customised products/services.
		2.3	Draw a current state value stream map for the process as a virtual flow process.
		2.4	Analyse the current value stream map for waste.
		2.5	Draft possible future state value stream map.
		2.6	Calculate benefits flowing from future state map.
		2.7	Consult with stakeholders to validate benefits.
3	**Prepare proposals for process redesign**	3.1	Identify options for the delivery of competitive systems and practices and other changes required to move to future state value stream map.
		3.2	Plan as to how these changes might be implemented.

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		3.3	Cost the proposed changes and determine benefit/cost ratios.
		3.4	Prepare recommendations for change.
		3.5	Negotiate/consult with relevant stakeholders to establish the preferred option.
4	**Implement the plan**	4.1	Arrange for altered process, as required.
		4.2	Arrange for altered infrastructure needs, as required.
		4.3	Monitor the implementation of the plan, making adjustments as required.
		4.4	Review the new value stream and check that expected benefits have been obtained.
		4.5	Put in place a continuous improvement mechanism for the new value stream.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems

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- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Variations include deviations from desired targets in one or more of:

- quality
- quantity
- time
- cost
- work health and safety (WHS)
- sustainability impacts.

Muda (waste) includes all of:

- excess production and early production
- delays
- movement and transport
- poor process design
- inventory
- inefficient performance of a process
- making defective items
- activities which do not yield any benefit to the organisation or any benefit to the organisations customers.

Stakeholders include one or more of:

- managers
- supervisors
- employees
- shareholders
- WHS mechanisms/representatives
- industrial relations mechanisms/representatives
- suppliers
- customers
- service providers.

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Infrastructure needs include one or more of:	• physical infrastructure, including plant, equipment, tools, systems and processes • information and control infrastructure • work organisation, including numbers of employees • work structure and skills and knowledge held by employees • workforce development and, where required, training • financial infrastructure, such as cash flow and budget provision.
Customer requirement stages where value stream actions may occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support (services e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405005A Manage competitive systems and practices responding to individual and unique customer orders

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405005 Manage competitive systems and practices responding to individual and unique customer orders

Modification History

Release 1. Supersedes and is equivalent to MSS405005A Manage competitive systems and practices responding to individual and unique customer orders

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more value stream/product families/clusters, to analyse the existing process and then develop and implement a plan to move to, or improve the current practice of, competitive systems and practice in the workplace and to:

- analyse the existing process
- develop a virtual flow process map
- prepare and negotiate proposal(s) for change
- implement, monitor and make further improvements to the changed process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage competitive systems and practice in the organisation, including knowledge of:

- the fundamentals of competitive systems and practice
- competitive systems and practice tools applicable to the organisation
- drawing current and future state maps
- jobbing shop and other non-repetitive operations processes
- determination and application of benefit cost ratio
- kaizen and kaizen blitz processes.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project managing competitive systems and practices in an operational workplace responding to individual and unique customer orders.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405006 Develop a Balanced Scorecard

Modification History

Release 1. Supersedes and is equivalent to MSS405006A Develop a Balanced Scorecard

Application

This unit of competency covers the skills and knowledge needed to develop or improve a Balanced Scorecard and facilitate its use for reporting and improving operational performance in an organisation. The unit covers the development of key performance indicators (KPIs) and type of metrics for a Balanced Scorecard but does not include the technical skills for related information technology (IT) skills.

This unit has a strong emphasis on providing leadership in implementation, determining required performance measures and requires an ability to test the validity of performance measuring and reporting processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Develop strategy map for Balanced Scorecard**	1.1 Develop strategic objectives of an organisation in consultation with stakeholders.
		1.2 Check strategic goals and objectives include those which

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	operation		make the organisation unique.
		1.3	Check with employees and customers that strategic objectives address real issues and problems.
		1.4	Categorise strategic objectives into the major perspectives of financial, customer, process, innovation and learning, and growth.
		1.5	Add additional required perspectives and associated strategic goals and objectives.
		1.6	Map strategic objectives showing cause/effect flows.
		1.7	Validate strategy map with stakeholders.
2	**Develop KPIs**	2.1	Identify possible KPIs for each strategic objective.
		2.2	Identify/develop appropriate metrics for each KPI.
		2.3	Agree target KPI levels.
		2.4	Check measures and KPIs encourage the behaviours required to meet the total performance goals and objectives.
3	**Develop reporting systems**	3.1	Identify strategic and operational drivers.
		3.2	Align KPIs to strategic and operational drivers.
		3.3	Develop reporting structures which align responsibilities with reported information.
		3.4	Arrange for data to be collected and Balanced Scorecard reports to be generated and distributed.
		3.5	Arrange for reporting against strategy map.
4	**Implement a Balanced Scorecard strategy**	4.1	Analyse pattern of performance as revealed by strategy map.
		4.2	Determine causes of poor performance as displayed by the Balanced Scorecard.
		4.3	Take action to improve total performance.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Organisation includes one or more of:	• a whole organisation • a discrete subsidiary, plant or division.
Additional required perspectives include	• workforce • environment

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consideration of all of:

- work health and safety (WHS).

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405006A Develop a Balanced Scorecard

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405006 Develop a Balanced Scorecard

Modification History

Release 1. Supersedes and is equivalent to MSS405006A Develop a Balanced Scorecard

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop (new or improved) Balanced Scorecard for one (1) or more organisations/ departments/sections and facilitate its use to improve operational performance and to:

- develop a strategy map for the Balanced Scorecard
- develop key performance indicators (KPIs) which align to the Balanced Scorecard
- develop reporting systems against KPIs, Balanced Scorecard and strategy
- implement the Balanced Scorecard strategy.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and use a Balanced Scorecard, including knowledge of:

- Balanced Scorecard principles, components, perspectives and feedback loops
- development of KPIs which contribute to overall optimisation compared to those that don't
- development of a strategy map
- metrics and reporting systems relevant to the Balanced Scorecard
- strategic issues, including vision, for the organisation.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real Balanced Scorecard development and implementation project for an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS405007 Introduce competitive systems and practices to a small or medium enterprise

Modification History

Release 1. Supersedes and is equivalent to MSS405007A Introduce competitive systems and practices to a small or medium enterprise

Application

This unit of competency covers the skills and knowledge required to introduce competitive systems and practices into a small or medium operations enterprise (SME). The unit may also apply to any small or medium not-for-profit organisation seeking to improve their processes through competitive systems and practices. The unit covers any constraints that may be placed on how competitive systems and practices are introduced and which aspects of competitive systems and practices are introduced due to the limitations of being a SME.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to determine competitive systems and practices processes appropriate for a small business environment. This unit also requires communication and analysis skills to gather information about processes and implement competitive systems and practices strategies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Analyse the current operations systems and processes**	1.1	Review the reasons for introducing competitive systems and practices and confirm the expected benefits with relevant stakeholders.
		1.2	Determine any internal limiting factors which will constrain the introduction of competitive systems and practices.
		1.3	Determine any external limiting factors which will constrain the introduction of competitive systems and practices.
		1.4	Quantify expected returns from achieving the benefits of introducing competitive systems and practices.
2	**Develop strategic and tactical plans to introduce competitive systems and practices to the SME**	2.1	Develop a strategic plan for the SME that takes into account the nature of its business and relationships with suppliers and customers.
		2.2	Where required, seek authority for the implementation of the strategic plan.
		2.3	Identify components of competitive strategy which will yield quick returns.
		2.4	Identify actions which will free up required resources to allow for the introduction of competitive systems and practices.
		2.5	Develop achievable tactical plans which are compatible with strategy.
		2.6	Develop key performance indicators (KPIs) for strategic and tactical plans.
		2.7	Consult with relevant stakeholders to confirm tactical plans.
		2.8	Prioritise plans for order of implementation.
3	**Implement competitive systems and**	3.1	Implement priority tactical plan.
		3.2	Determine benefits from change.

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practices	3.3	Use benefits from priority plan to assist in the implementation of further tactical plans.
	3.4	Review progress towards strategic objectives and adjust plans, as appropriate, in consultation with relevant stakeholders.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- JIT, kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

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Stakeholders include one or more of:	• managers • supervisors • employees and their representatives • shareholders • suppliers • customers • service providers.
Internal limiting factors include consideration of all of:	• free cash • management time and expertise • machinery • work organisation and workforce skills and knowledge.
External limiting factors include consideration of all of:	• lack of bargaining power • lack of effective communication • supplier issues • customer issues • financial institution issues • other factors.
Expected returns include one or more of:	• cost savings due to more consistent or higher quality • benefits from greater on-time delivery • savings from lower inventories and reduction in waste.
Actions which will free up required resources include one or more of:	• reduction of inventory • reduction of scrap • decreased throughput times • changes in approval processes/delegations • use of computers instead of paper-based processes • reduction of muda (waste).
Prioritising plans includes the consideration of all of:	• greatest benefit, benefit/cost ratio • ease of implementation • best fit with strategy • available resources.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405007A Introduce competitive systems and practices to a small or medium enterprise

Links

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Assessment Requirements for MSS405007 Introduce competitive systems and practices to a small or medium enterprise

Modification History

Release 1. Supersedes and is equivalent to MSS405007A Introduce competitive systems and practices to a small or medium enterprise

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to introduce competitive systems and practices to a SME and to:

- analyse the organisation's current operations
- develop strategic and tactical plans for the introduction of competitive systems and practices
- implement those plans.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to introduce competitive systems and practices to a SME, including knowledge of:

- analysis of current operations/value stream mapping
- competitive systems and practices tools which may be relevant
- strategy vs tactics
- kaizen/kaizen blitz applications
- prioritisation of proposed actions/plans.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project introducing competitive systems and practices to a SME workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS405010 Manage relationships with non-customer external organisations

Modification History

Release 1. Supersedes and is equivalent to MSS405010A Manage relationships with non-customer external organisations

Application

This unit of competency covers the skills and knowledge required to identify and manage relationships with non-customer external organisations, such as community groups, other businesses, training providers, research organisations and government departments.

This unit applies to a person who has policy responsibility in an organisation for managing external relationships that may impact on the performance, community standing or regulatory compliance of the organisation. Examples of the application of this unit include department leaders, managers or similar. The unit covers managing a range of external organisations to the maximum benefit of the organisation and the organisation's customers while also identifying areas of mutual interest and benefit with the external organisations. Relationships may or may not be initiated by the person’s own organisation.

This unit does not cover the analysis and improvement of relationships between members of a value stream, such as suppliers and customers.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are also required. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into relationship systems and expectations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify mutual interest**	1.1	Clarify the reason contact was/is to be made for each relevant external organisation.
		1.2	Gather information on extent of past contact and any positive or negative outcomes for own and external organisation.
		1.3	Identify expectations of initiating organisation.
		1.4	Analyse the breadth, depth and complexity of external organisations' expectations.
		1.5	Discuss expectations, ability to meet those expectations, and areas of mutual interest with relevant internal and external representatives.
2	**Determine contribution of relationship**	2.1	Identify any value contributions from relationship.
		2.2	Identify muda (waste) arising from relationship.
		2.3	Classify muda (waste) as necessary or unnecessary.
		2.4	Set key performance indicators (KPIs) for future relationship.
3	**Manage the relationship**	3.1	Measure current performance of relationship against expectations and KPIs.
		3.2	Develop systems to enhance mutual benefit and value contributions from relationship.
		3.3	Develop systems to minimise and control necessary muda without causing harm.
		3.4	Eliminate unnecessary muda, where possible, without causing harm.

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3.5 Monitor KPIs and determine future strategy for the relationship.

3.6 Continue to manage or terminate the relationship in a manner which enhances the organisation.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

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Reasons for contact include one or more of:	• research • innovation • mutual cooperation • strategic alliances • computer (or other) technology • emergency response • other mutual interests/benefits.
Categories of muda (waste) include one or more of:	• excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisation's customers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405010A Manage relationships with non-customer external organisations

Links

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Assessment Requirements for MSS405010 Manage relationships with non-customer external organisations

Modification History

Release 1. Supersedes and is equivalent to MSS405010A Manage relationships with non-customer external organisations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more non-customer external organisation, to:

- analyse the value and muda (waste) in relationships
- implement changes to relationships to improve outcomes for their organisation and its customers
- monitor outcomes of a relationship against key performance indicators (KPIs)
- communicate complex information to external representatives using a variety of methods and mediums.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage relationships with non-customer external organisations, including knowledge of:

- strategic requirements of own organisation
- strategic benefits to the organisation from liaisons with external organisations
- possible external organisations which may offer benefits
- benefits which can be offered to the external organisations
- customer benefits/features from products and processes of own organisation
- muda (waste) elimination
- formal problem-solving procedures (e.g. RCA).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace

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  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include managing relationships with non-customer organisations external to own workplace
  - will typically include the use of information and communication technology and responding to problems.
- Assessment should use real non-customer organisations external to the operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405012 Manage workplace learning

Modification History

Release 1. Supersedes and is equivalent to MSS405012A Manage workplace learning

Application

This unit of competency covers the ability to manage learning and skill development for employees within an organisation implementing competitive systems and practices. The unit includes effective communication, teamwork, and problem solving skills, initiative and enterprise in order to assess and address skill needs for an individual and organisation. Planning and organising is required to ensure that skill development meets the needs of the organisation; and aspects of self-management and learning are required to ensure improvement of performance.

This unit of competency applies to people with responsibility for managing the identification of skills required by employees to participate in implementing competitive systems and practices; and arranging any associated learning. The unit does not cover trainer and assessor skills.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Determine**	1.1 Establish range and stage of implementation of

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	current skill requirements for employees		competitive systems and practices techniques in the organisation.
		1.2	Consult with relevant stakeholders on skill requirements for effective implementation of competitive systems and practices techniques used in the organisation.
		1.3	Ensure records/database of skill mix currently required by employees are maintained in accordance with procedures.
		1.4	Re-assess and monitor the skills required by employees as organisation requirements change.
		1.5	Consult with relevant stakeholders to predict any new/different skill requirements arising from changes to products, processes, equipment or work organisation.
2	**Determine current skill mix of employees**	2.1	Ensure current records/database of skill profile of individuals are maintained.
		2.2	Consult with relevant stakeholders and monitor the application of these skills in the workplace to ensure they remain current and valid.
		2.3	Compare the actual and required skill mix for employees.
3	**Make arrangements for skill development**	3.1	Consult with employees and identify any mismatch between skills possessed and used and skills required.
		3.2	Identify any new skills required due to anticipated changes.
		3.3	Consult with relevant stakeholders to determine the best way to refresh existing skills/develop new skills.
		3.4	Develop individual skill development programs.
		3.5	Ensure skill development arrangements are implemented in accordance with procedures.
4	**Forecast possible**	4.1	Examine strategic directions of organisation.

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future skill needs	4.2	Discuss possible future directions with relevant stakeholders.
	4.3	Determine possible long-term future skill requirements in consultation with relevant stakeholders.
	4.4	Develop plan to ensure skills are developed in advance of when they are required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures

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- current reality tree.

Stakeholders include one or more of:

- team members
- personnel officers
- industrial officers
- union delegates
- production management
- human relations management
- financial management
- engineering/technical personnel.

Skill development arrangements include one or more of:

- formal vocational and education delivery by a registered training provider (RTO)
- education and training delivery by a higher education provider
- non-accredited on and off-the-job training by the organisation, equipment suppliers, industry associations, and so on
- coaching and mentoring
- self-directed learning
- arrangements for recording skills gained by employees.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405012A Manage workplace learning

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Assessment Requirements for MSS405012 Manage workplace learning

Modification History

Release 1. Supersedes and is equivalent to MSS405012A Manage workplace learning

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more workplace areas or workgroups, to:

- identify the processes used and scope of products/services supplied by the organisation and the deliverables expected by customers
- relate processes and products/services to the competitive systems and practices implementation process and the stage of implementation
- establish skill needs from processes/products and competitive implementation process in the organisation
- use formal and informal channels of communication, including feedback mechanisms to assist in identification of skill needs
- manage delivery and recording of training to ensure required skills are gained by employees.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage workplace learning, including knowledge of:

- features and benefits of common competitive operational practices in own workplace
- skills analysis methods and how to access skill analysis from relevant experts
- skill development methods and how to access skill development programs from relevant experts
- electronic and other systems to record and maintain training and skills records
- formal qualifications and units of competency relevant to competitive systems and practices and the processes and products of the organisation
- current processes and principles of operation sufficient to enable communication with others on the impact of competitive operational changes
- sources of data on the processes and/or products of the organisation and implications for workplace learning.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.

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- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where managing workplace learning occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405013 Facilitate holistic culture improvement in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405013A Facilitate holistic culture improvement in an organisation

Application

This unit of competency covers the skills and knowledge required by a manager in an organisation that has embarked on competitive systems and practices and who seeks to change/improve the organisation culture to be consistent with that required to maximise the benefits from a competitive systems and practices strategy.

This unit primarily requires the application of skills associated with communication, teamwork, problem solving, and initiative and enterprise in order to assess and address culture development needs in the organisation. Planning and organising is required to ensure a systematic approach to the development of an organisation's culture that supports competitive systems and practices processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Facilitate a company-wide appreciation for the competitive systems and practices strategy**	1.1	Communicate with all levels of the organisation the objectives and benefits of a competitive systems and practices strategy.
		1.2	Communicate to all levels of the organisation the techniques and methods that will be used in achieving the competitive systems and practices strategy.
		1.3	Facilitate the development of a systems approach to how the organisation works.
		1.4	Establish mechanisms to measure current understanding of, and support for, competitive systems and practices amongst employees and other stakeholders.
		1.5	Set targets for culture improvement from measurement of current understanding and support for competitive systems and practices.
		1.6	Demonstrate a constancy of purpose for the organisation in the push for the continual improvement in all activities.
		1.7	Break down any communication barriers between parts of the organisation that may inhibit the competitive systems and practices strategy.
		1.8	Develop a work structure that allows for everyone to participate and be heard in the transformation of the organisation.
2	**Facilitate application of knowledge about variation and ways to improve the operational processes**	2.1	Facilitate commitment to enterprise data collection procedures.
		2.2	Facilitate the identification of variation in processes.
		2.3	Facilitate review of processes with a view to reducing variation.
		2.4	Encourage the approach of building quality in and eliminating the need for end of process inspection.
3	**Facilitate the development of knowledge and**	3.1	Involve employees in identification of skill needs and any skills gaps.
		3.2	Develop strategies for training, skills acquisition and

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	skill acquisition		employee self-improvement.
		3.3	Set key performance indicators (KPIs) for training, skills acquisition and employee self-improvement.
		3.4	Institute on and off-the-job training, as required.
		3.5	Institute a vigorous program of education and self-improvement for all employees.
		3.6	Monitor KPIs and adjust training, skills acquisition and employee self-improvement strategies and delivery, as required.
4	**Facilitate the development of support within the organisation for competitive systems and practices**	4.1	Ensure sufficient resources and adequate equipment is available to meet the requirements of the competitive systems and practices strategy.
		4.2	Encourage acceptance of change.
		4.3	Encourage employee commitment to and responsibility for the quality of their own work.
		4.4	Monitor the level of employee understanding and support for competitive systems and practices.
		4.5	Provide continuous feedback and communication of progress at all levels in implementing the strategy.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

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Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Systems approach includes consideration of all of:	• effect of changes • internal/external relationships through which products and services are produced • customer requirements • supplier issues • value stream member requirements • member of the public issues • other external individual, group or organisation.
Mechanisms to measure current understanding and support for competitive systems and practices include one or more of:	• qualitative and/or quantitative methods • employee surveys • information from toolbox meetings and other employee consultations • monitoring of suggestion schemes • individual consultations with selected employees and employee representatives.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405013A Facilitate holistic culture improvement in an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405013 Facilitate holistic culture improvement in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405013A Facilitate holistic culture improvement in an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to facilitate culture improvement for an organisation, department or section and to facilitate:

- an appreciation for competitive systems and practices
- a reduction in variation
- the development of knowledge and skills
- an increased support for competitive systems and practices.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to facilitate culture improvement, including knowledge of:

- competitive systems and practices tools relevant to the organisation and its processes, their features and benefits
- the use of techniques for measuring support and culture
- organisation processes
- change management
- persuasion and influence techniques
- employee assistance available to facilitate coping with change.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a third-party report (e.g. from supervisor, 360 degree) focussing on consistent performance and problem recognition and solving. A third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency

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  - must include either a culture improvement project(s) or ongoing culture improvement activities in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405014 Develop a communications strategy to support operations

Modification History

Release 1. Supersedes and is equivalent to MSS405014A Develop a communications strategy to support operations

Application

This unit of competency covers the skills and knowledge required to develop and implement a communications strategy to support employees in a production or operational environment where competitive systems and practices are being implemented.

This unit applies to an individual (who may be a manager, technical specialist or other person) who is required to analyse, plan, and determine and implement required communication strategies for production or operational employees engaged in implementing competitive systems and practices. The unit can also apply to planning and then implementing modifications to an existing strategy.

The unit applies to not only communicating information required to gain and maintain support for competitive systems and practices but also strategies that assist with the achievement of competitive systems and practices outcomes, such as visualisation strategies for layouts and employee information stations.

This unit primarily requires the application of skills associated with developing effective communication strategies. Problem solving, initiative and enterprise, and planning and organising are required to ensure communications are targeted and meet the needs of stakeholders. This unit also requires aspects of self-management and learning to ensure improvement of own communication effectiveness.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine information needs of employees and production or operations systems**	1.1	Examine competitive systems and practices strategy and determine broad information framework.
		1.2	Examine the production or operational processes and their requirements and determine the information needs of employees in these areas.
		1.3	Examine operational support areas and determine the information needs of employees.
		1.4	Discuss information used and desired with employees at all relevant levels, and involve team and other key personnel in strategy development to ensure awareness, learning and commitment.
		1.5	Examine control systems to determine their data needs.
2	**Select communication strategy**	2.1	Analyse required information flows.
		2.2	Determine access requirements by information users.
		2.3	Evaluate suitability of communication media for required information flows and access.
		2.4	Consider implications of contingencies and non-conformances for communication strategy.
		2.5	Discuss possible strategy with relevant stakeholders.
		2.6	Select an appropriate strategy or strategies.
3	**Implement strategy**	3.1	Develop a list of what needs to be achieved.
		3.2	Determine resources required to implement strategy.
		3.3	Obtain authority for communication media to be

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			developed.
		3.4	Monitor development of communication media and take appropriate corrective action, as required.
		3.5	Deploy developed communication media.
4	**Monitor ongoing situation**	4.1	Determine relevant indicators for communication strategy.
		4.2	Monitor indicators.
		4.3	Re-evaluate communication needs on a regular basis.
		4.4	Make improvements to the communication strategy, as appropriate.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen)

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- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Operations support areas include one or more of:

- office
- logistics
- sales
- marketing
- insurance
- legal
- training and utilities providers.

Information access requirements include one or more of:

- timing of access (e.g. occasional, periodic and continual)
- method of access (e.g. visual/auditory/tactile access)
- online/hard copy access
- access locations.

Communication media includes one or more of:

- terminals, computers, and so on, with built in memory
- internet
- hard copy manuals, such as standard operating procedures (SOPs), work health and safety (WHS) and training manuals
- verbal briefings and informal conversations
- circulars and letters
- signage
- instruction displays
- tags and isolations/lockouts
- permits to work/clearances
- visual factory type displays
- painted walkways.

Stakeholders include one or more of:

- team members
- personnel officers
- industrial officers
- union delegates

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- production and operations management
- human relations management
- financial management
- engineering/technical personnel.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405014A Develop a communications strategy to support operations

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405014 Develop a communications strategy to support operations

Modification History

Release 1. Supersedes and is equivalent to MSS405014A Develop a communications strategy to support operations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more operational environments, to:

- analyse competitive systems and practices implementation and determine information flow requirements
- communicate information verbally and in writing across different levels of complexity using a variety of methods and mediums
- monitor outcomes of communication strategies against key performance indicators (KPIs)
- plan and implement strategies to make gains from competitive systems and practices apparent and easily understood to different audiences
- determine communication needs during contingencies and non-conformances.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and/or modify a communications strategy to support operations, including knowledge of:

- strategic requirements of own organisation
- common techniques used in competitive systems and practices and key concepts required to be communicated to employees
- communication media, relevant software and standard formats.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use the development and/or modification of a communications strategy in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS405020 Develop quick changeover procedures

Modification History

Release 1. Supersedes and is equivalent to MSS405020A Develop quick changeover procedures

Application

This unit of competency covers the skills and knowledge required to develop/improve changeovers for equipment, processes or operations. It includes critically analysing existing changeovers, applying quick changeover principles, and developing improved changeover procedures.

This unit applies to managers, technical specialists or similar in an organisation that has adopted or is adopting a quick changeover approach to its changeovers.

This unit requires the application of skills associated with communication, problem solving, initiative, enterprise, planning and organising in order to analyse and determine changeover procedures. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the development of procedures.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Analyse changeover**	1.1	Critically observe changeover process.
		1.2	Identify steps in changeover.
		1.3	Identify start situation and required finish situation for changeover.
2	**Apply quick changeover principles**	2.1	Identify changes to the start situation and required finish situation which are possible.
		2.2	Identify internal and external changeover activities.
		2.3	Identify activities which could be improved/eliminated.
		2.4	Eliminate/reduce adjustments required after changeover.
		2.5	Develop improved changeover process and recommendations for implementation procedure.
		2.6	Liaise with relevant people to validate recommendations.
3	**Assess and minimise risks in changeover**	3.1	Analyse hazards and risks from all steps in changeover.
		3.2	Apply ergonomic principles and hierarchy of control to each equipment and manual hazard.
		3.3	Assess any regulatory risk in changeover.
		3.4	Minimise hazards during changeover ensuring final risk profile is acceptable.
4	**Implement improved changeover**	4.1	Acquire any required resources and approvals.
		4.2	Organise trials of improved changeover.
		4.3	Monitor trial.
		4.4	Make adjustments to changeover process.
		4.5	Implement improved changeover process.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Changeover refers to one or more of:

- equipment exchanges, such as an exchange of dies/tools (traditional)
- change between batches
- change between campaigns (process manufacturing)
- quantum equipment/process change to produce a different product.

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Activities which should be improved/ eliminated include one or more of:	• those which take time or are unreliable in terms of outcome • those which are difficult to do or have adverse work health and safety (WHS) implications (e.g. repetitive strain injury, back injury and finger injuries).
Hazards and risks are related to one or more of:	• WHS • regulatory compliance • environment • commercial and contractual obligations.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405020A Develop quick changeover procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405020 Develop quick changeover procedures

Modification History

Release 1. Supersedes and is equivalent to MSS405020A Develop quick changeover procedures

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more quick changeover procedures, to:

- observe and analyse steps in an existing changeover
- manage risks in adjusting changeover procedures
- develop changeover adjustments that deliver the greatest overall benefit
- supervise changeover procedure trials.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop/improve quick changeover procedures, including knowledge of:

- principles of quick changeover
- equipment and operating environment of activities subject to quick changeover
- regulatory and commercial obligations and risk environment for operations subject to quick changeover analysis
- safe movement and other relevant work health and safety (WHS) principles
- relevant procedures
- purposes/requirements of changeover
- sourcing of resources
- trialling procedures.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use the actual developing/improving of changeover procedures in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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MSS405021 Develop a Just in Time system

Modification History

Release 1. Supersedes and is equivalent to MSS405021A Develop a Just in Time system

Application

This unit applies to an individual responsible for planning and implementing a Just in Time (JIT) system. It includes consulting with employees, suppliers and customers regarding the change. This may require identification of training and other employee support as well as identifying possible logistical support.

The unit includes kanban-based JIT systems but also applies to other sectors and systems where a traditional kanban-type JIT may not be suitable through the unit's coverage of JIT principles.

This unit requires the application of skills associated with communication in gathering, analysing and applying information, consulting with stakeholders, problem solving, and demonstrating initiative and enterprise. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the JIT design.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	**Design the JIT system/system improvements**	1.1	Identify value chain members.
		1.2	Consult with internal and external value chain members.
		1.3	Identify current storage/inventory in value chain.
		1.4	Determine flow authorisation indicators.
		1.5	Determine minimum and maximum operations rate.
		1.6	Determine lead time for product or service.
		1.7	Determine number of units per kanban.
		1.8	Draft workable procedures to implement JIT.
2	**Implement the JIT system/improvements**	2.1	Consult with key internal stakeholders to develop solutions to JIT issues.
		2.2	Ensure all stakeholders have required JIT-related skills and related issues have been resolved.
		2.3	Liaise with key external members of the value chain to develop solutions to JIT issues.
		2.4	Develop implementation plan for JIT.
		2.5	Determine key measures of JIT.
3	**Monitor the JIT system**	3.1	Monitor key measures of JIT.
		3.2	Regularly liaise with key stakeholders seeking areas for improvement.
		3.3	Identify areas in need of improvement.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- JIT, kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Key measures include one or more of:

- inventory levels
- lead time
- in full, on time and in specification (IFOTIS) delivery
- productivity/production rate
- other measures of pull through the value chain
- quality.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405021A Develop a Just in Time system

Links

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Assessment Requirements for MSS405021 Develop a Just in Time system

Modification History

Release 1. Supersedes and is equivalent to MSS405021A Develop a Just in Time system

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more JIT systems, to:

- develop a complete JIT system
- provide training and support for employees and value chain members
- communicate and negotiate complex issues to a wide variety of individuals
- supervise JIT implementation and suggest improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop a JIT system, including knowledge of:

- needs of internal and external value chain members
- principles of JIT
- reasons for delays/storages/inventories in the value stream and methods of reducing/eliminating them
- methods of identifying and filling skill gaps
- key business objectives associated with implementing JIT
- principles of the operational processes relevant to the JIT implementation
- production data generated by the process and its application to JIT.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use development of an actual JIT system in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405022 Design a process layout

Modification History

Release 1. Supersedes and is equivalent to MSS405022A Design a process layout

Application

This unit of competency covers the skills and knowledge required to design a process layout, typically a cellular flow, for either a jobbing shop or a continuous process manufacturer. This unit provides the skill for a technical expert to apply the principles of competitive systems and practices to process design layout as distinct from volume production layout. While the application of the unit may be for an initial layout, in many cases it is likely to be for the redesign of an existing layout.

The unit is written on the assumption that there is an existing process. Where this is not the case, then additional competency in equipment/process design and selection will also be required through units from an appropriate technical qualification or Training Package.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to design a process for the manufacture of enterprise products that incorporates team operations, product flow, infrastructure and the layout of the physical environment and related technology. This unit has a strong emphasis on gathering, analysing and applying information.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify the products and processes used in the organisation**	1.1	Obtain or develop a process map of the existing process.
		1.2	Identify all/main products/classes of products.
		1.3	Obtain forecast sales and sales pattern of products/classes.
		1.4	Obtain profiles of products/classes.
		1.5	Group the products/classes into compatible families.
2	**Engineer the process**	2.1	Make a preliminary selection of required equipment/technology/ process for each process or product family.
		2.2	Estimate required resource times for each family.
		2.3	Calculate total resourcing required for each family.
		2.4	Estimate appropriate lot size.
		2.5	Determine viability of proposed families.
		2.6	Examine draft proposal for possible improvements in process consistent with the competitive systems and practices strategy of the organisation.
3	**Design the infrastructure**	3.1	Consult on layout needs with all stakeholders.
		3.2	Identify physical infrastructure required by system.
		3.3	Identify information and control infrastructure required.
		3.4	Identify work organisation required.
		3.5	Identify work health and safety (WHS) and other regulatory requirements to be taken into account.
		3.6	Identify workforce development and training requirements.
		3.7	Check the availability of required infrastructure and

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			compatibility with requirements.
4	**Lay out the process**	4.1	Draft proposed process flow map.
		4.2	Draft proposed configuration diagram.
		4.3	Draft proposed space plan/layout.
		4.4	Check availability of services/structural suitability, as appropriate.
		4.5	Validate proposed layout with all relevant stakeholders.
		4.6	Layout the process/work cell.
		4.7	Develop implementation plan in liaison with relevant stakeholders.
		4.8	Review layout after implementation.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis

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- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Profiles of products include consideration of all of:

- components/materials needed to manufacture
- equipment/technology/processes required to manufacture
- volume of activity to manufacture forecast amount
- required operations equipment/technology/processes.

Required resource times include consideration of all of:

- set-up time
- equipment time
- person time
- process time.

Lot size includes one or more of:

- external lot size
- internal lot size
- transfer batch size
- kanban size.

Viability includes consideration of all of:

- appropriate calculated processing times
- adequacy of equipment utilisation
- acceptable maintenance implications
- ability to meet WHS requirements
- ability to meet environmental requirements
- compliance with any legislative and regulatory requirements
- acceptable to stakeholders.

Stakeholders include one or more of:

- customers
- employees
- equipment suppliers and contractors (especially if new equipment required)

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	• regulatory authorities • local community representatives • utilities (e.g. water and power).
Physical infrastructure includes one or more of:	• containers/packaging • material handling equipment (e.g. pipes, tanks, conveyors and hoppers) • utilities supply (e.g. steam, air, gas, electricity and water).
Information and control infrastructure includes one or more of:	• quality assurance • statistical process control (SPC)/six sigma • planning systems/software • data collection and control systems/software.
Work organisation includes all of:	• number of personnel • skills/capability mix of workforce.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405022A Design a process layout

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405022 Design a process layout

Modification History

Release 1. Supersedes and is equivalent to MSS405022A Design a process layout

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to design a layout for one (1) or more processes and to:

- identify products and processes
- engineer the process
- design the infrastructure
- lay out the process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to design a process layout, including knowledge of:

- customer requirements in terms of order size and order pattern
- processing requirements for products
- equipment capabilities and reliability
- workforce capabilities and reliability
- business requirements from layout
- work health and safety (WHS) and other regulatory requirements
- principles of process layout.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real process layout project for an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405023 Develop a levelled pull system for operations and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405023A Develop a levelled pull system for operations and processes

Application

This unit of competency covers the skills and knowledge required to develop and level a customer-driven demand pull system for operations and processes in order to balance the flow of work and minimise inventories.

This unit primarily applies to volume-based manufacturing organisations. However, the skills covered by the unit may also be applied in other organisations where the business is based on high volume processes initiated by customer demand signals (e.g. orders). The unit covers the production planning skills needed to develop and level a demand pull system which meets the business needs of the organisation. This may apply to the initial development of a pull system, or the continuous improvement of an existing system.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine effective operations sequences and flow systems. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into system designs.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse production systems**	1.1	Acquire an 'as is' value map of the process for all major products.
		1.2	Separate repeated products from specials.
		1.3	Consult with production, maintenance, supervisory and management workforce on current production system and processes.
		1.4	Establish rate of flow required to meet customer demand.
		1.5	Identify process steps causing problems.
		1.6	Analyse inventories within process and determine causes of high inventories.
		1.7	Determine costs of problems and inventories.
		1.8	Develop improved flow sequence and future value map.
2	**Establish sequence**	2.1	Identify equipment and processes which can be sequenced by co-location.
		2.2	Identify equipment which is not suitable for co-location.
		2.3	Identify pacemaker process.
		2.4	Establish/review location of equipment for desired sequencing.
3	**Initiate or develop flow system**	3.1	Determine rate and variability of demand for product.
		3.2	Compare capability of flow sequence to demand rate and variability.
		3.3	Set flow rate to level demand at pacemaker and handle variability.
		3.4	Identify trigger for pacemaker process.

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	3.5	Establish kanban system for other process parts.
4 **Balance the work**	4.1	Determine target time per product.
	4.2	Standardise work processes and operations and establish procedures to monitor variation.
	4.3	Adjust product/batch production to balance work.
	4.4	Arrange for any required competency development of workforce.
	4.5	Arrange for implementation of system.
	4.6	Monitor operation of system and take action according to procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)

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- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Inventories within process include one or more of:

- cycle stock which reflects the replenishment quantity and frequency
- buffer stock to meet demand variability and forecast errors
- safety stock required to guard against quality and delivery failures upstream.

Balance the work means balancing one or more of:

- time of production
- effort required by workforce and equipment
- work organisation
- job design
- quality considerations
- waste and other cost considerations between stations/ equipment/processes to achieve levelled pull within allowable time per product.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405023A Develop a levelled pull system for operations and processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405023 Develop a levelled pull system for operations and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405023A Develop a levelled pull system for operations and processes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one or more work area/product families, to:

- acquire a value stream map for current products and processes
- analyse process
- perform required calculations to determine flow rate and variability
- correctly identify pacemaker process
- balance the work
- monitor implementation of a levelled pull system and suggest improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop or improve a pull system, including knowledge of:

- technical and regulatory limits that must be adhered to in operations
- processing requirements of products or services offered by the organisation
- capabilities of equipment
- capabilities and skills of the workforce
- production planning techniques
- methods of calculating rates of demand and flow of work (e.g. takt and pitch)
- techniques for achieving a smooth and consistent flow of work
- relationship of level of inventory to efficiency and muda (waste).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where development of an initial pull system, or improvement of an existing pull system, occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS405024 Apply the theory of constraints

Modification History

Release 1. Supersedes and is equivalent to MSS405024A Apply the theory of constraints

Application

This unit of competency covers the skills and knowledge required to apply the theory of constraints. This unit applies to individuals who as part of their work role need to apply the theory of constraints to assist their organisation to maximise output from a capacity constrained process or system. The unit will normally be applied as part of an organisation's improvement strategy and in conjunction with other competitive systems and practices units.

The person will typically be a technician, manager or other person who works with others in the bringing of change to an organisation as part of a formal team or otherwise. The unit includes liaison and communication with others, as required.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify the system constraint and throughput**	1.1	Identify goals and objectives of the organisation.
		1.2	Identify systems, processes and products to be examined.

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		1.3	Determine throughput of steps within the system.
		1.4	Identify the capacity constrained process.
		1.5	Determine optimum throughput of capacity constrained process (drum).
		1.6	Determine maximum system throughput based on the capacity constrained process.
2	**Optimise constraint throughput**	2.1	Determine optimum accumulation (buffer) before capacity constrained process.
		2.2	Determine appropriate supply schedule and trigger (rope) for buffer.
		2.3	Implement buffer and rope to match drum.
		2.4	Monitor capacity constrained process and system to ensure optimum throughput.
		2.5	Take required actions to minimise non-productive rate at capacity constrained process.
3	**Prioritise processes and resources to maximising output at the constraint**	3.1	Ensure operations and individuals in non-constrained locations protect buffers and prevent build-up of work in process except at buffer locations.
		3.2	Identify operations that conflict with maximising constraint performance and replace with measures that help maximise throughput.
4	**Determine strategy to reduce capacity constraint**	4.1	Examine causes of the constrained capacity.
		4.2	Develop possible ways of increasing system capacity.
		4.3	Analyse and rank possible alternatives for increasing capacity.
		4.4	Draft a strategy for increasing capacity of system.
		4.5	Obtain required approval for response strategy.

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5	**Implement a process of on-going improvement as appropriate**	5.1 Develop an implementation plan appropriate to the organisation.
		5.2 Implement plan, as appropriate.
		5.3 Monitor implementation.
		5.4 Modify implementation plan, as appropriate.
		5.5 Identify next capacity constrained process and take action.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Constraint (something that prevents or makes it harder for the organisation to achieve improved performance) includes one or more of:	• internal or external to the organisation • physical (e.g. equipment or material-based) • process-based (e.g. inefficient or wrong processes/policies/logistics) • people-based (e.g. poor training, communication) • market-based (e.g. lack of demand).
Non-productive time includes one or more of:	• quality losses • downtime • other availability losses.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405024A Apply the theory of constraints

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405024 Apply the theory of constraints

Modification History

Release 1. Supersedes and is equivalent to MSS405024A Apply the theory of constraints

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to apply the theory of constraints to a one (1) or more processes and to:

- identify the constraint
- optimise constraint throughput/output
- determine a strategy to reduce the constraint
- implement an improvement plan.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to use the theory of constraints to improve process throughput, including knowledge of:

- theory of constraints, including five focussing steps, types of constraint and methods of optimising process throughput
- operations of the process and process steps
- approaches to reducing the constraint
- strategic plans for reducing the constraint.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real application of the theory of constraints to an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS405030 Optimise cost of a product or service

Modification History

Release 1. Supersedes and is equivalent to MSS405030A Optimise cost of a product or service

Application

This unit of competency covers the skills and knowledge required to examine the costs of a product or service and determine methods of reducing costs. This unit applies to an individual a who is required to undertake a detailed study of a product or service's costs, including analysing it by its cost components to determining the best method of lowering the cost overall. This unit differs from *MSS405031 Undertake value analysis of a product or process costs in terms of customer requirements*, in that it looks at all costs, including overheads and takes a wider and more traditional approach to the cost of the product. Information and cost reduction strategies gained from the application of this unit may support other cost approaches in the enterprise, including value stream costing.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information. Problem solving, initiative and enterprise, and planning and organising are required to calculate cost components and determine cost optimisation strategies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into costing methods.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse total cost components of a product or service**	1.1	Identify all cost components of product or service.
		1.2	Allocate cost components to major categories, such as overhead, depreciation, energy, consumables and labour.
		1.3	Distinguish between costs which directly deliver customer features/benefits and muda (waste).
2	**Optimise costs**	2.1	Analyse causes of costs which lead to customer features/benefit.
		2.2	Determine methods of increasing the customer benefit/cost ratio.
		2.3	Analyse causes of muda costs.
		2.4	Determine methods of reducing/eliminating muda costs.
		2.5	Analyse interactions between cost components.
		2.6	Check that one method of reducing costs does not cause an increase in another cost/reduction in consumer benefit.
		2.7	Check that cost reduction plans do not reduce required levels of regulatory compliance or work health and safety (WHS).
3	**Implement cost optimisation**	3.1	Develop cost optimisation plans.
		3.2	Negotiate with relevant people to agree on implementation plans.
		3.3	Take actions to implement the cost optimisation.
		3.4	Monitor the implementation of the cost optimisation.
		3.5	Make adjustments to the plan, as required.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Muda (waste) includes all of:

- excess production and early production
- delays
- movement and transport
- poor process design
- inventory
- inefficient performance of a process
- making defective items
- activities which do not yield any benefit to the organisation or any

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benefit to the organisations customers.

Cost includes all of:

- the monetary value of expenditures able to be directly identified for supplies, services, direct labour, materials, components, cost of inventory, faults and reworks, rejects/scrap, equipment and other items used in the production of the product
- allocations and estimates for indirect costs (e.g. indirect labour, rent, energy, water and cost of capital) where a direct monetary value cannot be identified.

Cost optimisation plans include all of:

- application scope (e.g. product/s, services, areas, employees and suppliers included in plan)
- target costs and target cost reductions
- implementation period
- method of monitoring
- method of communicating progress to stakeholders.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405030A Optimise cost of a product or service

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405030 Optimise cost of a product or service

Modification History

Release 1. Supersedes and is equivalent to MSS405030A Optimise cost of a product or service

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to optimise costs for one (1) or more products or services and to:

- analyse all cost components
- optimise costs and minimise muda
- implement the cost optimisation.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to optimise costs, including knowledge of:

- cost component categories
- methods of allocating indirect costs and their implications
- expressing customer perceived benefit in cost or dollar value terms
- major controllable costs for the organisation, and how to control them
- types of muda and how to reduce it
- benefit cost/ratios, their determination and application.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real cost optimisation project for an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405031 Undertake value analysis of product or process costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

Application

This unit of competency covers the skills and knowledge required by an individual who is required to analyse products and processes to determine the value-adding factors, including design and processing costs that most impact on meeting customer requirements and which may also include competitor benchmarking. The unit also includes implementing identified changes that increase cost-efficiency. The unit may be applied individually or in a team environment.

In this unit an individual uses an analysis of the benefits/features which a customer perceives to be in a product or service as a basis for determining appropriate or unnecessary (muda) cost and so identifying and reducing muda (waste).

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information. Problem solving, initiative and enterprise, and planning and organising are required to determine cost-efficiencies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into costing methods.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse customer benefits to determine appropriate or muda (waste) costs**	1.1	Analyse product or service to determine features/benefits perceived by customer in product.
		1.2	Analyse cost components of product or service and determine those which deliver customer features/benefits and those which are either appropriate or muda.
		1.3	Determine any additional features that may be added to improve saleability.
		1.4	Analyse muda cost components and allocate to direct and indirect cost categories.
		1.5	Determine options for reducing direct and indirect muda costs.
		1.6	Select cost-related actions which maximise customer benefits and minimise costs.
		1.7	Where required, undertake competitor benchmarking to provide reference points.
2	**Analyse performance variance**	2.1	Identify muda processing or operational steps for product or service following completion of customer benefit analysis.
		2.2	Analyse all costs and determine methods of reducing costs and muda.
		2.3	Develop plan and recommendations for actions required to achieve cost improvement or added customer benefits to improve saleability.
		2.4	Submit plan and recommendations to stakeholders.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Muda includes all of:	• excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers.
Cost includes all of:	• the monetary value of expenditures able to be directly identified for supplies, services, direct labour, components, cost of

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inventory, faults and reworks, rejects/scrap, equipment and other items used in the production of the product

- allocations and estimates for indirect costs (e.g. indirect labour, rent, power and water) where a direct monetary value cannot be identified.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405031 Undertake value analysis of product or process costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to undertake value analysis on one (1) or more products or processes and to:

- distinguish between appropriate costs and muda
- distinguish between direct and indirect costs
- determine methods of reducing both appropriate costs and muda
- develop a plan to increase customer perceived benefits/ saleability and/or reduce costs and muda.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to undertake value analysis, including knowledge of:

- cost components, direct and indirect costs
- customer perceived benefits
- factors influencing saleability
- impact of customer features/benefits on sales, market share and firms profitability
- major costs which are controllable (and how to control them)
- types of muda
- methods of reducing muda.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real value analysis project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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MSS405032 Analyse cost implications of maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405032A Analyse cost implications of maintenance strategy

Application

This unit of competency covers the skills and knowledge required to analyse the cost implications of different maintenance strategies and to adjust or adopt a strategy to minimise or eliminate unnecessary costs. This unit applies to an individual in an organisation who is selecting or reviewing its proactive maintenance strategy. While technical factors are significant in the choice of maintenance strategy and tools, cost factors will also impact on the selection of a maintenance strategy. This unit covers the cost analysis of maintenance strategies and complements the technical analysis covered in MSS405081 Develop a proactive maintenance strategy. The technical analysis may be performed by the same or a different person to the person undertaking the cost analysis.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying costing information and consulting with maintenance personnel. Problem solving, initiative and enterprise, and planning and organising are required to analyse and estimate the cost of maintenance strategies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Analyse cost components of maintenance**	1.1	Determine cost of failure of plant/equipment.
		1.2	Determine cost of a planned maintenance shutdown activity, including costs of re-start.
		1.3	Determine cost of maintenance for a planned activity.
		1.4	Determine cost of maintenance for an unplanned activity.
		1.5	Determine costs of condition monitoring.
		1.6	Identify cost implications of different maintenance strategies.
2	**Estimate life cycle costs of plant/ equipment**	2.1	Determine initial capital cost.
		2.2	Estimate servicing, maintenance and repair costs.
		2.3	Estimate production (e.g. loss of) and other costs associated with service, maintenance and repair.
		2.4	Determine depreciation and other applicable allowances.
		2.5	Estimate ancillary costs, such as training, commissioning and productivity loss.
		2.6	Estimate technological life and costs of changing to current technology/costs of retaining obsolete equipment.
		2.7	Estimate annualised costs in present value terms.
		2.8	Identify life cycle cost implications for strategy.
3	**Liaise with proactive maintenance strategy developer**	3.1	Identify cost implications for different strategies.
		3.2	Negotiate a strategy which minimises total costs.
		3.3	Monitor the implementation of the strategy to ensure the costs are minimised.
		3.4	Make required adjustments to strategy.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Maintenance strategies and techniques include one or more of:

- total productive maintenance (TPM)
- reliability centred maintenance (RCM)
- root cause analysis (RCA)
- mean time between failures (MBTF)
- failure mode and effects analysis (FMEA)
- condition monitoring
- related proactive maintenance strategies.

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Cost components of maintenance include all of:	• direct costs, such as labour and materials • indirect costs, such as management overhead • comparison with cost of equipment replacement • re-engineering • breakdown repair • cost of lost production under different maintenance strategies • cost of inefficient equipment/plant operation due to poor maintenance.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405032A Analyse cost implications of maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405032 Analyse cost implications of maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405032A Analyse cost implications of maintenance strategy

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to analyse cost implications of two (2) or more maintenance strategies and to:

- analyse cost components for each strategy
- estimate life cycle costs for each strategy
- compare the cost implications and negotiate a strategy which minimises costs.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to analyse cost implications for maintenance strategies, including knowledge of:

- cost components of maintenance strategies
- direct and indirect costs
- maintenance strategies appropriate to the organisation, their strengths and weaknesses
- techniques for estimating production, sales and other costs related to maintenance strategies
- depreciation, capital vs. expense
- present day value of future costs – determination and use of
- life cycle costing
- negotiation.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real cost analysis of maintenance strategies for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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MSS405033 Optimise office systems to deliver to customer demand

Modification History

Release 1. Supersedes and is equivalent to MSS405033A Optimise office systems to deliver to customer demand

Application

This unit of competency covers the skills and knowledge required to establish new or improve existing office systems so that work flows in response to demand from downstream customers, and then to level the flow of work by managing variations in demand and allocation of resources.

The unit covers individuals in office leadership positions and others in an office of competitive systems and practices implementation who need to set up new or improve existing systems that enable the office work to flow in response to customer demand signals. This is often known as a customer pull system. Such a system responds to a cue that the work is required at the next stage of the process. Ultimately it is a customer's demand for the deliverable that draws the work along the process via a series of cues.

Office processes may include administrative, transactional or service-based processes in, or attached to, a manufacturing organisation, within their value stream or similar environments, such as health care, education, financial, construction or Defence services.

This unit has a strong emphasis on understanding demand and value from the perspective of internal and external customers, planning and change management.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Facilitate the pull system**	1.1	Review current systems to identify customers and demand signals that trigger the flow of work.
		1.2	Determine if and how current office systems respond to identified demand signals.
		1.3	Identify where demand signals either do not exist or are not built into processes.
		1.4	Facilitate the adoption of appropriate demand signals for processes currently not responding to customer pull.
2	**Level the flow of work**	2.1	Identify where optimal flow of work is not being achieved within the pull system.
		2.2	Identify variations and barriers that prevent the optimal flow of work.
		2.3	Establish routines and/or systems to promote the consistent flow of work at the optimal rate.
		2.4	Establish mechanisms to remove or minimise variations and barriers to flow.
		2.5	Establish mechanisms to manage the impact of variations and barriers that cannot be removed.
3	**Allocate resources to balance work flow**	3.1	Establish mechanisms that indicate when variations in flow of work require more or fewer resources.
		3.2	Develop routines and/or systems to re-balance flow through the allocation of resources to meet variations.
4	**Evaluate**	4.1	Review the changes to the pull and levelling systems.

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	improvements	4.2	Identify causes for areas of poor performance.
		4.3	Implement further improvements to address areas of poor performance.
		4.4	Monitor the systems to identify further improvements.
5	**Embed improvements**	5.1	Establish mechanisms to ensure new systems and/or practices are communicated to relevant personnel.
		5.2	Motivate team to apply the new systems and/or practices.
		5.3	Ensure the new systems and/or practices are reflected in relevant procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)

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- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Pull system signals include one or more of:

- visual cues or signs
- kanban cards/tickets
- computer alerts or computer-based workflows.

Identified demand is based on one or more of:

- identifying a process and its internal and external customers
- gathering data on rate and amount of demand.

Variations and barriers include one or more of :

- unnecessary movement of work due to physical layout of office
- incorrect or incomplete procedures
- lack of training or cross-skilling
- inadequate or inappropriate equipment
- slow or inappropriate communication systems
- levels of authority and delegation
- incomplete information required to complete task
- interruptions
- complex and/or unusual situations
- bottlenecks
- peaks and troughs in demand.

Routines and/or systems to level the flow include one or more of:

- Heijunka boxes
- types and location of signals
- triggers, such as minimum and maximum queue limits and items that are replaced at particular dates
- sequencing (e.g. first in first out (FIFO) and due dates)
- safety resources
- buffer resources
- back-up systems, such as maintaining critical hard copy documentation
- visual tracking displays.

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Optimal flow of work supported by activities including one or more of:	• calculating takt time and pitch or similar • levelling the flow • allocating resources • allocating and scheduling work • cross-skilling.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405033A Optimise office systems to deliver to customer demand

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405033 Optimise office systems to deliver to customer demand

Modification History

Release 1. Supersedes and is equivalent to MSS405033A Optimise office systems to deliver to customer demand

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more office work areas or product families, to:

- interpret office processes in terms of customer demand and flow of work
- establish and/or optimise office related levelled pull systems
- motivate others to implement, sustain and improve office related levelled pull systems.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to establish new or improve existing office systems, including knowledge of:

- methods of calculating rates of demand and flow of work (e.g. takt and pitch)
- application to office work of demand signals, such as kanban and electronic demand signal systems
- techniques for achieving a smooth and consistent flow of work
- visual displays.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where development of a new, or improvement of an existing office system occurs in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405040 Manage 5S system in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405040A Manage 5S system in an organisation

Application

This unit of competency covers the skills and knowledge required for the overall management of the 5S system in an organisation.

This unit applies to an individual who is responsible for ensuring the smooth operation and continuous improvement of the 5S system in an organisation. This may be for an initial introduction of, or for the ongoing implementation and continuous improvement resulting from, 5S.

This unit requires the application of skills associated with problem solving, planning, communication and teamwork.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Organise an**	1.1 Ensure managers and other key stakeholders support and

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	appropriate environment for 5S		understand 5S.
		1.2	Arrange for team leaders to develop/maintain skills required for 5S.
		1.3	Ensure team leaders are developing/maintaining skills required in their team members.
		1.4	Ensure procedures and work practices reflect 5S needs and regulatory requirements.
		1.5	Practise 5S in own work.
		1.6	Eliminate roadblocks to 5S.
2	**Audit 5S implementation**	2.1	Undertake spot checks of compliance.
		2.2	Review workplace and records for indicators of compliance/non-compliance.
		2.3	Encourage all levels of the workforce to routinely suggest areas for improvement.
		2.4	Discuss 5S routinely with team leaders to seek ideas for implementation of improvement suggestions and encourage identification of non-conformance.
3	**Improve 5S**	3.1	Negotiate solutions to non-conformances.
		3.2	Implement agreed solutions.
		3.3	Work with team leaders to develop opportunities for improvements.
		3.4	Provide necessary resources for improvements.
		3.5	Ensure procedures and practices change to reflect improvements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
5S includes all of:	• sort • set in order • shine

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- standardise
- sustain.

Sort includes all of:

- separating necessary from unnecessary items (equipment and supplies)
- keeping only what is absolutely necessary for the work processes that comprise the job
- disposing of (or relocating) all other items.

Set in order includes all of:

- assigning required equipment and materials appropriate locations in the work area
- consideration of frequency of use, ergonomics and work health and safety (WHS)
- provision of facilities to maintain the locations.

Shine includes one or more of:

- keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process
- keeping work area, including virtual work area, organised
- noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention.

Standardising includes one or more of:

- activities that help maintain the order and the 5S standards
- using procedures and checklists developed from a procedure.

Sustain includes one or more of:

- making sure that daily activities are completed every day regardless of circumstance
- informal inspections that should be carried often, at least weekly
- formal inspections that should be carried out at least monthly.

Items in work area may include one or more of:

- tools
- jigs/fixtures
- materials/components
- plant and equipment
- manuals
- personal items (e.g., lunch boxes and posters)
- safety equipment and personal protective equipment
- other items which happens to be in the work area.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405040A Manage 5S system in an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405040 Manage 5S system in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405040A Manage 5S system in an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or department/section, to:

- encourage and monitor a systematic approach to implementing 5S
- analyse areas and records for evidence of 5S conformance/non-conformances
- manage non-conformances in implementation of 5S
- lead and motivate others in achieving 5S outcomes and making improvements to the 5S systems.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage 5S systems, including knowledge of:

- organisation operations and structure
- principles of efficient workplace organisation
- purposes and methodology of 5S
- operation procedures relevant to jobs in the organisation
- relevant regulatory requirements
- processes for identification of skill gaps
- methods of addressing skill gaps
- ways of encouraging team leaders and operators to find and suggest areas for improvement
- methods of making/recommending improvements
- methods of accessing required resources
- non-conformance, what they are, assessment of severity and action to be taken.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where initial introduction of, or ongoing implementation and continuous improvement resulting from 5S occur in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405041 Implement improvement systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405041A Implement improvement systems in an organisation

Application

This unit of competency covers the skills and knowledge required to introduce, review/adjust and institutionalise continuous improvement and breakthrough improvement processes in an organisation.

This unit applies to an individual responsible for the introduction of, or ongoing implementation/improvement of improvement systems across an organisation. The systems will include a continuous improvement system sometimes also known as kaizen, and breakthrough improvement sometimes known as kaizen blitz.

The continuous improvement (kaizen) system consists of strategies for continuously monitoring for and implementation of incremental improvements to processes, operations and products. Breakthrough improvement 'events' (kaizen blitz) covers the identification of improvement opportunities that are best undertaken in a single exercise.

This unit primarily requires the application of skills associated with teamwork, problem solving, initiative and enterprise, and planning and organising skills in order to identify, implement and institutionalise kaizen activity. Communication skills are required to gather information and consult with team members and other stakeholders. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into continual improvement.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Prepare for improvement systems implementation/ adjustment**	1.1 Determine scope of improvement systems.
		1.2 Identify key performance indicators (KPIs) for inclusion in improvement systems.
		1.3 Prepare operating instructions and other required documentation for continuous and breakthrough improvement systems.
		1.4 Ensure compliance with health, safety and environment (HSE) and other regulatory requirements are addressed in improvement instructions.
		1.5 Identify and brief implementation team.
		1.6 Prioritise areas operation, or processes requiring early action.
		1.7 Prepare communication strategy for employees and other stakeholders.
		1.8 Make infrastructure and support arrangements for improvement systems.
		1.9 Obtain required approvals for commencement of improvement systems.
2	**Implement/adjust improvement systems**	2.1 Arrange for initial/update training in continuous improvement (kaizen) and related competitive systems and practices for employees.
		2.2 Facilitate the development of operating protocols for continuous improvement at the team level.
		2.3 Establish decision making mechanism for system level continuous improvement.
		2.4 Invite suggestions for breakthrough improvements.

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		2.5	Establish mechanism for prioritising breakthrough improvements.
		2.6	Establish breakthrough teams and implement priority breakthrough events.
		2.7	Clarify points of disagreement/uncertainty over improvement systems implementation through consultation and, where required, by reference to procedures or other relevant authority.
3	**Monitor implementation/ adjustment of improvement systems**	3.1	Consult stakeholders on processes and perceived success of early implementation of continuous and breakthrough improvement events.
		3.2	Analyse processes and operations to quantify variations in KPIs over early period of implementation of improvement systems.
		3.3	Identify and solve ongoing performance issues.
		3.4	Negotiate any differences between problems and proposed solutions.
		3.5	Develop plans and obtain agreements to implement further improvements.
		3.6	Implement improvements.
		3.7	Measure changes and calculate benefits.
		3.8	Complete all relevant documentation.
		3.9	Communicate achievements to stakeholders.
4	**Institutionalise continuous improvement**	4.1	Arrange for regular reviews of improvement systems.
		4.2	Integrate improvement system reports with other reporting processes, including visual management systems.
		4.3	Arrange for regular reporting of improvement system results to customers and other critical stakeholders.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Scope of improvement systems includes one or more of:	• target divisions, operations, work processes, products and sites that stakeholders want included in a particular improvement system • levels of targeting for the continuous improvement system, including the system level focusing on the value stream and the overall achievement of customer defined features/benefits • process level focusing on individual processes, teams and team leaders.

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Relevance of KPIs includes one or more of:	• appropriateness (did they lead to/encourage desirable performance?) • currency (are they still encouraging desirable performance?) • unintended consequences (do they lead to outcomes which are not desirable – even if some performance is desirable?) • signal/noise (is the balance between desirable and undesirable outcomes strong and positive?).
Instructions for incremental or breakthrough improvement processes include one or more of:	• methods for employees to suggest incremental or breakthrough improvement • criteria for identifying a breakthrough improvement need • approval processes • monitoring and reporting processes.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Solving performance issues includes one or more of:	• generating improvement ideas (brainstorming/asking experts) • selecting most appropriate improvement ideas to proceed with • conducting experiments where required to test idea • making final selection of improvement ideas • determining most appropriate improvement strategy (i.e. incremental or breakthrough (kaizen blitz) improvement).

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405041A Implement improvement systems in an organisation

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405041 Implement improvement systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405041A Implement improvement systems in an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or department/section, to:

- interpret operations, processes and products in terms of customer features/benefits and then set appropriate key performance indicators (KPIs)
- prepare appropriate documentation for continuous and breakthrough improvement processes
- establish decision-making processes for considering system level continuous improvement suggestions
- encourage and lead others in implementing/adjusting continuous improvement system
- problem solve implementation issues with continuous improvement system
- lead and motivate others in planning, implementing and sustaining improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to implement improvement systems, including knowledge of:

- continuous and breakthrough improvement (kaizen and kaizen blitz) philosophy and process
- competitive systems and practices in own organisation
- types of KPIs and their impacts on performance
- improvement processes, including implementation, monitoring and evaluation strategies.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where the introduction of improvement systems occurs across an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.
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Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405050 Determine and improve process capability

Modification History

Release 1. Supersedes and is equivalent to MSS405050A Determine and improve process capability

Application

This unit of competency covers the skills and knowledge required to determine the actual (as distinct from design) capability of a process and then to analyse that process to remove assignable causes and reduce random causes. This unit applies to an individual (who may be a production manager, plant/process engineer, technical specialist or similar) who is responsible for developing plans to stabilise and then improve process capability and following agreement the implementation of the plans to improve process capability. The organisation may use either a six sigma or three sigma process.

This unit primarily requires the application of skills associated with communication in gathering and analysing data and consulting with relevant personnel. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to determine causes to variations and implement solutions. This is done in an environment using computer technology and also requires aspects of self-management and learning to ensure feedback and new learning is integrated into process improvements and operations management control systems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MSS404052 Apply statistics to operational processes

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Obtain data for process capability study**	1.1	Identify the process requiring capability analysis, including relevant procedures.
		1.2	Identify customer specifications for product or service.
		1.3	Obtain process capability data.
2	**Analyse data**	2.1	Identify assignable causes of variation in liaison with relevant personnel.
		2.2	Develop solutions to eliminate variation due to assignable causes in liaison with relevant personnel.
		2.3	Analyse random variations for possible causes in liaison with relevant personnel.
		2.4	Confirm causes of random variation.
		2.5	Develop solutions to reduce random variations in liaison with relevant personnel.
3	**Take action to improve process capability**	3.1	Develop plans to implement solutions.
		3.2	Liaise with relevant personnel to implement solutions.
		3.3	Gain necessary approvals, as required.
		3.4	Monitor implementation and make adjustments, as required.
		3.5	Determine new/revised process capability.
		3.6	Implement revised process capability regime.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more ofL	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Process capability data includes one or more of:	• customer requirements for product or service • process stability (control chart) performance • other charts and data.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets

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- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405050A Determine and improve process capability

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405050 Determine and improve process capability

Modification History

Release 1. Supersedes and is equivalent to MSS405050A Determine and improve process capability

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to determine and improve the capability of one (1) or more processes and to:

- obtain relevant data
- analyse the data to determine random and non-random variation
- develop solutions to reduce variation
- develop and monitor the implementation of plans aimed at reducing variation
- make further improvements as appropriate and determine capability of improved process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to determine and improve capability, including knowledge of:

- statistical methods of processing and describing data
- data collection methods
- data processing techniques required to establish variability and normal distribution
- calculate three sigma or six sigma process capability, as relevant
- random and non-random results and processes for recognition of assignable causes
- causes of different types of non-random results
- causes of random variation
- process understanding sufficient to translate the data into variations in the process and determine methods of controlling them.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real capability analysis and improvement project for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405052 Design an experiment

Modification History

Release 1. Supersedes and is equivalent to MSS405052A Design an experiment

Application

This unit of competency covers the skills and knowledge required to design experiments. The design of experiments is generally undertaken as part of black-belt six sigma but may also be undertaken independently.

This unit applies to a technical expert who is required to design and implement experiments aimed at making breakthrough improvements in the process. They will work with other members of the process team in doing this.

This unit primarily requires the application of skills associated with problem solving, initiative and enterprise, and planning and organising skills in order to identify, implement and evaluate an experiment. Communication skills associated with gathering, interpreting and documenting information are required.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MSS404052	Apply statistics to operational processes

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the	Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Choose an improvement project**	1.1	Review a process/value stream map.
		1.2	Identify areas in need of improvement.
		1.3	Select a process/value stream area for analysis and improvement.
		1.4	Determine the objective of the experiment in consultation with relevant stakeholders.
2	**Design the experiment**	2.1	Select appropriate factorial design.
		2.2	Estimate signal to noise ratio.
		2.3	Determine required number of runs and factorial fraction.
		2.4	Determine resolution.
		2.5	Design a sequential series of experiments.
		2.6	Calculate resource requirement for this design.
		2.7	Determine whether resource requirements are practical in consultation with relevant stakeholders.
		2.8	Modify experiment, if required, to match available resources.
		2.9	Determine/develop required metrics.
3	**Conduct the experiment**	3.1	Conduct first run of experiment.
		3.2	Replicate in random order for required number of runs.
		3.3	Block out known sources of variation.
		3.4	Conduct other experiments in series.
		3.5	Record data/have data recorded.
4	**Analyse and**	4.1	Identify aliases/confounding of variables/results.

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confirm the experimental results	4.2	Analyse data using statistics pack or similar.
	4.3	Interpret analysed data in line with objectives.
	4.4	Identify confidence level of analysed data.
	4.5	Design experiment to confirm correlations identified.
	4.6	Conduct confirming experiment.
	4.7	Analyse data from confirming experiment.
	4.8	Confirm results (or conduct further experiments).

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time

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- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Objective of the experiment includes one or more of:

- screen factors to find the critical few
- optimise a few critical factors
- solve process problems
- reduce waste
- increase reliability.

Factorial design includes one or more of:

- 2/3 level factorial
- Taguchi L8
- 2/4-1 half fraction
- Plackett-Burman 8-run
- full factorial.

Signal-to-noise ratio may be estimated by one or more of:

- previous experiment design experience
- previous process capability studies
- statistical process control data
- estimated from other sources.

Resolution includes one or more of:

- Resolution III design: A design where main factor effects are confounded with two factor and higher order interactions
- Resolution IV design: A design where main effects are confounded with three factor and higher order interactions and all two factor interactions are confounded with two factor interactions and higher order interactions
- Resolution V design: A design where main effects are confounded with four factor and higher order interactions and two factor interactions are confounded with three factor interactions and higher order interactions.

Sequential series of experiments includes all of:

- a screening design (fractional factorial) to identify the significant factors
- a full factorial or response surface design to fully characterise or model the effects
- confirmation runs to verify results.

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Required metrics include one or more of:	• quantitative measures normally associated with the process • other quantitative measures relevant to the experiment • ranking systems for normally qualitative measures, such as defectives.
Statistics pack include one or more of:	• minitab • JMP • other specialist statistics packs • spreadsheets, such as Excel, particularly with specific add-ons, such as Sigma XL, Analyse It or other add-ons.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405052A Design an experiment

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405052 Design an experiment

Modification History

Release 1. Supersedes and is equivalent to MSS405052A Design an experiment

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to design one (1) or more experiments and to:

- choose an improvement project
- design and conduct the experiment
- analyse and confirm the results.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to design an experiment, including knowledge of:

- charting, such as Pareto charts, main effects plots, scatter plots, interaction plots, contour plots, response surface plots
- statistical principles and analysis, such as analysis of means (ANOM), prediction equations, analysis of variance (ANOVA)/one-way ANOVA, desirability function, hit a target, advanced graphical data analysis, multi-variate planning, variation trees and funnelling, hypothesis testing, central limit theorem, statistical analysis roadmap, analysis for means and t-test, correlation and regression
- factorial analysis principles and methods, such as multi-variate analysis, Taguchi S/N ratios, 2/3 level factorial, Taguchi L8, 2/4-1 half fraction, Plackett-Burman 8-run, full factorial
- acceptance criteria/confidence levels
- appropriate statistics packs, which to choose and how to use.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real experiment design project for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405053 Manage application of six sigma for process control and improvement

Modification History

Release 1. Supersedes and is equivalent to MSS405053A Manage application of six sigma for process control and improvement

Application

This unit of competency covers the skills and knowledge required to manage six sigma (or similar statistics based approach) in the workplace for the purposes of process control and process improvement.

This unit covers the skills and knowledge needed by a technical expert in managing the application of six sigma in an organisation in order to minimise defects and make improvements to processes and/or products. Depending on the need the expert will apply six sigma processes themselves or work with, and advise, other employees in applying six sigma processes.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to apply six sigma in the workplace. This unit requires skill in gathering, analysing and applying information and data.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MSS404052 Apply statistics to operational processes

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Review process data**	1.1	Confirm area of responsibility/study with executive leaders and other stakeholders.
		1.2	Review statistical process control (SPC), process capability and other relevant data for area of responsibility/study.
		1.3	Identify shifts in process performance and processes requiring improvement.
		1.4	Quantify the shifts in performance which have occurred or which are desired.
		1.5	Determine cost of shift in performance and cost of intervention.
		1.6	Identify improvement priorities and degree of intervention.
2	**Apply define, measure, analyse, improve, and control and standardise (DMAIC) process to priority areas**	2.1	Define improvement project.
		2.2	Determine if a six sigma project team is to be established or project undertaken individually.
		2.3	Determine metrics and acquire initial data.
		2.4	Analyse data and determine possible causes of performance shifts/process improvements.
		2.5	Develop and trial improvement solutions.
		2.6	Control and standardise the improvement.
3	**Establish/review control strategies**	3.1	Determine sampling schedule.
		3.2	Analyse data to determine process capability.
		3.3	Develop process control strategy.
		3.4	Confirm strategy with all stakeholders.

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		3.5	Identify skills required to implement and monitor process control strategy.
		3.6	Arrange training, where required, for employees in skills and techniques needed for process control strategy.
4	**Review and confirm improvement**	4.1	Calculate and document benefits.
		4.2	Ensure procedures and other relevant documentation is updated for improved procedure.
		4.3	Review process data after an appropriate period and confirm the improvement.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams

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- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

DMAIC includes all of:

- define
- measure
- analyse
- improve
- control and standardise.

Definition of the project includes all of:

- completed, verified and validated as in process map
- suppliers, inputs, process, outputs, customers (SIPOC) diagram
- discrepancies to current 'as is' process map
- formation and briefing of project team
- defining business case for project
- problem statement
- goal statement
- project scope.

Metrics includes one or more of:

- key measures/attributes
- sampling schedule for project
- defect rate
- other metrics required by the business.

Analyse includes one or more of:

- statistical analysis of data
- root cause analysis (RCA)
- failure mode and effects analysis (FMEA)
- use of various other problem solving/analysis tools.

Improve includes one or more of:

- generating and testing of improvements
- selecting appropriate improvements.

Control and standardise includes

- documenting (in organisation approved format) outcomes and procedures for standardisation

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all of:	• transferring ownership of improved process.
Sampling schedule includes one or more of:	• sampling frequency • type of sample/sample method • sample location/type • type of test/data to be collected.
Process control strategy includes one or more of:	• degree of intervention/rules for resets • SPC tools to be used.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405053A Manage application of six sigma for process control and improvement

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405053 Manage application of six sigma for process control and improvement

Modification History

Release 1. Supersedes and is equivalent to MSS405053A Manage application of six sigma for process control and improvement

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to manage six sigma for process control and improvement in the workplace for one (1) or more processes to:

- review process data to identify improvement priorities and degree of intervention
- apply DMAIC to make and then standardise improvements
- collect and analyse data to confirm improvement
- determine and review improvements obtained.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage the application of six sigma (or similar), including knowledge of:

- identification and definition of six sigma (or similar) projects
- sampling, data collection, and analysis
- determining quantifiable benefits
- DMAIC methodology and application
- charting, including Pareto charts, fishbone diagrams, PICK charts, run charts and scatter diagrams
- statistical principles and analysis, including confidence limits, analysis of variance, frequency distribution tables, histograms, arithmetic mean, median, mode, standard deviation, range, interquartile range, correlation and dependence
- acceptance criteria/confidence levels
- failure mode and effects analysis (FMEA)
- process mapping
- suppliers, inputs, process, outputs, customers (SIPOC) mapping
- types of data (e.g. discrete/continuous/attributes) and their use in six sigma.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:

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  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a third-party (e.g. supervisor, 360 degree) report focussing on consistent performance and problem recognition and solving. A third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include either a six sigma project(s) or evidence of day-to-day managing of the application of six sigma in own workplace.
- Assessment should occur in operational workplace situations.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405060 Develop the application of enterprise control systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405060A Develop the application of enterprise control systems in an organisation

Application

This unit of competency covers the skills and knowledge required to continuously modify and improve or develop new enterprise-wide information technology (IT) based control systems, such as Supervisory Control and Data Acquisition (SCADA), Enterprise Resource Planning (ERP), Materials Resource Planning (MRPII) and similar. Typically the development of such a system will be in liaison with an appropriate technical expert who may be an internal expert or an external consultant.

This unit applies to an individual responsible for the development and implementation of new systems or modifications/changes to the current system. While the individual might generate the ideas for change themselves and also undertake a significant part of the final implementation, they may also be working closely with an appropriate technical expert (such as the software system supplier) who may actually make the modifications.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising skills are required to determine and implement effective enterprise systems and modifications. This unit also requires computer skills and aspects of self-management and learning to ensure feedback and new learning is integrated into system planning.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Monitor information and control needs of organisation**	1.1	Check the use of current information.
		1.2	Check the operation of current control systems.
		1.3	Communicate regularly with key information users regarding any new or changed information control needs, including information needs from and to value stream.
		1.4	Identify short comings in information and control provision.
		1.5	Take action on information and control needs to meet organisational needs.
2	**Check the current system against organisation needs**	2.1	Check the routine use of the system.
		2.2	Check any system alarm or non-conformance notification and control operation.
		2.3	Communicate regularly with key stakeholders about current system use and application.
		2.4	Determine effect of non-conformance on enterprise system.
		2.5	Identify problems/issues.
		2.6	Take action on problems and issues.
3	**Determine developments needed in a new or significantly modified system**	3.1	Identify needs requiring a new system or development of modifications to the current system.
		3.2	Draft scope, specifications and outcomes required.
		3.3	Liaise with key stakeholders and relevant technical experts to refine scope, specifications and outcomes

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			needed in new or modified system.
		3.4	Agree final scope, specifications and outcomes.
4	**Develop system**	4.1	Develop project plan.
		4.2	Ensure ongoing consultation with all relevant stakeholders.
		4.3	Manage development project.
		4.4	Manage trialling of modified system.
		4.5	Ensure modified system meets organisational requirements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)

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- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

SCADA refers to:

- a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information personnel for action

In the continuous operations sector, the SCADA system is sometimes integrated into other sophisticated computer control systems, such as distributed control system (DCS) and indeed these systems do merge in advanced systems. These organisations may simply refer to their SCADA as the DCS or other similar term (such as the proprietary name of the computer system).

Stages where value stream actions may occur include one or more of:

- sales outlet/representative
- information gathering, data analysis and research
- product design
- raw material sourcing
- intermediate processing
- final assembler/collation/preparation
- support services (e.g. accounting, finance and legal)
- storage and delivery to customer
- after market support.

Items in the value stream include one or more of:

- physical elements of the production system, such as sites, workstations, equipment and material, including stock, work in progress and finished products
- information needed to meet customer requirements, such as designs, drawings, work instructions, standard operating procedures (SOPs), standards, material lists and pricing
- information not directly related to current customer requirements but required by the organisation.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405060A Develop the application of enterprise control systems in an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405060 Develop the application of enterprise control systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405060A Develop the application of enterprise control systems in an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or department/section, to:

- analyse organisation needs and match to enterprise control system features
- determine critical features required in enterprise control system
- modify system/have system modified as a result of trials or changing needs.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and implement new enterprise control systems, including knowledge of:

- capability of resource planning/SCADA systems, as appropriate
- information and control needs of organisation/process
- project management
- support/training/skill development mechanisms available for access by personnel.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where the development and implementation of new enterprise control systems or modifications/ changes to the current enterprise control system occur in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405061 Determine and establish information collection requirements and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405061A Determine and establish information collection requirements and processes

Application

This unit of competency covers the skills and knowledge required to determine what information is needed to support decision making in a competitive systems and practices environment and then to set about establishing required information collection systems. This would usually be done as part of a team and would require consultation with all key stakeholders.

This unit covers the determination of data needs and collection methods for an organisation or specific plant or process. This will typically be done in liaison with a wide range of people, each of whom will have their own specific information requirements. This will need to be balanced and interpreted into a workable set of data to be collected.

This unit is primarily focused on those decisions which are non-routine and so need specific collection of data, or for those decisions which are routine, the establishment of a routine data collection protocol to allow for the decisions to be made based on appropriate, reliable data.

This unit primarily requires the application of communication and problem solving skills associated with determining information requirements and processes of information collection. Initiative and enterprise, and planning and organising are also required to ensure information targets specific factors. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the development of processes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse decisions to be made**	1.1	Identify personnel to be included in the analysis process.
		1.2	Determine the consequences of the decisions in liaison with relevant personnel.
		1.3	Determine the variables which can be controlled.
		1.4	Determine the variables which cannot be controlled.
		1.5	Determine the consequences of a change in these variables in liaison with affected personnel.
2	**Define factors which cause variables to change**	2.1	Identify factors which are able to be controlled.
		2.2	Identify factors which are not able to be controlled.
		2.3	Identify means of measuring these factors, or indicators for the values of these factors.
		2.4	Compile a list of measurements/indicators required.
		2.5	Communicate with team members and involve them in development of factors and changes to ensure awareness and facilitate learning.
3	**Develop data collection protocols**	3.1	Determine methods of making measurements.
		3.2	Determine methods of quantifying indicators.
		3.3	Determine the benefit/cost of automated (or other) collection of data.
4	**Develop systems to produce required**	4.1	Identify user of information and their needs and abilities.
		4.2	Determine data processing needs to produce required

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information		information.
	4.3	Determine information distribution channels.
	4.4	Determine skill development need for recipients of information.
	4.5	Implement systems to produce information.
	4.6	Monitor implementation and make adjustments, as required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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- run charts
- standard procedures
- current reality tree.

Variability includes one or more of:

- any change which occurs in the job
- different times taken to do the same thing
- different effort taken to do the same thing
- different results from applying the same effort (i.e. variation in quality)
- amount of rework required.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405061A Determine and establish information collection requirements and processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405061 Determine and establish information collection requirements and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405061A Determine and establish information collection requirements and processes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more specific plants or processes, to:

- determine relevant data, including variables for decisions
- determine factors and variables subject to control
- develop strategies for data collection that deliver the greatest overall benefit
- implement data collection systems.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to determine what information is needed to support decision making, including knowledge of:

- business needs of the organisation/section
- information needs of individuals within the organisation
- possible data available/potentially available to the organisation
- methods of collecting available data
- relationship between data available and information required
- methods of converting data into useful information
- methods of developing indicators for factors resistant to measurement.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project where the determination of data needs and collection methods for an organisation or specific plant or process occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405075 Facilitate the development of a new product

Modification History

Release 1. Supersedes and is equivalent to MSS405075A Facilitate the development of a new product

Application

This unit of competency covers the skills and knowledge required to facilitate the development of a new or evolutionary product within an existing range of products and encompasses design for manufacture, determining the process capability and the facilitation of its initial production.

This unit applies to an individual responsible for the development of a new product. The unit assumes an initial product design has been prepared by a designer and also assumes a working knowledge of all main processes and materials so that an informed choice can be made between them. The person will normally be a manager or technical expert and be required to work closely with a range of other management and operations personnel.

The unit requires balancing the business and technical sides of the new product and would typically be done as part of a cross-functional team. This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to facilitate the development of a new product. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into competitive systems and practices.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MSS404052 Apply statistics to operational processes

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm design brief of new product in consultation with relevant people**	1.1	Review product design with customer and other key stakeholders and agree on technical specification, aesthetic requirements, timelines, cost and other market requirements.
		1.2	Determine any regulatory, industry code/intellectual property (IP) requirements for product.
		1.3	Identify any required tooling, process or equipment needs.
		1.4	Confirm design brief, including relevant drawings, to meet needs.
		1.5	Determine design brief conforms to organisation objectives and capability.
		1.6	Obtain approval on total design brief from all relevant personnel.
2	**Determine material requirements for product**	2.1	Select appropriate materials or combination of materials/ components in liaison with key stakeholders.
		2.2	Determine material/component testing and evaluation regime required to meet product end use requirements, including regulatory/industry code requirements.
		2.3	Arrange for testing and evaluation of trial materials/ components.
		2.4	Guide material trial process and interpret material trial results.
		2.5	Determine final materials/components specifications and details of value chain.

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3	**Determine process requirements for product**	3.1	Select appropriate process to make product in liaison with key stakeholders and based on relevant factors.
		3.2	Determine any special process/equipment requirements for this product.
		3.3	Communicate with production personnel to determine any concerns and/or training or other needs.
		3.4	Adjust the design, as required, to satisfy customer and production needs.
4	**Ensure process needs for new product have been met**	4.1	Liaise with equipment design/procurement personnel.
		4.2	Interpret hardware specifications and ensure they are appropriate for the job required.
		4.3	Liaise with process personnel to ensure appropriate draft procedures for new product have been developed.
		4.4	Validate product cost and design meets organisation requirements and capability.
5	**Trial new product through the process**	5.1	Design trialling procedure to deliver required information.
		5.2	Liaise with relevant stakeholders.
		5.3	Ensure health, safety and environment (HSE) requirements are observed.
		5.4	Coordinate the trialling of the new product.
		5.5	Interpret product trial results and guide product trial process.
		5.6	Tune process to optimise production of new product.
6	**Determine process capability**	6.1	Plot appropriate statistical process control charts.
		6.2	Determine confidence limits.
		6.3	Compare confidence limits with product specification.

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7	**Coordinate product trials**	7.1	Determine product testing and evaluation regime required to meet end use requirements, including regulatory/industry code requirements.
		7.2	Arrange for testing and evaluation of trial product/prototype.
		7.3	Interpret product trial results and guide product trial process.
		7.4	Determine final product specification in liaison with key stakeholders.
		7.5	Make required changes to materials, process and equipment.
8	**Implement standard procedures for new product**	8.1	Monitor initial production and, in liaison with appropriate team members, adjust process, conditions and materials to ensure the product and process outcomes conform to customer, regulatory and organisation requirements.
		8.2	Ensure process specifications are updated and reflect the optimised operation developed.
		8.3	Ensure standard operating procedures (SOPs) are correct for the new product.
		8.4	Ensure equipment and other hardware records are updated to reflect additions/changes.
		8.5	Ensure project records are complete and all required reports have been completed and submitted.
		8.6	Archive records according to company procedure.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Organisation objectives and requirements include one or more of:

- cost/profit requirements for new products (e.g. minimum return and capital expenditure limits)
- encouragement/discouragement of different types of products (e.g. on sustainability, ethical or other non-individual customer-related criteria)
- potential or actual capacity conflicts with other customers or product/process activities
- activities that require/may require community consultation (e.g. on noise or other environmental grounds).

Typical regulatory requirements include one or more

- work health and safety (WHS)
- environmental regulations
- structural codes

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of:	• product/industry-specific requirements.
Typical problems include one or more of:	• defining product end-use requirements in terms meaningful to the product design and manufacture • matching suitable materials and processes to the product needs and company expertise and facilities • matching (and improving) process capability to product tolerances.
Relevant factors include one or more of	• type of material • dimensional precision of product • length of run/number of products • required aesthetics • size and complexity of product • available capital funding • process equipment available • HSE factors.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405075A Facilitate the development of a new product

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405075 Facilitate the development of a new product

Modification History

Release 1. Supersedes and is equivalent to MSS405075A Facilitate the development of a new product

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to facilitate the development of one (1) or more new/modified products and to:

- confirm the design brief
- determine material and process requirements
- ensure process needs have been met
- trial the new product and determine process capability
- conduct product trials
- standardise the new product.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to facilitate the development of a new product, including knowledge of:

- appropriate types of materials/components and criteria for choosing between them
- alternative processes/plant/equipment for making the new product and criteria for choosing between them
- determination of process capability
- appropriate sampling and testing for materials/components and products
- determination of processing time, product cost, benefit cost of the new product
- interpretation of trial/field test results.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real new/modified product development project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405081 Develop a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405081A Develop a proactive maintenance strategy

Application

This unit of competency covers the skills and knowledge required to develop and implement a proactive maintenance strategy for an organisation. The unit recognises that there are a number of predictive or proactive maintenance strategies, such as total productive maintenance (TPM) and reliability centred maintenance (RCM).

This unit applies to an individual responsible for developing a proactive maintenance strategy for an organisation. Typically the organisation will also be implementing other competitive systems and practices. The unit applies to the selection of appropriate strategies, initial development and implementation as well as application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to develop and implement a predictive maintenance strategy. Strategies will incorporate the maintenance requirements of relevant technologies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into maintenance strategies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine appropriate analytical techniques**	1.1	Liaise with key stakeholders to determine objectives of maintenance strategy.
		1.2	Examine current maintenance situation to determine major areas requiring improvement.
		1.3	Compare possible strategies, techniques and tools against organisation needs.
		1.4	Select possible strategies, techniques and tools.
		1.5	Confirm selected strategies, techniques and tools with key stakeholders.
2	**Develop reliability strategies**	2.1	Select preferred maintenance strategy.
		2.2	Examine and adapt strategy to organisation needs and priorities.
		2.3	Examine and adapt techniques and tools required to implement strategy.
		2.4	Liaise with key stakeholders to develop an implementation plan.
		2.5	Identify key information and performance indicators required.
3	**Implement strategy**	3.1	Identify data collection required.
		3.2	Identify hardware and other resources required.
		3.3	Identify skill needs required in consultation with key stakeholders.
		3.4	Ensure all resources/training are available.

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		3.5 Implement strategy.
4	**Monitor implementation of strategy**	4.1 Compare information/performance indicators with desired levels.
		4.2 Liaise with key stakeholders regarding strategy issues.
		4.3 Identify areas requiring adjustment.
		4.4 Make required adjustments.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping

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- problem solving
- run charts
- standard procedures
- current reality tree.

OEE includes:

The combination of the main factors causing loss of productive capacity from equipment/plant and is:

- OEE = availability x performance x quality rate

where:

- availability takes into account losses due to breakdown, set-up and adjustments
- performance takes into account losses due to minor stoppages, reduced speed and idling
- quality rate takes into account losses due to rejects, reworks and start-up waste.

Mean time between failure (MTBF) includes:

One key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing.

There are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.

Depending on the equipment, operations and procedures of the organisation, alternative statistical records of maintenance and maintenance-related events may be substituted for MTBF providing they relate strategies for improving OEE.

Failure mode effects analysis (FMEA) includes:

A systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring.

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Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.

HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.

Condition monitoring includes: The process of analysing the implications of condition monitoring data for proactive maintenance whether it be obtained from non-destructive testing (NDT) reports, visual assessment by experts, diagnostic reports obtained from SCADA or other enterprise or equipment software and product or process quality analyses. It does not require the actual undertaking of the NDT or condition monitoring assessment or test. If this is required appropriate units from other Training Packages will be required.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405081A Develop a proactive maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405081 Develop a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405081A Develop a proactive maintenance strategy

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more work areas or product families, to:

- consider a variety of proactive maintenance strategies for suitability to an organisation
- consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies
- implement selected strategies
- monitor performance to selected indicators and make improvements to selected proactive maintenance strategies.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and implement a proactive maintenance strategy, including knowledge of:

- characteristics and strengths of different types of strategies, techniques and tools
- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where development of a proactive maintenance strategy occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS405082 Adapt a proactive maintenance strategy to the process operations sector

Modification History

Not applicable.

Application

This unit of competency covers the skills and knowledge required to develop and apply a proactive maintenance strategy for continuous manufacturing processes which may also be major hazard facilities or similar.

This unit applies to an individual in a continuous manufacturing sector, such as chemical, hydrocarbons and refining, smelting and cement, which is seeking to improve the efficiency and reliability of equipment. Typically such an organisation will also be engaged in implementing competitive systems and practices. As continuous manufacturers, such as the chemical, hydrocarbons and refining sectors, are often also major hazard facilities this will influence the proactive maintenance choices which need to be made.

The unit covers the selection of appropriate strategies, techniques and tools and the adapting of them to the organisation's needs. It also covers the application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to adapt a proactive maintenance strategy to meet specific needs of the enterprise. This work is done in the context of using computer technology and also requires aspects of self-management and learning to ensure improvement of own performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret proactive maintenance strategy**	1.1	Analyse proactive maintenance strategy.
		1.2	Identify areas which may conflict with hazard or operations requirements.
		1.3	Analyse data arising from incident reports (and similar) for maintenance implications.
		1.4	Compile hazard control implications for proactive maintenance strategy.
2	**Interpret hazard information**	2.1	Analyse hazard and operability studies (HAZOP) (or similar) data for maintenance implications.
		2.2	Analyse safety case (or similar) data for maintenance implications.
		2.3	Compile hazard control implications for proactive maintenance strategy.
3	**Identify shutdown/ turnaround cycle requirements**	3.1	Determine when the next shutdown is due and the expected time between shutdowns.
		3.2	Identify plant items/maintenance activities which can only be completed during a shutdown.
		3.3	Identify critical conditions which must not be breached in order to maintain plant reliability until shutdown.
		3.4	Compile shutdown cycle requirements for proactive maintenance strategy.
4	**Identify maintenance**	4.1	Identify proactive maintenance requirements of ancillary equipment.

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	requirements of ancillary equipment	4.2	Identify maintenance which can only be done when the plant is shut down.
		4.3	Compile ancillary equipment requirements for proactive maintenance strategy.
5	**Adapt proactive maintenance strategy**	5.1	Compare identified requirements to the proactive maintenance strategy.
		5.2	Negotiate a proactive maintenance strategy which meets these requirements.
		5.3	Involve team members in relating identified problems and opportunities for improvement to the maintenance strategy, and involve them in developing any required changes to ensure awareness, learning and commitment.
		5.4	Monitor the implementation of the strategy to ensure the identified requirements are met.
		5.5	Make required adjustments and arrange for strategy review.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three

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	sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Ancillary equipment includes one or more of:	• boilers • utilities • plants • waste treatment and hazard control equipment (e.g. fire ring mains, fire monitors, steam curtains, gas (or other loss of containment) monitors, blast protection and flare stacks).

Unit Mapping Information

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405082 Adapt a proactive maintenance strategy to the process operations sector

Modification History

Not applicable.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more continuous manufacturing processes/areas, to:

- analyse hazards and risks and determine implications for proactive maintenance strategies
- consider a variety of proactive maintenance strategies for suitability to an organisation
- consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies
- monitor implementation of selected proactive maintenance strategies and make appropriate adjustments.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to adapt a proactive maintenance strategy, including knowledge of:

- continuous manufacturing equipment and products of the organisation
- start-up, shutdown and isolation considerations for the organisation
- skills required by operators and maintenance personnel to achieve effective proactive maintenance strategy implementation
- characteristics and strengths of different types of strategies, techniques and tools
- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where proactive maintenance strategies are being applied to new areas and/or for the improvement of operation in existing areas in an operational continuous manufacturing workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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MSS405083 Adapt a proactive maintenance strategy for a seasonal or cyclical business

Modification History

Release 1. Supersedes and is equivalent to MSS405083A Adapt a proactive maintenance strategy for a seasonal or cyclical business

Application

This unit of competency applies to an individual responsible for developing a proactive maintenance strategy for an organisation that operates seasonal/cyclical plant and also adopts proactive maintenance strategies. The organisation will also usually be implementing other competitive systems and practices. Typical applications include many food processing enterprises, cotton ginning, sugar refineries, and so on. The unit covers changing the normal priority of some of the choices that need to be made in implementing a proactive maintenance strategy.

The unit applies to the selection of appropriate strategies; initial development and implementation will need to be managed as well as application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to adapt a proactive maintenance strategy to meet seasonal or cyclical needs of the enterprise. This work is done in the context of using computer technology and also requires aspects of self-management and learning to ensure improvement of own performance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret proactive maintenance strategy**	1.1	Analyse proactive maintenance strategy.
		1.2	Identify areas which may conflict with cyclical requirements.
		1.3	Identify critical conditions which must be met in order to maintain plant reliability until season end.
		1.4	Compile cycle requirements for proactive maintenance strategy.
2	**Identify cyclical requirements of the process**	2.1	Establish when the season finishes and the expected cycle duration.
		2.2	Identify plant items and maintenance activities which production imperatives dictate can only be completed after season end.
		2.3	Identify critical conditions which must be met in order to maintain plant reliability until season end.
		2.4	Compile cycle requirements for proactive maintenance strategy.
3	**Identify maintenance requirements of ancillary equipment**	3.1	Identify proactive maintenance requirements of ancillary equipment.
		3.2	Identify maintenance which can only be done at season end.
		3.3	Compile ancillary equipment requirements for proactive maintenance strategy.
4	**Identify**	4.1	Identify critical maintenance activities which must be

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	maintenance requirements during season		done during season.
		4.2	Negotiate conflicts with seasonal or cyclical processing requirements.
		4.3	Compile proactive maintenance strategy requirements during season.
5	**Adapt proactive maintenance strategy**	5.1	Compare identified requirements to the proactive maintenance strategy.
		5.2	Negotiate a proactive maintenance strategy which meets these requirements.
		5.3	Involve team members in relating identified problems and opportunities for improvement to the maintenance strategy, and involve them in developing any required changes to ensure awareness, learning and commitment.
		5.4	Monitor the implementation of the strategy to ensure the identified requirements are met.
		5.5	Make required adjustments and arrange review schedule.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three

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	sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Critical conditions include one or more of:	• maximum load factors • lubrication schedules • correct operating conditions, e.g. temperatures • cleaning and waste removal schedules • equipment inspection and test schedules • development of standard operating procedures and training of operators.
Ancillary equipment includes one or more of:	• boilers • utilities • plants • waste treatment and hazard control equipment (e.g. fire ring mains, fire monitors, steam curtains, gas (or other loss of containment) monitors, blast protection and flare stacks).

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405083A Adapt a proactive maintenance strategy for a seasonal or cyclical business

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Links

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Assessment Requirements for MSS405083 Adapt a proactive maintenance strategy for a seasonal or cyclical business

Modification History

Release 1. Supersedes and is equivalent to MSS405083A Adapt a proactive maintenance strategy for a seasonal or cyclical business

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more seasonal/cyclic plants, to:

- analyse the equipment availability requirements of a seasonal or cyclical operation
- consider a variety of proactive maintenance strategies for suitability to a seasonal or cyclical operation
- consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies
- monitor the implementation of selected proactive maintenance strategies and make required adjustments.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to adapt a proactive maintenance strategy, including knowledge of:

- processing equipment and products of the organisation
- start-up, shutdown and isolation considerations for the organisation
- skills required by operators and maintenance personnel to achieve effective proactive maintenance strategy implementation
- characteristics and strengths of different types of strategies, techniques and tools
- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where proactive maintenance strategies are being implemented in new areas and/or for the improvement of operation in existing areas of a seasonal/cyclic setting.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405084 Manage people relationships

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to manage the human relationship aspects of implementing and operating competitive systems and practices.

This unit applies to managers, technical specialists or similar who will apply strong communication, teamwork, planning and problem solving skills to manage effective relationships.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Confirm organisation competitive systems and practices status**	1.1 Establish number and status of competitive systems and practices techniques being used within the organisation
		1.2 Identify key performance indicators (KPIs) for each technique
		1.3 Identify key sections and value stream members responsible for each KPI

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Identify key personnel for communications
2	**Develop an open environment**	2.1	Establish and maintain regular dialogue between all levels and relevant sections of the organisation
		2.2	Encourage a flow of communications in both directions
		2.3	Develop and maintain a formal mechanism for the flow of issues, concerns and suggestions in both directions
		2.4	Develop and maintain regular and frequent communication with all key stakeholders
3	**Identify significant issues**	3.1	Identify current and potential issues in liaison with team members and stakeholders
		3.2	Assist team members and stakeholders to formulate issues
		3.3	Identify and define boundary and non-negotiable issues for all team members and stakeholders
		3.4	Negotiate with team members and stakeholders over actual and potential issues
4	**Proactively resolve issues**	4.1	Liaise with team members and stakeholders to develop agreed and win-win solutions
		4.2	Negotiate acceptable solutions in accordance with organisation practices and procedures
		4.3	Obtain any required official authorisations
		4.4	Consult with stakeholders to develop implementation plan
		4.5	Implement solution according to plan
5	**Monitor ongoing**	5.1	Determine KPIs for plan

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
situation	5.2 Check that implementation is proceeding to plan
	5.3 Check for unforeseen consequences
	5.4 Take action to resolve any arising issues

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405011 Manage people relationships.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405084 Manage people relationships

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- managed the human relationship aspects of implementing and operating competitive systems and practices for at least 1 work area.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- competitive systems and practices tools used in own workplace
- formal communication mechanisms
- work health and safety (WHS) and regulatory requirements, codes of practice, standards, risk management and registration requirements relevant to the task
- change implementation contacts and procedures for the organisation
- employee assistance mechanisms in the organisation
- current processes and principles of operation sufficient to enable communication with others on the impact of competitive operational changes
- sources of data on the process or plant and applications to information distribution
- methods of determining own skill needs and developing skills.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405085 Develop a documentation control strategy for an organisation

Modification History

Release 1. Updated unit code. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to develop and implement a documentation control strategy for an organisation implementing a competitive systems and practices strategy which is part of the value stream for such an organisation. The documentation control strategy might be needed to comply with AS/NZS ISO 9000:2016 Quality management systems - Fundamentals and vocabulary or other reasons.

This unit applies to a manager, technical specialist or similar who is required to use problem solving, initiative, planning and organising skills to develop and/or improve a system to ensure operations and related supporting documents are controlled in a manner which is appropriate for their use in the organisation.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Identify and obtain agreement to document**	1.1 Identify a working group of stakeholders
		1.2 Agree on purpose and scope of document management standards, including interaction with production,

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	management procedures and standards		maintenance, logistics, sales and marketing systems
		1.3	Identify any external standards, requirements and conventions
		1.4	Agree on document control, tracking, updating and storage processes
		1.5	Write document management processes and standards and circulate to stakeholders
		1.6	Negotiate any variations
2	**Determine document style, standards and conventions**	2.1	Consider potential document styles
		2.2	Agree on document conventions and layout
		2.3	Agree on standard symbols, abbreviations
		2.4	Produce a style sheet, document model or template
		2.5	Check document style conforms to document management standards
		2.6	Circulate to stakeholders and negotiate any variations
3	**Implement document control strategy**	3.1	Write a document control strategy and procedures, including arrangements for ongoing review of strategy
		3.2	Establish mechanisms to check documents conform to the control strategy
		3.3	Arrange for staff development
		3.4	Monitor implementation of document control strategy
		3.5	Make improvements to the documentation control strategy

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405062 Develop a documentation control strategy for an organisation.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405085 Develop a documentation control strategy for an organisation

Modification History

Release 1. Updated unit code. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- developed and implemented documentation control strategy and procedures for at least 1 organisation implementing a competitive systems and practices strategy.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- needs of the organisation and its individuals
- word processing, spreadsheet, database, drawing and other software capable of producing files and documentation
- types of documentation used in organisations
- document control, archive and destruction systems
- AS/NZS ISO 9000:2016 Quality management systems - Fundamentals and vocabulary requirements or equivalent
- legislative and regulatory requirements associated with documentation relevant to the organisation.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405086 Develop sustainable energy practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required by an individual to identify opportunities for, and make improvements in, sustainable energy practices in an organisation. This includes efficient use of raw materials, management of waste, electricity conservation, heat conservation and management, water management, environment protection and environment obligations of organisations.

The unit involves analysis of energy used in processes and operations and categorising the energy use according to lean principles. The unit covers categorising energy into necessary use and muda (waste) with the muda being further categorised into necessary muda and unnecessary muda. Strategies for eliminating or minimising energy muda are covered with cost benefit analyses being required for strategies.

This unit applies to a manager, technical specialist or similar who is required to use problem solving, initiative, planning and organising skills to develop plans for efficient energy use.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Analyse energy**	1.1 Identify all energy consuming processes

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	use	1.2	Determine quantity and nature of energy consumed
		1.3	Analyse energy consumed and generated in different parts of the process
		1.4	Determine source of energy consumed in process
2	**Develop energy conservation plans**	2.1	Determine the efficiency of use of energy by all energy consuming processes
		2.2	Determine causes of low efficiency of use
		2.3	Develop plans for increasing the efficiency of energy use
		2.4	Calculate cost benefit of plans
3	**Develop energy trading plans**	3.1	Compare energy generating activities with energy consuming activities
		3.2	Determine feasibility of energy consuming activities using energy generated by other activities
		3.3	Develop plans for energy trading
		3.4	Calculate cost benefit of plans
4	**Investigate alternative sources of energy**	4.1	Write a specification for energy required
		4.2	Identify sources for that energy
		4.3	Calculate cost benefit for alternative energy sources
5	**Develop plans for more efficient energy use**	5.1	Compare cost benefit for different alternatives developed
		5.2	Rank proposals based on cost benefit compared to limited resources
		5.3	Check proposals meet regulatory requirements

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.4 Recommend proposals for improving energy efficiency
6 **Implement selected plans**	6.1 Liaise with relevant people to implement energy efficiency plans
	6.2 Follow through to ensure implementation occurs
	6.3 Monitor implementation and adjust
	6.4 Check new energy usage to ensure improvements have occurred

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405070 Develop sustainable energy practices.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405086 Develop sustainable energy practices

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- developed sustainable energy practices for at least 1 organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of data and required calculations
- types and sources of energy
- methods of analysing energy efficiency for different types of energy
- methods of converting energy values from one form to another
- alternative sources of energy
- principles of energy efficiency
- sustainability regulatory and legislative requirements
- energy trading schemes and procedures
- organisation and process needs for energy
- muda (waste) including: necessary and unnecessary

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407002 Review operations practice tools and techniques

Modification History

Release 1. Supersedes and is equivalent to MSS407002A Review operations practice tools and techniques

Application

This unit of competency covers the skills and knowledge required to apply continuous improvement to the use of competitive systems and practices tools and techniques, that is, facilitating the right use of the right tool at the right time and reviewing its application.

This unit is intended for team leaders and people with a similar sphere of influence and scope of authority and responsibility. It covers the reviewing of competitive tools used by an organisation which has already embarked on a competitive systems and practices path and is driven by the pull of its customers.

The unit includes checking that the relevant competitive systems and practices tools are being consistently and correctly applied across the entire organisation to enhance customer and organisation value. It also includes reviewing the processes used to identify when additional or different competitive systems and practices tools should be applied.

This unit applies to individuals who have a broad knowledge of all major competitive tools with in-depth application knowledge of several tools which are relevant to the organisation and familiarity with a define, measure, analyse, improve, control (DMAIC), or similar, approach.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Review the use of competitive systems and practices tools**	1.1	Identify which competitive tools are being used in the work area.
		1.2	Define the outcomes expected from each tool.
		1.3	Observe and measure the actual outcomes being achieved.
		1.4	Identify gaps between actual outcomes and planned outcomes.
		1.5	Determine if the tools are being used as intended.
		1.6	Review tool use and determine if the most appropriate tool is being used.
		1.7	Audit health, safety and environment (HSE) impacts from the use of tools.
		1.8	Identify any system/process issues impeding the tools delivering their expected outcomes.
		1.9	Identify any gaps between tool capability and customer benefit requirements.
2	**Recommend changes to the use of competitive systems and practices tools**	2.1	Define required further improvements identified.
		2.2	Prioritise required further improvements.
		2.3	Identify gaps inhibiting tool use.
		2.4	Recommend system and process changes, as required, to improve tool use.
		2.5	Recommend alternative or additional tools, as required, to achieve organisation requirements.

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		2.6	Obtain required authorisations for changes.
3	**Facilitate the better use of competitive systems and practices tools**	3.1	Facilitate training or other resources needed, as required, to improve tool use.
		3.2	Facilitate system and process changes, as required, to improve tool use.
		3.3	Facilitate the introduction and use of new tools, as required.
		3.4	Initiate procedures for sustaining the changes.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE)

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- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

The definition of improvements include one or more of:

- a specification of the problem/capability gap being addressed
- a specification of how that problem/gap will be solved/filled
- a statement of the intended benefits of the solution
- a statement of the indicators of progress and success.

DMAIC approach includes all of:

- define
- measure
- analyse
- improve
- control and standardise.

Organisation includes:

- any part of an operations or service organisation
- companies, government bodies or other body of people aiming to produce a product to service a customer.

Team leader includes one or more of:

- a person designated as team leader
- a person who has a team facilitation function, formally or otherwise.

Gaps inhibiting tool use include one or more of:

- competency gap of employees in own or other value stream organisation
- lack of management or employee support
- lack of financial or other resources
- inadequate data.

Sustaining improvement includes one or more of:

- standard procedures and work instructions
- standard practice
- other relevant documents and practices.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407002A Review operations practice tools and techniques

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407002 Review operations practice tools and techniques

Modification History

Release 1. Supersedes and is equivalent to MSS407002A Review operations practice tools and techniques

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more work areas/sections/departments, to:

- critically review the use of competitive tools
- take a DMAIC (or similar) approach
- compare actual outcomes to planned outcomes
- discriminate between the causes of suboptimal performance
- recommend appropriate changes to tools used, tool usage and/or tool implementation.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to review the use of competitive tools used by the organisation, including knowledge of:

- competitive systems and practices tools
- identification and elimination of muda (waste)
- organisation processes and products
- applications and limitations of different competitive systems and practices tools
- typical benefits for customers from implementation of competitive systems and practices tools
- DMAIC process applied to competitive systems and practices tool use
- approvals and delegations within the organisation
- procedures, including processes for updating and drafting of procedures.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where competitive tools are reviewed for the right use of the right tool at the right time in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407003 Analyse process changes

Modification History

Release 1. Supersedes and is equivalent to MSS407003A Analyse process changes

Application

This unit of competency covers the skills and knowledge required to quantitatively analyse past changes made in an organisation's operations, systems, process or environment to ensure the quantum of expected change has been achieved and that gains are maintained and are used as a basis for further gains.

The unit includes statistical and other mathematical analysis of data, methods for capturing data on implemented changes (quantitative and qualitative) and producing useful information from this data. It includes consultation with stakeholders both for data validation and consensus decision making for future improvements.

This unit applies to team leaders, technical experts and people with a similar sphere of influence/scope of authority and responsibility who already have a knowledge of statistics used in managing operations and of process capability improvement and some knowledge of factorial design, the selection and analysis of appropriate metrics, and the discrimination between valid and invalid interpretations of data

The unit applies to reviews of both intended and unintended consequences of change and the effectiveness of the implementation of the change. This unit is not intended to be applied to a technical or engineering review of a major capital expenditure or similar.

This unit takes a largely quantitative approach to the review.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse a change**	1.1	Identify changes which have occurred.
		1.2	Select a change or group of related changes to analyse.
		1.3	Determine the initiation of the selected change.
		1.4	Identify relevant metrics and predicted values for these metrics.
		1.5	Gather data for these metrics prior to the change.
		1.6	Gather data and information on the implementation of the change.
		1.7	Gather data for these metrics after the change.
		1.8	Survey all key metrics and identify anywhere variations may correlate with the change being analysed.
		1.9	Discuss results of change with key stakeholders and identify other possible (qualitative or quantitative) results of the change.
		1.10	Analyse this data to determine the results of the change.
2	**Review results of change with stakeholders**	2.1	Identify trends over time in all relevant metrics.
		2.2	Analyse correlated metrics to determine causal relationship.
		2.3	Audit health, safety and environment (HSE) impacts as a result of the change.
		2.4	Present information in a form understandable by

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		stakeholders.
		2.5 Discuss analysed information with relevant stakeholders.
		2.6 Modify information based on stakeholder input, as required.
		2.7 Develop a consensus view of the result of the change which is supported by the information available.
		2.8 Validate the consensus view with stakeholders.
3	**Identify future improvements**	3.1 Discuss lessons learned from the change with stakeholders.
		3.2 Capture key knowledge in accordance with systems and procedures.
		3.3 Identify future improvements in collaboration with team members.
		3.4 Validate identified changes with stakeholders.
		3.5 Obtain sign-off from process/system owner.
		3.6 Start the process for implementing future improvements.
		3.7 Check that the planned improvements are occurring.
		3.8 Take action to sustain improvement by standardising.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional

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contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Change includes one or more of:	• plant, operations, products, procedures or practice • continuous improvement (or an improvement event/project) or implementing new products, technology or systems • intended to make an improvement or to implement new products, technology or systems.
Presentation of information may occur in one or more formats:	• in appropriate visual forms (e.g. graphs, charts and noticeboards • verbally or other forms able to be understood and used by stakeholders.
Stakeholders include one or more of:	• work team members • value stream members • managers.
Results of change include one or more of:	• an initial improvement followed by a return to previous performance • continued improvement • continued detriment or other variations over time.

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Improvements include one or more of:	• changes to operations, process, plant, procedures or practice • changes to ensure positive benefits are maintained.
Sustaining improvement include one or more of:	• standard procedures and work instructions • standard practice • other relevant documents and practices.
Team leader includes one or more of:	• a person with a formal, permanent role • a person with an ad hoc role in facilitating the function of a team in a workplace.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407003A Analyse process changes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407003 Analyse process changes

Modification History

Release 1. Supersedes and is equivalent to MSS407003A Analyse process changes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to quantitatively analyse one (1) or more changes and to:

- analyse the change
- review the results of the change
- identify improvements to be made.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to analyse a change, including knowledge of:

- methods of determining the impact of a change using quantitative analysis of process data, including advanced statistical/mathematical analysis and basic qualitative techniques
- organisation metrics, particularly those related to the change
- sources of data (actual and possible) within the organisation and the value stream
- range of typical metrics, their applications and limitations
- trends, correlation and causation.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use an analysis of a real change in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

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- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407004 Facilitate improvements in the internal value stream

Modification History

Release 1. Supersedes and is equivalent to MSS407004A Facilitate improvements in the internal value stream

Application

This unit of competency covers the skills and knowledge required to deal with internal value stream members in order to improve the overall effectiveness of the value stream, so delivering greater value to the customer. This unit applies to improvement practices which an individual might use within their own team or work area to other teams or work areas within the value stream and covers areas where value stream issues impact on the overall ability of the organisation to continue to improve and offer better value to the customers.

This unit applies to team leaders or people in equivalent positions who have contact with internal value stream members outside their own team and who are already familiar with competitive systems and practices, formal problem solving and root cause analysis (RCA), leading change, and reducing costs.

The unit applies to 'gate-to-gate' value streams. Changes do not include an engineering review of a major capital expenditure or similar review.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify opportunities for continued improvement**	1.1	Identify past improvements which have been implemented but have not delivered intended benefits.
		1.2	Identify suggested improvements which have not yet been implemented.
		1.3	Discuss and identify with team members new improvement opportunities.
		1.4	Determine which of these improvements have been or may be restricted by other value stream members.
		1.5	Suggest possible factors causing this restriction.
		1.6	Select possible improvements for further study.
2	**Study restrictions to further improvement with value stream member**	2.1	Arrange meeting with suitable representatives of the value stream member.
		2.2	Outline the opportunities for improvement and any current or anticipated restrictions.
		2.3	Work with value stream representatives to determine root cause of restrictions.
		2.4	Work with value stream member to identify possible solutions to problem.
		2.5	Define outcomes from any proposed changes.
3	**Develop a consensus approach to implementing improvements**	3.1	Determine benefits/costs to value stream member from the proposed changes.
		3.2	Determine benefits/costs to own process from the proposed changes.
		3.3	Decide whether the proposed improvements will result in a valuable improvement to the end customer.
		3.4	Determine health, safety and environment (HSE) impacts as a result of the change.

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		3.5	Agree on proposed change/program of changes with all key stakeholders.
4	**Obtain required approvals**	4.1	Draft a formal proposal for the proposed changes.
		4.2	Submit proposal for all required approvals from stakeholders.
		4.3	Modify proposal, as required, in liaison with all key stakeholders.
		4.4	Obtain sign-off from process/system owner.
5	**Measure and communicate gains**	5.1	Agree indicators/metrics of success of proposed changes.
		5.2	Make arrangements to collect the necessary data.
		5.3	Make arrangements for the data to be analysed and presented in an agreed format to the agreed stakeholders.
		5.4	Agree the communication plan.
		5.5	Liaise with stakeholders to implement changes as agreed and approved.
6	**Review change**	6.1	Analyse results of change.
		6.2	Identify areas which have not met predicted outcome (positive or negative).
		6.3	Determine cause of target not being met.
		6.4	Take action to improve the value stream.
		6.5	Take action to sustain improvement by standardising.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Change includes one or more of:

- plant, procedures or practice
- continuous improvement (or an improvement event/project)
- intended to make an improvement or to implement new products, technology or systems
- the implementation of a change.

Information presentation formats include one or more of:

- graphs or other appropriate visual forms
- written reports – hard copy or digital
- oral – to individuals or groups.

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Stakeholders include one or more of:	• work team members • value stream members • members of the work or broader community who may be impacted by the change.
Results of change include one or more of:	• an initial improvement followed by a return to previous performance • a change which has resulted in continued improvement • continued detriment or other variations over time.
Improvements include one or more of:	• process, plant, procedures or practice • changes to ensure positive benefits are maintained.
Methods of sustaining improvement include one or more of:	• standard procedures and work instructions • standard practice • other relevant documents and practices.
Team leader includes one or more of:	• a person with a formal, permanent role • a person with an ad hoc role in facilitating the function of a team in a workplace.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407004A Facilitate improvements in the internal value stream

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407004 Facilitate improvements in the internal value stream

Modification History

Release 1. Supersedes and is equivalent to MSS407004A Facilitate improvements in the internal value stream

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to facilitate one (1) or more improvements which have not delivered intended benefits or have possibly been restricted (stalled improvements), or two (2) or more improvements which have not as yet been subjected to restriction (fresh) and to:

- identify opportunity for improvement
- identify restrictions to the implementation of the improvement and determine possible solutions
- develop a consensus approach to implementing the improvement and obtain approvals
- measure and communicate change and review its implementation
- standardise any improvements made.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to facilitate stalled improvement projects or one likely to be stalled, including knowledge of:

- negotiation, influence and persuasion techniques
- the causes of restriction/obstruction by people and methods of dealing with it
- 'selling'/'pitching' improvement projects
- the manipulation of data and the interpretation of information
- methods of determining benefits from and costs of change.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real situation where improvements have been stalled or are likely to be stalled in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407005 Undertake a qualitative review of a process change

Modification History

Release 1. Supersedes and is equivalent to MSS407005A Undertake a qualitative review of a process change

Application

This unit of competency covers the skills and knowledge required to review changes made in the operations systems, process or environment to ensure they result in improvement, that gains are maintained and that gains are used as a basis for further gains. The unit includes consensus decision making and methods for capturing information on implemented changes, including quantitative and qualitative reports and informal talking to people to make sure gains are maintained and ways are found to build on them.

This unit is intended for team leaders and people with a similar sphere of influence and scope of authority and responsibility and who have knowledge of competitive systems and practices, continuous improvement and locking in improvements.

This unit covers the skills required for a qualitative approach to the review of a process change. This unit reviews both intended and unintended consequences of change and the effectiveness of the implementation of the change.

This unit is not intended to be applied to a technical or engineering review of a major capital expenditure or similar review.

While this unit covers a qualitative review, some basic mathematics may be required although not sophisticated statistical or mathematical analysis.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Study a change**	1.1	Identify changes which have occurred.
		1.2	Select a change or group of related changes to analyse.
		1.3	Determine the initiation of the selected change.
		1.4	Gather information on the situation within the organisation and along the value stream prior to the change.
		1.5	Gather information on the implementation of the change.
		1.6	Gather information on the intended benefits of the change.
		1.7	Gather information on the situation within the organisation and along the value stream after the change.
		1.8	Determine whether results of change have been constant or have changed over time.
		1.9	Collate and prepare gathered information for distribution.
2	**Agree results of change with stakeholders**	2.1	Present and discuss collected information with relevant stakeholders.
		2.2	Modify collected information, as required, based on stakeholder input.
		2.3	Develop a consensus view of the result of the change which is supported by the information available.
		2.4	Validate the consensus view with stakeholders.

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3	**Identify future improvements**	3.1	Discuss lessons learned from the reviewed change with stakeholders.
		3.2	Capture key knowledge from the review of the change in accordance with systems and procedures.
		3.3	Identify future improvements in collaboration with team members.
		3.4	Validate identified future improvements with stakeholders.
		3.5	Obtain sign-off from process/system owner.
		3.6	Start the process for implementing future improvements.
		3.7	Check that planned improvements have occurred.
		3.8	Take action to sustain improvement by standardising.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems

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- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Change includes one or more of

- equipment, operations, procedures or practice
- continuous improvement (or an improvement event or project)
- intended to make an improvement or to implement new products, technology or systems
- the implementation of a change.

Change may be Initiated by one or more of:

- deliberately initiated to improve capability, deal with a problem, or a similar intended change
- a drift in efficiency or quality
- a change in materials, rate of supply, quality of supply, or components which was being compensated for
- a change in personnel which brought different practices.

Stakeholders include one or more of:

- work team members
- value stream members
- other person who may be impacted by the change.

Qualitative research includes one or more of:

- information that may not be apparent from quantitative analysis techniques, including the why and how of events relating to the change process
- employee support for a change before and after the change
- other stakeholder support
- understanding of employees of the intended benefits and the situation after the change
- customer support for change
- testing of possible contingencies and scenarios in the change process, including non-conformances (e.g. impact of breakdowns

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and absences).

Culture and value alignment prior to the change include one or more of:	• downstream and upstream members of the value stream and the organisation • management and employees • skills required versus skills possessed • process capability • process and plant/equipment performance.
Intended benefits of the change include one or more of:	• customer perceived value • stakeholders upstream and downstream • organisation personnel • process capability • plant/equipment reliability/performance.
Results of change include one or more of:	• an initial improvement followed by a return to previous performance • a change which has resulted in continued improvement • continued detriment or other variations over time • HSE changes.
Improvements include one or more of:	• to process, plant, procedures or practice • changes to ensure positive benefits are maintained.
Techniques for sustaining improvement include one or more of:	• standard procedures and work instructions • standard practice • other relevant documents and practices.
Team leader includes one or more of:	• a person who has a formal, permanent role • an ad hoc role in facilitating the function of a team in a workplace.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407005A Undertake a qualitative review of a process change

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407005 Undertake a qualitative review of a process change

Modification History

Release 1. Supersedes and is equivalent to MSS407005A Undertake a qualitative review of a process change

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to undertake a qualitative review of one (1) or more process changes and to:

- select a change/group of related changes for study and gather relevant information
- come to a consensus view with stakeholders as to the results of this change
- capture lessons learned/knowledge from these changes
- identify and initiate future changes to be made.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to review a process change, including knowledge of:

- qualitative research techniques, such as surveys, interviews, walking around (gemba walk), structured and unstructured interviews, formal and informal interviews, review of organisation records, review of process 'history', such as might be obtained from a control panel or other process records
- trends and causal relationships
- influence, persuasion and negotiation techniques
- kaizen and kaizen blitz processes
- communication techniques, such as formal and informal techniques, reports, presentations and toolbox/team meetings.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a review of a real process change in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407007 Respond to a major non-conformance

Modification History

Release 1. Supersedes and is equivalent to MSS407007A Respond to a major non-conformance

Application

This unit of competency covers the skills and knowledge required to lead a response at a team or area level to a major non-conformance which could have severe business impacts.

The unit can be applied to subsections of an organisation, such as a team, area or department, or in the case of a small or medium sized enterprise (SME), to the whole organisation.

This unit applies to team leaders and people with a similar sphere of influence and scope of authority and responsibility and covers the skills required to respond to a situation where people, processes, equipment or systems fail to meet requirements (there is a major non-conformance) for whatever reason, and this will have significant business consequences. The non-conformance may be anywhere in the value stream, not necessarily in the team, department or area which needs to respond. Many teams, departments or areas may need to respond. However, this unit applies to the skills needed to lead a single team, department or area response.

This unit is not primarily about identification of the cause of the non-conformance but rather about skills for appropriate responses to contain the situation, including not allowing it to accelerate or cascade. It is also about skills to minimise the adverse consequences while doing what can be done at the team, department or area level to remedy the situation.

This unit does not cover the specialist skills required to contain/remediate an emergency non-conformance, such as a fire or explosion. Relevant emergency management skills from other Training Packages should be accessed for these skills.

This unit may be also applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

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Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Define extent and nature of non-conformance**	1.1	Identify target performance prior to non-conformance.
		1.2	Determine commencement and expected duration of non-conformance.
		1.3	Determine impact of non-conformance on target performance.
		1.4	Determine impact of non-conformance on sustainability (ecology, economy and social) performance.
		1.5	Determine impact of non-conformance on maintenance performance.
		1.6	Liaise with customers to determine minimum acceptable performance during period of non-conformance.
		1.7	Define non-conformance in terms of customer requirements and target performance.
2	**Determine priorities and actions**	2.1	Develop possible responses appropriate to the situation.
		2.2	Determine possible timing of possible responses.
		2.3	Identify required resources for the responses developed.
		2.4	Evaluate possible responses and select or shortlist responses.

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		2.5	Select responses and obtain necessary approvals.
		2.6	Organise resources, as appropriate.
3	**Identify information needs**	3.1	Determine the information needs of stakeholders.
		3.2	Identify the sources of required information.
		3.3	Arrange to collect required information.
		3.4	Obtain authorisation to disseminate information.
		3.5	Report information to stakeholders, as appropriate.
4	**Implement response**	4.1	Initiate response and establish data and information collection procedures.
		4.2	Analyse data and other information as it comes to hand.
		4.3	Determine progress of response to achieving required outcomes.
		4.4	Modify response, including deployment of resources, as required, to better achieve desired outcomes.
5	**Establish plan to return to normal conformance**	5.1	Determine root cause of non-conformance and analyse to determine likely preventative measures.
		5.2	Develop remedial plan to eliminate root cause.
		5.3	Obtain sign-off from process/system owner for planned action.
		5.4	Implement remedial plan and establish normal conformance.
6	**Conclude and review response**	6.1	Conduct a debrief and complete reports as required.
		6.2	Evaluate and review response and procedures.
		6.3	Evaluate and document effectiveness of the response function and its interaction/communication with stakeholders.

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6.4 Recommend improvements to prevent a recurrence and improve response for other non-conformances.

6.5 Communicate reports in accordance with company procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

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Major non-conformance includes one or more of:	• a failure to receive a delivery • receiving a delivery which is out of specification • a failure of the transport system to make deliveries to customers or from suppliers • a problem in the process which fails to produce product or only produces non-conforming product • a major incident, such as a fire or loss of containment • a breakdown of critical plant/equipment • a commercial or legal problem which affects the ability to produce to requirements • excessive absences of key personnel due to illness or transport breakdown • a security situation preventing key personnel from performing their duties and/or deliveries being made • a major supply shortage or price increase.
Business impacts include one or more of:	• sudden increase in defect rates • loss of supply of materials or components • loss or severe restriction of operational capability • loss of transport from process • increases in fuel energy costs • increases in the cost of finance/capital.
Performance includes one or more of:	• production volume • product quality • production cost • sustainability and similar measures as appropriate at the team level.
Response to minimise the impact of the non-conformance on the customer includes one or more of:	• supply from another source • production from other areas • agreements for reduced supply • agreements to accept different quality • short-term responses to cover immediate situation • different long and medium-term response • transition strategies where there are different strategies at different phases of the response.
Timing of responses include one or more	• implementation following initial containment/stabilisation of situation (e.g. where the non-conformance is a major incident,

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of:	such as a fire or loss of containment) • immediate initiation but delayed implementation (e.g. where the non-conformance is a breakdown of critical plant/equipment which will require repair/replacement before implementation) • immediate implementation (e.g. when the non-conformance does not prevent the response from starting or there is an alternative which bypasses the non-conformance).
Stakeholders include one or more of:	• work team members • value stream members • other stakeholders internal and external to the team/organisation who are impacted by the non-conformance.
Team leader includes one or more of:	• a person who has a formal, permanent role • a person who has an ad hoc role in facilitating the function of a team in a workplace.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407007A Respond to a major non-conformance

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407007 Respond to a major non-conformance

Modification History

Release 1. Supersedes and is equivalent to MSS407007A Respond to a major non-conformance

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to respond to one (1) or more simulated/'war gamed' major non-conformances and to:

- define the nature and extent of the non-conformance (from the information provided as part of the simulation)
- develop an appropriate, prioritised set of responses
- collect and disseminate relevant information to the stakeholders
- implement the response(s) to the non-conformance
- develop and simulate the implementation of a recovery plan
- debrief, capture learnings and make recommendations for improvements to responses.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to respond to a major non-conformance, including knowledge of:

- identification of non-conformances and their consequences
- prioritisation of business impacts based on key indicators, such as such as effect on error rates and defects, loss of or delay in supply of materials or components, loss or severe restriction of process capability, loss of transport from or to operational centre or process facility, unplanned increases in costs of materials or services, increases in the cost of finance/capital, and sudden change in regulatory requirements
- prioritisation of responses based on business and customer needs, such as customer requirements, the philosophies and strategies of the organisation, HSE requirements, delivery, statutory and contractual requirements
- negotiation methods
- dealing with stress.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- Assessment should use a simulated major non-conformance based on real/realistic incidents which have occurred in that or other industries. Assessment should be run using a 'war gaming' model where the simulated non-conformance has a defined start and additional information becomes available as the exercise progresses. This may be a 'desk top' exercise and is best run with the team of individuals who would need to respond and may occur in an 'incident room' or could be run using digital communication and information. The incident should be progressively elaborated as the exercise progresses, and may, or may not be completed within one day.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407008 Capture learning from daily activities in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS407008A Capture learning from daily activities in an organisation

Application

This unit of competency covers the skills and knowledge required to capture learning from the shop floor, suppliers and customers in order to contribute to a learning organisation.

This unit is intended for team leaders and people with a similar sphere of influence/scope of authority and responsibility. It applies to individuals who already have knowledge of competitive systems and practices, leading teams, analysing root cause and locking in improvements.

This unit takes a largely qualitative view of information and knowledge.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify potential learning opportunities**	1.1	Identify formal and informal opportunities for feedback from normal daily activities.
		1.2	Assess feedback for potential to lead to organisational learning.
		1.3	Identify opportunities for learning from abnormal events.
		1.4	Review communications with value stream members for learning opportunities.
2	**Extract learning from opportunities**	2.1	Review information gained from potential learning opportunities for relevance to performance improvement.
		2.2	Discuss potential for learning with stakeholders.
		2.3	Confirm additional knowledge/learning.
		2.4	Confirm methods for institutionalising learning/standardising.
3	**Capture and disseminate learning**	3.1	Identify methods of capturing and disseminating learning.
		3.2	Obtain required authorisations from appropriate people.
		3.3	Record learning according to organisation procedures.
		3.4	Communicate learning to relevant stakeholders.
		3.5	Ensure all relevant stakeholders are able to access and apply relevant knowledge/learning.
4	**Review use of learning**	4.1	Check learning is used in daily operations.
		4.2	Review use of learning and update in organisation knowledge system.

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4.3 Identify implications for training and procedures.

4.4 Recommend improvements to organisation knowledge system.

4.5 Confirm methods for institutionalising learning/standardising.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
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Opportunities for feedback include one or more of:	• tool box meetings • ad hoc discussions/meetings with team members, sales and marketing employees, other employees, value stream members, regulators and visitors • interviews • process/production records • quality records • plant equipment downtime/maintenance records.
Problem recognition and resolution includes one or more of:	• stopping operations or part of an operation • go and see (gemba walk in lean operations) • team/consensus problem solving • root cause analysis (RCA).
Records include systems which ensure knowledge:	• is not just retained by an individual • is available to others • survives beyond the departure of individual • has an allocated level of importance.
Stakeholders include one or more of:	• work team members • value stream members • supervisors.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407008A Capture learning from daily activities in an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407008 Capture learning from daily activities in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS407008A Capture learning from daily activities in an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more work areas/product families, to:

- recognise, extract and record learning from daily activities
- make and record ongoing additions to the organisation learning systems
- determine best means of communicating learning to stakeholders
- integrate learning with implementation of competitive systems and practices
- establish continuous improvement for the learning system.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to capture learning from daily activities, including knowledge of:

- competitive systems and practices tools
- organisational goals, strategies, operations and processes
- continuous improvement strategies and processes
- communication methods and media for a range of audiences
- root cause analysis (RCA)
- expected range of performance for operations and products
- types of knowledge capture and retrieval systems and their applicability.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where learning opportunities are identified leading to learning being captured from daily activities in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407009 Facilitate improvements in the external value stream

Modification History

Release 1. Supersedes and is equivalent to MSS407009A Facilitate improvements in the external value stream

Application

This unit of competency covers the skills and knowledge required to work with value stream members to improve the overall effectiveness of the value stream, so delivering greater value to the customer. It includes other organisations within the value stream/supply chain.

This unit applies to managers and team leaders with appropriate authority and others with similar authority and responsibility for working with value stream members outside their own organisation. The value streams are referred to as 'source-to-destination' value streams.

The unit includes the use of skills to resolve issues from one or more value stream members which impact on the overall ability of the value stream to continue to improve and offer better value to the customers. The improvement practices may (or may not) have been used previously within their own organisation, other teams and organisations within the value stream. The unit does not cover mapping or managing value streams.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish scope of value stream activity**	1.1	Identify key individuals within value stream organisations.
		1.2	Jointly identify possible areas of study.
		1.3	Agree on a protocol for undertaking value stream improvement activities.
		1.4	Confirm any special conditions of activity (e.g. confidentiality).
2	**Study possible value stream improvements**	2.1	Arrange meeting with suitable representatives of the value stream members.
		2.2	Agree on extent of current implementation of competitive systems and practices in value stream.
		2.3	Agree on opportunities for improvement and any current or anticipated restrictions.
		2.4	Work with value stream representatives to determine root cause of restrictions.
		2.5	Work with value stream member to identify possible solutions to problem.
		2.6	Define outcomes from any proposed changes.
3	**Develop a consensus approach to implementing improvements**	3.1	Determine benefits/costs to each value stream member from the proposed changes.
		3.2	Decide whether the proposed improvements will result in a perceived improvement to the end customer.
		3.3	Determine sustainability (social, ecology and economy) impacts as a result of the change.
		3.4	Agree on proposed change/program of changes with all key stakeholders.

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4	**Obtain required approvals**	4.1	Draft a formal proposal for the proposed changes.
		4.2	Submit proposal for all required approvals from stakeholders.
		4.3	Modify proposal, as required, in liaison with all key stakeholders.
		4.4	Obtain sign-off from all process/system owners.
5	**Measure and communicate gains**	5.1	Agree indicators/metrics of success of proposed changes.
		5.2	Make arrangements to collect necessary data.
		5.3	Make arrangements for the data to be analysed and presented in an agreed format to the agreed stakeholders.
		5.4	Agree on the communication plan.
		5.5	Liaise with stakeholders to implement changes as agreed and approved.
6	**Review change**	6.1	Analyse results of change.
		6.2	Identify areas where planned improvements have occurred.
		6.3	Take action to sustain improvement by standardising.
		6.4	Identify areas which have not met predicted outcome (positive or negative).
		6.5	Determine cause of target not being met.
		6.6	Take action to improve the value stream.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Change includes one or more of:	• plant, procedures or practice • logistics, communication systems (e.g. ordering, supplying and quality certification) • kanban/systems, SCADA supply/resupply systems across the chain • continuous improvement or an improvement event/project • intended to make an improvement or to implement new products, technology or systems • the implementation of a change.
Presentation of information includes one or	• visual displays, such as graphs (hard copy or digital) • written form, such as reports (hard copy or digital) • oral, such as one-on-one, small group or larger audience.

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more of:

Stakeholders include one or more of:	• work team members • value stream members • others who may be impacted by the value stream activities.
Results of change include one or more of:	• an initial improvement followed by a return to previous performance • a change which has resulted in continued improvement • continued detriment or other variations over time.
Improvements include one or more of:	• to process, plant, procedures or practice • changes to ensure positive benefits are maintained.
Techniques for sustaining improvement include one or more of:	• standard procedures and work instructions • standard practice • other relevant documents and practices.
Team leader includes one or more of:	• a person who has a formal, permanent role • a person who has an ad hoc role in facilitating the function of a team in a workplace.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407009A Facilitate improvements in the external value stream

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407009 Facilitate improvements in the external value stream

Modification History

Release 1. Supersedes and is equivalent to MSS407009A Facilitate improvements in the external value stream

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to work with members of one (1) or more value streams to facilitate improvements in the value stream and to:

- establish the scope of the activity
- identify possible improvements and define the benefits
- develop a consensus change/program of change
- obtain all required approvals and then measure and communicate gains from changes
- review changes and make further improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to facilitate improvements in the external value chain, including knowledge of:

- influence, persuasion and negotiation
- use of metrics to demonstrate benefit/cost ratios
- development of consensus
- competitive systems and practices tools and techniques relevant to value stream members
- regulatory issues which may arise from cooperation and how to avoid them
- value stream mapping and analysis.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria
- evidence of routine, day-to-day interaction with value stream members which together provides sufficient evidence

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- some combination of these.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real value stream engagement for an operational workplace/value stream.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS407010 Improve visual management in the workplace

Modification History

Release 1. Supersedes and is equivalent to MSS407010A Improve visual management in the workplace

Application

This unit of competency covers the skills and knowledge required to assess current visual management strategies and techniques in the workplace and improve the application of visual management strategies and techniques and their integration into the overall competitive improvement approach of the organisation.

This unit applies to improving an organisation's visual management in the workplace. The level of existing visual management is not required to be extensive for the unit to apply. This unit covers examining the workplace to determine the effectiveness of current visual management strategies and tools, the determination of additional/alternative visual management strategies and tools, and their integration into overall improvement strategies within the organisation.

The visual management may be applied to the whole organisation or a production area or a support area and can either be active visual management strategies, such as operator controlled status indicators, or passive, such as information boards or information islands containing production and other data, to give employees access to production, work health and safety (WHS), equipment availability or other data.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine current visual management activities and information needs**	1.1	Identify current visual management activities and provided information.
		1.2	Establish extent of linkage of visual management activities and provided information to other competitive systems and practices strategies and techniques.
		1.3	Identify problems and improvements which could be made.
		1.4	Determine root cause of problems.
		1.5	Determine visual management techniques and information needs for improvement to occur.
		1.6	Determine benefit which would accrue from improvement and cost of providing the information.
2	**Choose which things to display visually**	2.1	List all valuable information identified.
		2.2	Rank possible information based on benefit/cost or other agreed basis.
		2.3	Agree on the critical information and possible information sources which should be included in the visual management system.
		2.4	Negotiate the provision of this critical information to an adequate precision and in a timely manner.
3	**Choose display method**	3.1	Choose the most appropriate display method for each item of critical information.
		3.2	Determine the most appropriate location for the visual display of each item of critical information.
		3.3	Determine the appropriate source and approving authority for display information.
		3.4	Review the chosen information, information source, display method and location to ensure the right display

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			of the right information.
		3.5	Validate data/information as required by methodology.
4	**Review the results of visual management**	4.1	Review actual benefit gained and the actual cost of providing the information.
		4.2	Validate the appropriateness of the information provided for delivering the intended outcome.
		4.3	Initiate appropriate improvements to the visual management system.
		4.4	Follow through on improvement actions to ensure they are fully implemented.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)

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- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Methods for displaying information include one or more of:

- colour coding
- pictures/graphics
- kanban cards
- coloured lines
- signage
- labelling
- control boards
- area information boards
- gauges and dials
- checklists
- Gantt charts.

Where to display includes one or more of:

- at the machine or cell/on the plant or equipment (e.g. performance feedback and process conditions)
- at a workstation (e.g. work instructions)
- on a control panel
- centrally (e.g. general plant or team information)
- visible to all (e.g. Andon lights and HSE alarms).

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407010A Improve visual management in the workplace

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407010 Improve visual management in the workplace

Modification History

Release 1. Supersedes and is equivalent to MSS407010A Improve visual management in the workplace

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more production/support areas, to:

- assess current visual management displays, strategies and effectiveness
- determine visual management improvement strategy
- undertake visual management improvement
- implement (or initiate and follow through on the implementation of) the actions which flow from the visual management project
- examine the outcomes and identify improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to improve an organisation's visual management, including knowledge of:

- concept of value and value-add in terms of the customer
- understanding of the organisation's operations and processes subject to visual management
- visual management techniques
- visual management strategies to provide information to employees
- the application of visual management as part of the overall competitive improvement approach of the organisation.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where an operational workplace is examined to determine the effectiveness of the current visual management strategies and tools and determination made regarding integration of additional/alternative visual management strategies and tools.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS407011 Manage benchmarking studies

Modification History

Release 1. Supersedes and is equivalent to MSS407011A Manage benchmarking studies

Application

This unit of competency covers the skills and knowledge required to undertake benchmarking studies. It covers both performance and process benchmarking. It does not cover product or strategic benchmarking. The benchmarking may be used to find areas for improvement or to provide information as to how to make the improvements.

The benchmarking process would:

- decide the nature of the benchmarking to be undertaken
- collect the benchmarking data and information
- determine what actions to be taken based on the benchmarking
- take the required steps to have those actions implemented
- identify the ongoing nature of these benchmarking activities.

Benchmarking may be undertaken by a team or be largely the responsibility of an individual. This unit applies either to that individual or to a leader in the team. The benchmarking activity may use benchmarks which are derived either internally to the organisation or externally from the organisation although some degree of externality would be expected in most applications.

This unit does not require the statistical or financial analysis of data, but does require the interpretation and application of information derived from such analyses.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify nature of benchmarking activity**	1.1	Identify operations or area to be benchmarked.
		1.2	Determine the core set of benchmark measures required.
2	**Develop the benchmarking methodology**	2.1	Determine baseline in area of study for core measures.
		2.2	Confirm nature and source of data/information to be collected.
		2.3	Agree on likely suitable sources of benchmarking data/information.
		2.4	Confirm required survey methodology.
3	**Conduct benchmarking survey**	3.1	Establish required communication channels for survey.
		3.2	Obtain required data/information.
		3.3	Validate data/information as required by methodology.
4	**Apply results of benchmarking**	4.1	Interpret the analysed results of the survey.
		4.2	Agree required improvement actions resulting from the survey.
		4.3	Analyse sustainability (social, ecology and economic) implications from proposed actions.
		4.4	Modify proposed actions, as required, to ensure they are at least sustainability neutral.
		4.5	Initiate the implementation of the improvement actions.
		4.6	Follow through on improvement actions to ensure they are fully implemented.

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5	**Improve the benchmarking process**	5.1	Analyse the benchmarking process just undertaken.
		5.2	Analyse the changes which have resulted from the benchmarking.
		5.3	Identify areas for improvement.
		5.4	Agree ways of improving future benchmarking activities.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Sources of benchmarking data include one or more of:	• other relevant areas within the same organisation • external organisations in a similar market/with similar processes • external organisations recognised as a leader in the process/activity under study • benchmarking consultancies offering access to relevant data/information/organisations.
Methods to determine operations or areas to be benchmarked include one or more of:	• previous benchmarking study • identification by other studies or processes of area of need • informal conversations with customers, employees or suppliers • exploratory research techniques such as focus groups • in-depth marketing research, quantitative research, surveys, questionnaires, engineering analysis, process mapping, quality control variance reports, or financial ratio analysis.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407011A Manage benchmarking studies

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407011 Manage benchmarking studies

Modification History

Release 1. Supersedes and is equivalent to MSS407011A Manage benchmarking studies

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to manage one (1) or more benchmarking studies and to:

- identify the nature of the benchmarking
- develop an appropriate methodology
- conduct the benchmarking study
- apply the results
- improve the benchmarking process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage a benchmarking study, including knowledge of:

- benchmarking methodologies and protocols
- interpretation of data
- key variables indicating the organisation's performance
- legal and ethical, intellectual property issues with benchmarking and obtaining and using data
- performance vs. process benchmarking
- criterion referenced vs. normative referenced vs qualitative benchmarking
- measurable data vs. useful information
- validity and validation of benchmarking data
- application of benchmarking to balanced Scorecard approaches.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real benchmarking project for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407014 Prepare for and implement change

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to establish the preconditions for the implementation of a change, such as a 'step change' or a change resulting from a problem-solving exercise, such as a kaizen blitz. This unit applies to a desired change that has already been identified.

The unit applies to subsections of an organisation, such as a team, area or department, or a small or medium sized enterprise (SME). This unit may also be applied in service organisations applying competitive systems and practices principles.

This unit applies to team leaders or managers with influence, authority and responsibility over change processes.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Define the change**	1.1	Determine the purpose of the change
		1.2	Identify key change project personnel

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Record the current state that the change is addressing
		1.4	Develop a consensus view of the intended future state, including indicators of a successful change
		1.5	Develop an agreed statement of the solution
		1.6	Identify the health, safety and environment (HSE) impacts of the change
		1.7	Determine the scope of the change project, including the impact of the solution on any codes of practice, standards, contracts and commercial or industrial agreements
		1.8	Obtain sign-off from key change project personnel
2	**Identify personnel required to implement the change and their roles**	2.1	Develop a high level change network map
		2.2	Identify employees, suppliers or customers who may be required to implement the change
		2.3	Identify other demands on these people during the change
		2.4	Investigate priorities, synergies and conflicts
		2.5	Resolve conflicts impacting implementation
3	**Assess and manage the change related risks**	3.1	Identify organisational capacity for the change, including available resources and ability to absorb any disruption during the change
		3.2	Clarify specific risk dimensions for this change
		3.3	Develop transition approach
4	**Build and write high level change**	4.1	Develop high level involvement plan
		4.2	Develop high level stakeholder communication plan

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	plans	4.3 Develop high level competency development plan for all implementers
		4.4 Develop high level alignment plan
5	**Implement and sustain the change**	5.1 Implement change plans and monitor to confirm change objectives have been met
		5.2 Transfer ownership of post-change operations from change agents
		5.3 Ensure support structures are in place
		5.4 Check alignments have been obtained
		5.5 Check competencies have been developed and will be maintained
		5.6 Ensure base line is defined for continuous improvement
		5.7 Review project and capture learning from the project
		5.8 Sustain improvement by standardising

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407001 Prepare for and implement change.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407014 Prepare for and implement change

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- planned for and implemented change for at least 1 already identified change in an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- competitive systems and practices principles
- change management and high level change plans
- high level change network
- key change personnel
- organisation change capacity
- specific risk dimensions
- transition approach to change
- methods of determining competency gaps in team members
- project planning and management.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407015 Build relationships between teams in an operations environment

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to develop respect and trust between individuals, teams, supervisors and management to develop a suitable culture for implementing and sustaining competitive systems and practices initiatives. This includes developing a 'whole of value stream' view so that there is not competition between individuals or teams, but rather cooperation to achieve organisation and value stream goals with competition being directed towards other organisations competing in the marketplace.

This unit applies to team leaders or managers with influence, authority and responsibility over teams and who have a role in assisting with implementing an organisation competitive systems and practices culture.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify organisational**	1.1	Map actual and intended process flows within and between teams

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	relationships	1.2	Map actual and intended communication, information and data flows within and between teams
		1.3	Identify and map other interactions (actual and intended) within and between teams
		1.4	Determine the consequences in terms of customer benefit of intended flows and interactions
		1.5	Determine the consequences in terms of customer benefit of the actual flows and interactions
2	**Foster cooperation within team**	2.1	Present relationships information to team members
		2.2	Discuss areas where greater cooperation would yield benefits
		2.3	Agree on ways to achieve greater cooperation in these areas
		2.4	Facilitate team implementation of agreed changes
3	**Foster cooperation between teams**	3.1	Present relationships information to teams and team representatives
		3.2	Discuss areas where greater cooperation would yield benefits
		3.3	Agree on ways to achieve greater cooperation in these areas
		3.4	Obtain approvals for proposed changes
		3.5	Facilitate implementation by teams of agreed changes
4	**Identify sources of tension, conflict or competition**	4.1	Examine team and individual key performance indicators (KPIs) for sources of conflict and competition
		4.2	Examine flows and interactions for sources of conflict and competition

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	4.3	Observe interactions between team members and identify tensions, conflicts and competition
	4.4	Observe interactions between teams and identify tensions, conflicts and competition
	4.5	Observe response to change and resistance to change
5 **Reduce causes of tension, conflict or competition**	5.1	Draft modified KPIs to reduce causes of conflict and competition
	5.2	Draft modified systems causing conflicting flows and interactions
	5.3	Facilitate discussions within and between teams to identify causes of tensions, conflicts and competition
	5.4	Facilitate discussions to develop a consensus solution to identified causes of tensions, conflicts and competition
	5.5	Obtain any required approvals for suggested and drafted changes
	5.6	Facilitate the implementation of the agreed solutions
	5.7	Monitor implementation and take actions to ensure agreed changes become standard practice

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407006 Build relationships between teams in an operations environment.

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Assessment Requirements for MSS407015 Build relationships between teams in an operations environment

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- critically examined and mapped relationships within and between downstream, upstream and support teams for at least 1 organisation
- identified sources of conflict, tensions and competitions and developed, implemented and monitored at least 1 consensus solution.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- competitive systems and practices principles, strategies and techniques
- organisational goals, products and processes
- types of KPIs, their applications and limits
- approval processes within organisation
- communication methods across a variety of media and formats, including preparation of formal proposals and negotiations
- continuous improvement
- process mapping, communication and people interaction mapping
- customer perception of value.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407016 Lead a process to determine and solve root cause for a complex problem

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to guide or lead a problem-solving process to solve complex and/or unusual problems. The problem-solving process will usually involve the use of either real or nominal groups to determine the root cause and propose the solution.

This unit applies to managers and/or technical experts who are confronted by complex problems to which they need to develop a solution. The problem may be related to any area or process within the organisation or in the value stream and may have been formally presented to the individual for consideration or arise as part of other work.

The person may or may not have the required technical expertise for the particular problem, although the problem will require technical expertise to be solved. The problem may be capable of being adequately defined at the beginning of the problem solving activity, or may be progressively defined through continued iterations of the problem-solving activity.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Recognise complex problem**	1.1	Identify a complex issue which needs to be addressed
		1.2	Undertake an initial investigation of the issue
		1.3	Determine initial areas of expertise and data which may be required to analyse the problem
		1.4	Write an initial definition of the problem
2	**Develop problem-solving methodology**	2.1	Draft a problem-solving methodology
		2.2	Develop required approaches and protocols for obtaining required data and information
		2.3	Establish group to assist with problem solving
		2.4	Allocate tasks, responsibilities and reporting arrangements to group
		2.5	Develop arrangements for consultation with required people outside of group
3	**Analyse problem**	3.1	Apply methodology
		3.2	Obtain data and information
		3.3	Review problem definition
		3.4	Review methodology
		3.5	Obtain additional data and information
4	**Identify root cause**	4.1	Map causal links for the problem
		4.2	Determine indicators of the problem or the problem precursors
		4.3	Identify causes which can be controlled
5	**Develop a**	5.1	Develop solutions for controllable causes

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	solution	5.2 Determine cost benefit for proposed solutions
		5.3 Investigate proposed solutions for efficacy
		5.4 Select the best available solution
		5.5 Obtain support and authorisations for proposed solution
6	**Check problem is solved and standardised**	6.1 Monitor indicators of problem and problem precursor
		6.2 Review problem solution and implementation
		6.3 Confirm solution is standardised

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407012 Lead a process to determine and solve root cause for a complex problem.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407016 Lead a process to determine and solve root cause for a complex problem

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- led a process to determine and solve root cause for at least 1 complex problem.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisational goals, products and processes
- sources of data (actual and possible) within the organisation and the value stream
- techniques and methodologies of formal problem solving
- data required for problem solving and alternative or proxy data sources
- cost benefit analysis
- strategies for facilitation of real groups (physical and face to face) and nominal groups (never meets and may not know each other).

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS407017 Review continuous improvement processes

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge required to undertake the local level review and further development of an existing continuous improvement (kaizen) process.

This unit applies to team leaders or managers with influence, authority and responsibility over teams and who have a role in leading improvement processes in a competitive systems and practices environment.

This unit applies to the review of existing continuous improvement processes in a team, area or department environment, or a small or medium sized enterprise.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Review continuous improvement practice**	1.1	Review performance against current key performance indicators (KPIs)
		1.2	Review KPIs for ongoing relevance
		1.3	Review current state of continuous improvement

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			processes
		1.4	Audit sustainability (social, ecological and economic) changes resulting from continuous improvement activity
		1.5	Analyse problems to determine root cause
		1.6	Identify areas for improvement to KPIs and continuous improvement processes
2	**Develop plan for enhancing improvement processes**	2.1	Prioritise areas requiring action
		2.2	Develop solutions, including taking into account the impact of the solution on any codes of practice, standards, contracts and commercial or industrial agreements
		2.3	Discuss solutions and implications with stakeholders
		2.4	Compare outcomes from solutions to competitive systems and practices philosophy
		2.5	Choose actions which are most compatible with competitive philosophy
		2.6	Draft implementation plan for chosen action
		2.7	Obtain required approvals and modify plan
3	**Implement enhanced improvement process**	3.1	Communicate changes to improvement processes to team members
		3.2	Resolve issues and problems identified by team members
		3.3	Obtain sign-off from process or system owner
		3.4	Arrange for skills development to implement improvement processes
		3.5	Arrange for required resources to be available
		3.6	Establish and implement KPIs for modified continuous

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	improvement process
	3.7 Implement planned changes
	3.8 Check the planned improvements have occurred
	3.9 Take action to sustain improvement by standardising

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407013 Review continuous improvement processes.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS407017 Review continuous improvement processes

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- reviewed continuous improvement (kaizen) processes of at least 1 of the following:
  - team
  - area or department environment
  - or a small or medium sized enterprise.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- kaizen processes and their implementation
- KPIs, their relevance, contributions and distinction between KPIs leading to suboptimal performance and those optimising the whole, including their:
  - appropriateness
  - currency
  - unintended consequences
  - signal and noise
- bases for comparing outcomes of solutions
- resource considerations
- competitive systems and practices tools relevant to the organisation and the processes
- legislation, regulation, codes of practice, contracts for work role
- sustainability principles relevant to the process
- influence, persuasion and negotiation methods.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSS408001 Develop the competitive systems and practices approach

Modification History

Release 1. Supersedes and is equivalent to MSS408001A Develop the competitive systems and practices approach

Application

This unit of competency covers the skills and knowledge required to take a strategic view and further develop the organisation's competitive systems and practices philosophies and approaches.

This unit applies to organisation leaders and is intended for managers and people with a similar sphere of influence and scope of authority and responsibility. It is a global unit covering the analysis and further development of the overall competitive systems and practices approach adopted by an organisation to ensure that the development fits with customer and other value stream member requirements.

The unit applies to individuals who are familiar with competitive systems and practices as applied at an organisational level.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse organisation's current competitive systems and practices approach**	1.1	Identify the organisation's competitive advantages and weaknesses.
		1.2	Identify current sustainability (social, ecological and economic) profile.
		1.3	Determine current competitive systems and practices/proactive maintenance strategy and analyse for consistency of application across organisation.
		1.4	Compare the strategy to current competitive needs.
		1.5	Determine potential changes which might impact on competitive systems and practices strategy.
		1.6	Identify areas where improvement is necessary.
		1.7	Discuss potential improvement areas with relevant managers.
2	**Analyse fit with value stream**	2.1	Review value stream map against current competitive and strategic position.
		2.2	Determine the impact of changes which have occurred.
		2.3	Identify areas where improvement is necessary.
3	**Review and modify the competitive systems and practices approach**	3.1	Determine required strategy changes.
		3.2	Negotiate changes with relevant stakeholders.
		3.3	Develop an agreed revised strategy.
		3.4	Develop an agreed implementation plan.
		3.5	Obtain support from process/system owners.
		3.6	Manage the development of cascading tactical implementation plans.

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4	**Implement modified strategy**	4.1	Obtain necessary permissions and authorities.
		4.2	Monitor the implementation of the modified strategy and tactical plans.
		4.3	Take required actions to achieve planned outcomes.
		4.4	Check that planned improvements have occurred.
		4.5	Take action to sustain improvement by standardising.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Organisation includes one or more of:	• any part of an operations or service organisation • companies, government bodies or other body of people aiming to produce a product to service a customer.
Techniques for sustaining improvement include one or more of:	• standard procedures and work instructions • standard practice • other relevant documents and practices.
Manager includes one or more of:	• a person who has a formal, permanent position • a person who has an ad hoc role in facilitating the function of multiple teams in a workplace, departments or entire organisations.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408001A Develop the competitive systems and practices approach

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS408001 Develop the competitive systems and practices approach

Modification History

Release 1. Supersedes and is equivalent to MSS408001A Develop the competitive systems and practices approach

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop the competitive systems and practices of an organisation on one (1) or more occasions and to:

- analyse the current competitive systems and practices approach and its fit within the value stream
- determine an improvement strategy and manage its implementation
- monitor the implementation, check improvements have been achieved and are sustained by being standardised.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop the competitive systems and practices approach for an organisation, including knowledge of:

- competitive systems and practices tools relevant for the organisation
- kaizen and kaizen blitz processes
- influence, persuasion and negotiation methods
- use of value stream maps and value stream concepts
- current state and future state maps.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real activity developing competitive systems and practices for an organisation's operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS408002 Audit the use of competitive tools

Modification History

Release 1. Supersedes and is equivalent to MSS408002A Audit the use of competitive tools

Application

This unit of competency covers the skills and knowledge required to audit the use of competitive systems and practices tools, modify a tool or its application and change the mix of tools used as appropriate. It also covers changing the emphasis and culture away from the use of competitive systems and practices tools as the main focus to taking a whole of enterprise approach with the tools being seen as supporting measures to strategic goals.

This unit is intended for managers and people with a similar sphere of influence and scope of authority and responsibility. It is focused on auditing the practice of competitive systems and practices and implementing changes identified through the audit.

The unit includes monitoring workplace practice and the application of selected tools and taking action to ensure progress is continuing towards the desired future state. It applies to individuals who are familiar with competitive systems and practices and with a broad range of competitive tools with depth in a moderate range of tools.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish systems to monitor progress towards becoming competitive**	1.1	Determine agreed indicators of progress towards desired future state.
		1.2	Establish contribution to future state indicators by internal and external value stream contributors.
		1.3	Capture information showing progress towards desired future state.
		1.4	Analyse information to determine continued progress towards desired future state.
		1.5	Ensure there are systems which allow monitoring to proceed routinely.
2	**Identify areas of operations practice to improve in consultation with work teams and other employees**	2.1	Identify work teams, areas and value stream members which could be making better progress towards desired future state.
		2.2	Examine competitive tools being used and their contribution towards progress.
		2.3	Examine other work practices and their contribution towards progress.
		2.4	Manage required stakeholder consultations.
		2.5	Agree on the cause or causes of progress which is not to plan.
		2.6	Determine appropriate competitive tools use to improve progress.
		2.7	Develop an implementation plan.
3	**Facilitate the improvement to operations practice across**	3.1	Obtain support and necessary approvals from process/system owners.
		3.2	Arrange for the introduction of new tools or modifications to existing tool practice as required.

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the organisation	3.3	Arrange for skills and other infrastructure development, as required.
	3.4	Consult with stakeholders, including value stream members, about the impact of these changes.
	3.5	Manage implementation of proposed changes to tools use.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

Competitive systems and practices may include, but are not limited to:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Future state includes one or more of:	• process reliability • waste • health, safety and environment (HSE) • maintenance • systems.
Organisation includes:	• any part of an operations or service organisation • companies, government bodies or other body of people aiming to produce a product to service a customer.
Improvements include one or more of:	• the use of different or additional tools • the application of the current tools in use in a different way • a change of emphasis from 'tools' to an accepted part of the organisation's culture.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408002A Audit the use of competitive tools

Links

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Assessment Requirements for MSS408002 Audit the use of competitive tools

Modification History

Release 1. Supersedes and is equivalent to MSS408002A Audit the use of competitive tools

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more workplaces/departments/sections, to:

- critically examine existing operations and determine correlations to implementation of competitive systems and practices tools
- supervise introduction of new tools or modification of the use of existing tools
- integrate tools with the overall operations strategy and future state.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to audit the use of competitive tools, including knowledge of:

- competitive systems and practices at both a strategic and tools level
- best practice in implementation of competitive systems and practices tools
- customer benefit as used in competitive systems and practices
- ways of determining competency gaps that may act as restrictions in achieving best practice in operations
- define, measure, analyse, improve and control (DMAIC) process applied to competitive systems and practices tool use
- organisation desired future state in both quantitative and qualitative terms
- how to measure progress towards desired future state
- formal problem solving tools, including root cause analysis (RCA).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where auditing the practice of competitive systems and practices and implementing changes identified through the audit occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS408003 Develop models of future state operations practice

Modification History

Release 1. Supersedes and is equivalent to MSS408003A Develop models of future state operations practice

Application

This unit of competency covers the skills and knowledge required to establish processes for identifying future state models of best practice for operations that are then used as the template for both strategic decision making and goal setting. It may be applied to whole organisations or significant sections of the value stream.

This unit applies in an environment where operations practices are standardised and there is a culture that accepts sustaining improvements and building on them. It is intended for managers and people with a similar sphere of influence.

This unit applies to individuals who are familiar with competitive systems and practices, value stream mapping and culture improvement.

This unit may also be applied to non-production areas and service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop a shared future state model**	1.1	Establish an appropriate representative team.
		1.2	Analyse a value stream map of an appropriate section of the value stream.
		1.3	Determine the current state of practice across the value stream.
		1.4	Identify overall organisation strategy, direction and competitive systems and practices philosophy.
		1.5	Validate view with process/system owner.
2	**Develop and review a collaborative best practice model**	2.1	Develop a future state model of practice.
		2.2	Review model with process/system owners and other stakeholders across the value stream as appropriate.
		2.3	Modify model to deliver better results for the customer and reduce muda.
		2.4	Develop implementation plan in consultation with stakeholders.
3	**Provide the resources necessary to move to the future state**	3.1	Identify changes required to infrastructure.
		3.2	Determine benefit/cost for required changes.
		3.3	Prioritise required changes.
		3.4	Obtain required authorisations.
		3.5	Facilitate the provision of resources needed to implement plan.
4	**Review future state model**	4.1	Manage the implementation of improvements.
		4.2	Identify measures of progress towards agreed future state.

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4.3 Review progress towards future state.

4.4 Agree methods of improving areas which could progress better.

4.5 Agree on methods for evaluating future state.

4.6 Validate measures and methods with relevant managers.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures

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	• current reality tree.
Organisation includes one or more of:	• any part of a manufacturing or service organisation • companies, government bodies or other body of people aiming to produce a product to service a customer.
Representative team includes members from one or more of:	• the value stream representing key parts of that chain • inside the organisation • outside the organisation.
Infrastructure includes consideration of all of:	• policies and procedures • plant and equipment • materials, energy, utilities and other consumables • workforce arrangements, including employee numbers, organisation structure, competencies and competency mix.
The purpose(s) of the future state model of practice includes consideration of all of:	• the required organisation strategy and philosophy • the direction of improvements and actions • forecasts of key indicators.
Measures of progress include one or more of:	• metrics and other indicators defined and agreed before the commencement of implementation • metrics which provide feedback on the progress towards the future state.
Manager includes one or more of:	• a person who has a formal, permanent position • a person with an ad hoc role in facilitating the function of multiple teams in a workplace, departments or entire organisations.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408003A Develop models of future state operations practice

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS408003 Develop models of future state operations practice

Modification History

Release 1. Supersedes and is equivalent to MSS408003A Develop models of future state operations practice

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop one (1) or more models of future state operations practice and to:

- develop a shared future state model
- develop a collaborative best practice model
- facilitate the provision of resources allowing for the implementation of the improvement
- review progress towards the future state.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop models of future state operations practice, including knowledge of:

- key indications of current position or progress towards the future state, such as output quantities and qualities, variability in quality and quantity, uptime, investment hurdle rates and actual rates of return, sustainability indicators, reliability indicators, other key performance indicators (KPIs) appropriate to the organisation and its technology and processes
- value stream mapping and analysis
- types of muda (waste), causes and costs
- competitive systems and practices tools relevant to the organisation and process
- techniques for creating and evaluating future state models.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real activity developing models of future state operations practice for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS408004 Develop the value stream

Modification History

Release 1. Supersedes and is equivalent to MSS408004A Develop the value stream

Application

This unit of competency covers the skills and knowledge required to develop or further develop a positive relationship with all value stream members so that they can work cooperatively to their mutual benefit and so deliver better value for the customer.

The unit applies to managers and people with a similar sphere of influence and scope of authority and responsibility who are responsible for the further development of the value stream. Individuals completing this unit should be familiar with competitive systems and practices, value stream mapping and have an ability to relate to personnel in external organisations.

This unit applies where the value stream has been analysed and mapped and is already being managed. This unit is more about the relationships along the value stream than the direct flow of value, materials or goods. All value stream members are potentially covered.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Review relationship with value stream members**	1.1	Identify areas which could be improved.
		1.2	Develop position of own organisation with regard to these areas.
		1.3	Discuss areas of interest (within relevant regulatory framework) with relevant value stream personnel and develop position of own organisation with regard to any issues raised.
		1.4	Develop an agreed list of areas for action.
		1.5	Validate list with own management.
		1.6	Agree on a framework for progressing agreed list.
2	**Manage changes**	2.1	Take required actions within own organisation to implement changes.
		2.2	Monitor progress of changes within own organisation.
		2.3	Take required actions to ensure changes achieve their objective.
		2.4	Monitor changes across value stream and their impacts.
		2.5	Provide appropriate assistance to value stream members implementing agreed changes.
3	**Manage ongoing relationship with value stream members**	3.1	Undertake regular review of value stream relationships.
		3.2	Review benefits obtained and costs incurred by value stream members.
		3.3	Review benefits obtained by customer/value stream as a whole.
		3.4	Optimise benefit/cost distributions and ratios across the value stream.
		3.5	Explore areas of mutual benefit.

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3.6 Analyse value stream synergies and conflicts.

3.7 Develop approaches to maximise customer benefit flowing from the value stream.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Stages where value	• sales outlet/representative

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stream actions may occur includes one or more of:	• information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.
Change includes one or more of:	• to plant, procedures or practice • continuous improvement (or an improvement event/project) • intended to make an improvement or to implement new products, technology or systems • the implementation of a change.
Formats for presentation of information include one or more of:	• graphs or other appropriate visual forms • written (words) in hard copy or digital form • oral (individually, in groups or larger audiences).
Stakeholders include one or more of:	• work team members, • value stream members • other stakeholders likely to be impacted.
Results of change include one or more of:	• an initial improvement followed by a return to previous performance • a change which has resulted in continued improvement • continued detriment or other variations over time.
Improvements include one or more of:	• to process, plant, products, procedures or practice • changes to ensure positive benefits are maintained.
Manager includes one or more of:	• a person who has a formal, permanent position • a person who has an ad hoc role in facilitating the function of multiple teams in a workplace, departments or entire organisations.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408004A Develop the value stream

Links

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Assessment Requirements for MSS408004 Develop the value stream

Modification History

Release 1. Supersedes and is equivalent to MSS408004A Develop the value stream

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop one (1) or more value streams and to:

- review current relationship with value stream members
- develop an agreed list of improvements
- manage the changes as they are made to the relationships
- manage the ongoing relationship with value stream members.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop value steam relationships, including knowledge of:

- influence, persuasion and negotiation techniques
- competitive systems and practices tools relevant to the value steam
- benefit/cost analysis techniques
- effective communication techniques across the value stream
- legislative and regulatory issues associated with working along the value stream.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence should use one or more of:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria
  - evidence of routine, day-to-day interaction with value stream members which together provides sufficient evidence
  - some combination of these.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real value stream engagement for an operational workplace/value stream.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS408005 Develop knowledge systems and learning processes for an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS408005A Develop the learning processes of the operations organisation

Application

This unit of competency covers the skills and knowledge required to ensure that knowledge relevant to performance improvement and the meeting of customer requirements is gathered, applied and retained by the organisation and individuals. This unit focuses on the processes in an organisation for extracting learning as it appears, capturing it in a manner which makes it available for future use and applying it to work.

The unit is intended for managers and people with a similar sphere of influence and scope of authority and responsibility who are familiar with competitive systems and practices and workplace learning.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	Identify processes generating new knowledge	1.1	Identify any existing systems for organisational learning.
		1.2	Encourage the open discussion of current performance and problems.
		1.3	Facilitate consensus problem solving.
		1.4	Ensure both qualitative and quantitative knowledge are captured.
		1.5	Validate findings with relevant managers.
2	Develop knowledge capture and retrieval systems	2.1	Obtain required approvals.
		2.2	Provide useable systems for recording of problems, causes and solutions.
		2.3	Facilitate the extraction of knowledge from records.
		2.4	Ensure all project work captures generated knowledge.
		2.5	Ensure knowledge is in a form able to be applied by the organisation and its personnel.
		2.6	Develop knowledge storage and retrieval systems.
		2.7	Monitor knowledge capture system use and suitability.
3	Improve the application of organisational knowledge	3.1	Ensure knowledge is distributed to and available where needed.
		3.2	Ensure knowledge system is part of standard procedures and practices.
		3.3	Encourage the routine use of the knowledge system.
		3.4	Facilitate open discussion of knowledge and knowledge system.
		3.5	Identify inhibitors to greater use of knowledge.
		3.6	Take actions to improve application of organisational knowledge.

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4	Evaluate and improve learning processes	4.1	Review use of knowledge system.
		4.2	Evaluate benefits obtained from knowledge system.
		4.3	Identify areas where the knowledge system is not being fully utilised.
		4.4	Identify areas where greater benefits could be obtained from the knowledge system.
		4.5	Discuss areas of possible improvements with relevant managers and other stakeholders.
		4.6	Develop consensus improvement plans for the knowledge system.
		4.7	Obtain required approvals.
		4.8	Train personnel, as required, to improve use.
		4.9	Implement improvement plans.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems

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- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408005A Develop the learning processes of the operations organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS408005 Develop knowledge systems and learning processes for an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS408005A Develop the learning processes of the operations organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or department/section, to:

- review knowledge system and learning process across the organisation
- relate learning processes to implementation of competitive systems and practices
- identify components of current knowledge system that require improvement
- develop improvements to current knowledge/learning system, including setting of system metrics
- manage implementation of improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop knowledge systems and learning processes, including knowledge of:

- competitive systems and practices principles and tools
- organisational goals strategies, operations and processes
- approval processes within organisation
- cost/benefit analysis methods
- methods of determining the impact of a change
- communication methods and media for a range of audiences
- customer perception of value
- reward systems
- learning and knowledge management systems.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where knowledge relevant to performance improvement and the meeting of customer requirements is gathered, applied and retained in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS408006 Develop and refine systems for improvement in operations

Modification History

Release 1. Supersedes and is equivalent to MSS408006A Develop and refine systems for continuous improvement in operations

Application

This unit of competency covers the skills, knowledge and processes required to ensure that continuous improvement systems do not stultify and continue to improve along with other operational systems in an organisation. This unit is about improving the process yield/unit of effort or cost, reducing process variation and increasing process reliability, upgrading, enhancing or refining process outputs, and includes developing a culture of reviewing and sustaining change ensuring improvements are maintained and built on.

This unit applies to managers and people with a similar sphere of influence and scope of authority and responsibility and who are familiar with competitive systems and practices, continuous improvement and locking in improvements.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish parameters of current internal improvement systems**	1.1	Describe organisation systems that impact on continuous improvement.
		1.2	Identify current relevant metrics and their values.
		1.3	Check that metrics are collected for all improvements.
		1.4	Determine yield of current improvement processes.
		1.5	Review results of improvements.
2	**Distinguish kaizen blitz processes**	2.1	Identify all improvements which have occurred over an agreed period of time.
		2.2	Distinguish between kaizen blitz (breakthrough improvements) and kaizen (continuous improvements).
		2.3	Determine the timing of kaizen blitz breakthrough improvement processes.
		2.4	Analyse factors controlling the timing and selection of kaizen blitz.
		2.5	Analyse kaizen to identify cases where kaizen blitz were required.
		2.6	Validate findings with process/system owners and obtain required approvals.
		2.7	Improve timing/selection of kaizen blitz.
		2.8	Improve other factors limiting the gains from kaizen blitz.
3	**Develop kaizen practice**	3.1	Check that levels of delegated authority and responsibility are appropriate for kaizen from the shop floor.
		3.2	Ensure all personnel have appropriate capabilities for kaizen processes.

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		3.3	Ensure personnel and systems recognise potential kaizen blitz projects.
		3.4	Ensure sufficient resources are available for the operation of kaizen and kaizen blitz processes.
		3.5	Check that relevant information flows from improvement changes to all required areas and stakeholders.
		3.6	Check data collection and metrics analysis capture changes which result from improvement actions.
		3.7	Check that improvement changes are standardised and sustained.
		3.8	Check review processes for routine kaizen.
		3.9	Remove or change factors limiting gains from improvements.
		3.10	Modify systems to ensure appropriate possible changes are referred to other improvement processes.
		3.11	Institutionalise improvement.
4	**Establish parameters of current external improvement systems**	4.1	Review value stream systems that impact on improvement.
		4.2	Review procedures for deciding improvement methodologies.
		4.3	Identify current relevant metrics and their values, as appropriate.
		4.4	Determine yield of current improvement processes.
		4.5	Review results of improvements.
5	**Explore opportunities for further development of value stream improvement**	5.1	Review mechanisms for consultation with value stream members.
		5.2	Develop mechanisms for further improving joint problem solving.
		5.3	Develop mechanisms for increased sharing of

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	processes		organisational knowledge.
		5.4	Obtain support and necessary authorisations from process/system owners.
		5.5	Capture and standardise improvements.
		5.6	Improve factors limiting gains from kaizen.
6	**Review systems for compatibility with improvement strategy**	6.1	Review all systems which impact or are impacted on improvements and the improvement system.
		6.2	Analyse relationships between improvement systems and other relevant systems.
		6.3	Analyse practices caused by and results from the systems.
		6.4	Negotiate changes to the systems to improve the outcomes from improvement systems.
		6.5	Obtain necessary approvals to implement changes.
		6.6	Monitor the implementation of the changes.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more	• lean operations • agile operations • preventative and predictive maintenance approaches

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of:	• statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Organisation systems include one or more of:	• problem recognition and solving • operational/process improvement • improvement projects • product/process design and development • processes for making incremental improvements.
Relevant metrics to determine the performance of the improvement system include one or more of:	• hurdle rates for new investments • KPIs for existing processes • quality statistics • delivery timing and quantity statistics • process/equipment reliability (‘uptime’) • incident and non-conformance reports • complaints, returns and rejects.
Resources for improvement include the consideration of all of:	• improvement budget • guidelines for trialling of possible improvements • mechanism for approvals for possible improvements • business case guidelines for proposed improvements • indicators of success of proposed improvement • mechanisms for tracking and evaluation of changes • forum for the open discussion of the results of the implementation • mechanisms for the examination of the improvement for additional improvements

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	• organisation systems to sustain beneficial changes.
Capturing value stream improvements includes one or more of:	• revised contractual arrangements • revised specifications • signed agreements • other documented arrangements which formalise the raised base line.
Systems impact/are impacted on improvements include one or more of:	• office • purchasing • rewards (individual or team at all levels) • sales • marketing • maintenance • process/product • transport and logistics.
Organisational knowledge includes one or more forms of information which is:	• quantified or otherwise modified to make its outcomes measurable or observable • expressed in an accessible and distributable form appropriate to the organisation operations and stakeholders.
Improvements include one or more of:	• process, plant, procedures or practice • changes to ensure positive benefits to stakeholders are maintained.
Manager includes one or more of:	• a person who may has a formal, permanent position • a person who has an ad hoc role in facilitating the function of multiple teams in a workplace, departments or entire organisations.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408006A Develop and refine systems for continuous improvement in operations

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS408006 Develop and refine systems for improvement in operations

Modification History

Release 1. Supersedes and is equivalent to MSS408006A Develop and refine systems for continuous improvement in operations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to develop improvement systems for one (1) or more processes or systems and to:

- review current improvements and improvement processes
- improve the practice of kaizen and kaizen blitz
- explore opportunities for improvement to improvement processes along the value stream
- take steps to improve the outcomes from improvement systems.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to apply and improve the use of improvement systems, including knowledge of:

- distinction between and complementarity of kaizen and kaizen blitz
- influence, persuasion and negotiation techniques
- competitive systems and practices tools relevant to the process/system and value stream
- methods for the evaluation of the success of change.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence should use one or more of:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria
  - evidence of routine, day-to-day use of kaizen and kaizen blitz which together provides sufficient evidence
  - some combination of these.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real evidence from real kaizen and kaizen blitz outcomes for an operational workplace/value stream.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS408007 Develop problem solving capability of an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS408007A Develop problem solving capability of an organisation

Application

This unit of competency covers the skills and knowledge required to develop problem solving skills of individuals within an organisation and as a consequence the problem solving capability of the organisation as a whole. The unit does not supply the skills to undertake formal problem solving on individual problems.

This unit is intended for organisation leaders/managers and people with a similar sphere of influence and scope of authority and responsibility. It applies where problem solving is already routine in the organisation and improving individual and organisational problem solving capability has been accepted as part of the organisation's improvement processes.

The unit applies to individuals who are already familiar with formal problem solving processes.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Develop an appropriate organisational framework**	1.1 Determine or review available problem finding strategies in the organisation.
		1.2 Analyse the current selection and application of problem solving tools and gauge effectiveness.
		1.3 Determine preferred problem solving strategies for the organisation.
		1.4 Determine or review the desired outcomes from use of selected problem solving strategies.
		1.5 Review organisational structure to facilitate improvement in problem solving.
		1.6 Develop a training strategy to improve problem solving ability.
		1.7 Develop reporting framework and guidelines.
		1.8 Develop corrective action identification and tracking systems.
		1.9 Obtain support from relevant process/system owners for proposed changes.
2	**Improve problem solving ability**	2.1 Implement training strategy.
		2.2 Ensure problem solving occurs using groups or teams.
		2.3 Provide resources to ensure problem solving occurs.
		2.4 Confirm with teams and groups that training and resources deliver capability to solve complex problems.
		2.5 Monitor problem solving to determine if improvement in developing problem solving solutions is achieved.
		2.6 Provide resources to ensure solutions are implemented.
		2.7 Ensure reporting and corrective action tracking occurs.

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3	**Review problem solving effectiveness**	3.1	Review corrective action tracking.
		3.2	Determine benefit/cost from solutions.
		3.3	Analyse interactions of multiple problems with each other and the organisation.
		3.4	Review problem solving strategy.
		3.5	Make improvements to problem solving strategy and approach.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Organisational structure review includes one or more of:	• operational and support functions and departments • links with value stream members • super-users and facilitators • roles and responsibilities with regard to problem solving • plans to broaden the users of problem solving approach • plans to improve the problem solving performance of personnel.
Problem finding strategies are used to identify one or more of:	• problems before they become obvious or cause significant non-conformance or risk • situations not initially considered a problem but which may be hindering greater performance • strategies for finding opportunities for improvement.
Complex problem includes one or more of:	• requires going into the value stream for data/information • is wider than just applying to a single job • applies to less common solutions or problems • requires a higher level of knowledge and skill • requires significant specialist knowledge • requires significant specialist skill • requires more theory/understanding of technology or process • data is not easily available and may need particular strategies to obtain • requires overcoming resistance from people including employees, customers or suppliers • requires extracting data not regularly reported from SCADA or similar systems • the problem and/or proposed solutions require reporting or authorisations from a Board or external authorities, such as licensing or regulatory bodies.
Effective solutions will include one or more of:	• prevent recurrence • be within the control/ability of the organisation to implement • meet organisation goals and objectives.
Required resources include one or more	• plant • data processing equipment

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of:

- measuring and diagnostic equipment
- materials (e.g. raw materials, components, work in progress, other consumables, paper and forms in electronic or hard format)
- energy (e.g. heating, cooling, fuel and power)
- appropriately skilled people as employees and in the value stream
- finances
- feedback/visual operations resources
- measuring equipment.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408007A Develop problem solving capability of an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS408007 Develop problem solving capability of an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS408007A Develop problem solving capability of an organisation

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, across an organisation or department/section, to:

- analyse and improve problem finding capabilities of the organisation
- improve the problem solving capability of the organisation
- set key performance indicators (KPIs) for organisation problem solving
- ongoing review of systems and processes relevant to problem solving
- increase problem solving capability through identification of appropriate strategies.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop problem solving capabilities, including knowledge of:

- competitive systems and practices principles
- competitive systems and practices at both a strategic and tools level
- problem solving methodologies
- organisation strategy and vision
- value stream and value as defined by the organisation's customers
- corrective action tracking methods.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project where the problem solving skills of individuals within their teams are developed in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS408008 Analyse data for relevance to organisational learning

Modification History

Release 1. Supersedes and is equivalent to MSS408008A Analyse data for relevance to organisational learning

Application

This unit of competency covers the skills and knowledge required to analyse data generated from formal information monitoring and management systems, such as statistical process control (SPC) and six sigma, or Systems Control and Data Acquisition (SCADA) software and determining its relevance for organisational learning.

This unit is intended for managers, team leaders and people with a similar sphere of influence and scope of authority and responsibility. It covers the capturing of knowledge from data generated within organisation systems and takes a largely quantitative view of information. The unit applies to individuals who are familiar with the application and use of statistics in operations.

This unit may also be applied to service organisations applying competitive systems and practices principles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Identify learning from own organisation data**	1.1	Obtain data from appropriate data systems.
		1.2	Examine data for discontinuities, trends and other possible signs of assignable cause.
		1.3	Examine selected data events to determine root causes of data events.
		1.4	Communicate root causes of data events to relevant stakeholders.
2	**Identify learning from value stream data**	2.1	Identify data which is or could be available from other value stream members.
		2.2	Identify data which might be useful but is not available and seek access to it.
		2.3	Obtain and examine available data for discontinuities, trends and other possible signs of assignable cause.
		2.4	Examine selected data events to determine root causes of data events in liaison with appropriate value stream personnel.
		2.5	Communicate root causes of data events to relevant stakeholders.
3	**Capture learning**	3.1	Review root causes to determine implications for organisational learning.
		3.2	Ensure learning is captured by organisation's systems.
		3.3	Obtain involvement and required approvals from relevant process/system owners.
		3.4	Check that learning flows to all relevant stakeholders.
4	**Apply learning to team/organisation**	4.1	Review management systems for their impact on organisational learning.
		4.2	Brief relevant process/system owners on changes and obtain required approvals.

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4.3 Check learning is used in daily operations.

4.4 Review use of learning in liaison with appropriate value stream personnel and update in knowledge system.

4.5 Identify implications for training and procedures.

4.6 Recommend improvements to value stream/organisation knowledge system.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts

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	• standard procedures • current reality tree.
Sources of data include one or more of:	• SPC/quality processes • six sigma processes • quality processes • plant instrumentation and control data • regular meetings, such as toolbox and quality • ad hoc discussions with employees and other value stream members • warranty and other product returns/customer complaints • kaizen and kaizen blitz data.
Learning includes all of:	• can be passed on • is a recordable event or method • leads to change in practice.
Electronic, paper-based or other systems for the capture of knowledge include one or more of:	• clip boards on the line • problem solving templates • procedures templates • whiteboards/other noticeboards • databases and other electronic records • incident reports • maintenance requests/records • a method of knowledge retrieval • a method of searching, filing and cataloguing.
Record systems includes all of:	• is not just retained by an individual • is available to others • survives beyond the departure of individual • has an allocated a level of importance.
Stakeholders include one or more of	• work team members • value stream members.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS408008A Analyse data for relevance to organisational learning

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS408008 Analyse data for relevance to organisational learning

Modification History

Release 1. Supersedes and is equivalent to MSS408008A Analyse data for relevance to organisational learning

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability to analyse data for relevance to learning for one (1) or more processes/sections or value streams and to:

- identify learning from own organisation/process/section's data
- identify learning from other parts of the value stream
- capture that learning
- apply it to the team/organisation.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to analyse data and capture learning, including knowledge of:

- sources of data within the organisation and the value stream
- methods of analysing data for learnings
- methods of capturing data and the learnings from it
- competitive systems and practices tools relevant to the process/section/value stream
- kaizen and kaizen blitz processes
- communication modes.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project analysing data for learning opportunities in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSTGN4002 Participate in product engineering

Modification History

Release 1. Supersedes and is equivalent to LMTGN4002A Participate in product engineering

Application

This unit of competency covers the skills and knowledge required to participate in product engineering in a textiles, clothing and footwear (TCF) enterprise.

This unit of competency applies to product engineering in any TCF sector where judgement may be required in planning and selecting appropriate processes or procedures for self and others.

Work may be conducted in a variety of environments, including operational workplace activities, restricted space, and hazardous, controlled or exposed conditions.

Product engineering may occur in relation to repetitive production runs, short runs and quick changes and can relate to products including fabrics, fibres, yarns, design varieties, weaves, dyes and finishes.

This unit of competency is applicable to all sectors of the TCF industry.

Work may be conducted in small to large scale enterprises and may involve individual and team activities. Work is performed within defined procedures under direct supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Generic

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine job requirements**	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	**Prepare for production**	2.1	Examine structure of sample material or product from identified TCF sector to confirm structure
		2.2	Document detail of structure or composition, where required, to assist in production planning
		2.3	Evaluate material or product structure to identify options for production
3	**Plan method of production**	3.1	Assess options to determine most effective and efficient method of production, to ensure highest quality and yield from raw materials, and ease of production
		3.2	Document options and recommendations in accordance with workplace procedures
		3.3	Examine existing resources, machines, production techniques and scheduling arrangements in relation to the production requirements
		3.4	Identify and document any potential requirements for change in accordance with workplace procedures

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4	**Prepare cost estimates and maintain records**	4.1 Identify material requirements and economical batch sizes
		4.2 Identify labour hours, times and other statistics required and make cost estimates
		4.3 Determine available machine hours and make estimates, where required
		4.4 Estimate and document overall costs in accordance with workplace practices
		4.5 Maintain production planning records and prepare reports, where necessary, in accordance with workplace procedures

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Workplace procedures include one or more of the following:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- SOPs
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling
- WHS practices

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Australian Standards includes:	• the relevant industry or Australian Standards that are current at the time this unit is being undertaken
TCF sectors include, but are not limited to, one or more of the following:	• textile production • clothing production • footwear • cotton ginning • leather production • millinery • canvas and sails production • laundry operations • dry cleaning operations • fashion design and technology
Methods of production include, but are not limited to, two or more of the following:	• just in time (JIT) • value-added modelling (VAM) • quick response • quality circles • team processes • benchmarking
Cost estimating includes, but is not limited to:	• written bill of labour, order of work or plant sample

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTGN4002A Participate in product engineering

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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Assessment Requirements for MSTGN4002 Participate in product engineering

Modification History

Release 1. Supersedes and is equivalent to LMTGN4002A Participate in product engineering

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- confirming specifications
- determining structure and composition of material or product
- making calculations, interpreting and using data from various sources
- assessing options for method of production
- establishing potential machine and production changes
- identifying material requirements, economical batch sizes, labour hours, times and other statistics required, and making cost estimates
- determining available machine hours, making estimates, where required, and estimating costs
- maintaining production planning records and preparing reports, where necessary, in accordance with workplace procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- machines and their capabilities
- quality assurance processes; production processes and software
- costing procedures for:
  - materials
  - economical batch hours
  - labour
  - machine hours
  - other statistics
- methods of production
- products produced by the workplace and material or fabric structure (techniques)

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- work and workplace organisation systems
- quality practices
- workplace procedures
- recording and reporting practices.

Assessment Conditions

- Assessors must:
  - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
  - have vocational competency in participating in product engineering, at least to the level being assessed, with relevant industry knowledge and experience.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit
- The unit is applicable to all TCF sectors and assessment must ensure it is delivered to suit the industry it is being applied to.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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MSTGN4007 Contribute to the development of products or processes

Modification History

Release 1. Supersedes and is equivalent to LMTGN4016A Contribute to the development of products or processes

Application

This unit of competency covers the skills and knowledge required to contribute to developing products or processes within the workplace.

This unit of competency applies to activities contributing to development of products or processes within the enterprise. It includes conducting trials to establish whether products or processes conform to requirements. Judgement may be required in planning and selecting appropriate processes or procedures for self and others.

Work may be conducted in restricted spaces or exposed conditions or controlled or open environments.

This unit of competency is applicable to all sectors of the textiles, clothing and footwear (TCF) industry.

Work responsibilities will vary in scope according to size of the workplace, range of designs or products, specialisation in the workplace and workplace quality standards. Work may be conducted in small to large scale enterprises and may involve individual and team activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Generic

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Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine job requirements**	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	**Prepare for development of products or processes**	2.1	Identify and interpret provisional specifications in consultation with others, where required
		2.2	Identify requirements for feasibility study in conjunction with others, as required
		2.3	Provide assistance to feasibility studies to assess feasibility of design and development
3	**Assist in developing or engineering product**	3.1	Interpret product or process specifications and develop preliminary specifications from feasibility study
		3.2	Use specifications to develop or engineer the product
		3.3	Check or select raw materials to meet requirements
		3.4	Determine machine or equipment or skill availability according to requirements
4	**Conduct and assess trials**	4.1	Confirm and clarify requirements for trial to establish procedures and parameters as per site policies or procedures
		4.2	Liaise with production areas to organise and conduct

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			trials as per site policies or procedures
		4.3	Assess trials in accordance with the established workplace procedures
5	**Interpret and report results**	5.1	Analyse results of the trials to determine if performance is suitable for production to proceed
		5.2	Prepare reports on performance
		5.3	Maintain records according to workplace procedures, where required

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Workplace procedures include one or more of the following:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- SOPs
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling
- WHS practices

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Australian Standards include:	• the relevant industry or Australian Standards that are current at the time this unit is being undertaken
Feasibility studies include, but are not limited to, one or more of the following:	• sampling • trial run production • consideration of machine capabilities • availability of resources • required quality • cost
WHS practices	WHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and includes one or more of the following: • manual handling techniques • SOPs • PPE • safe materials handling • taking of rest breaks • ergonomic arrangement of workplaces • following marked walkways • safe storage of equipment • housekeeping • reporting accidents and incidents • other WHS practices relevant to the job and enterprise

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTGN4016A Contribute to the development of products or processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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Assessment Requirements for MSTGN4007 Contribute to the development of products or processes

Modification History

Release 1. Supersedes and is equivalent to LMTGN4016A Contribute to the development of products or processes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- providing assistance to feasibility studies to assess feasibility of design and development for at least two (2) different products or processes
- interpreting product or process specifications from feasibility study and using them to develop or engineer two (2) different products
- determining availability of required resources, including equipment, raw materials, skills and personnel according to requirements
- selecting, interpreting and evaluating procedures or processes
- liaising with production area to organise and conduct trials, and analysing and reporting on results of trials to determine if production can proceed
- preparing reports on performance and maintaining records according to workplace procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- industry and product processes
- product and process development procedures
- machine or equipment, resource and skill capabilities within the workplace
- feasibility study and sampling procedures
- safety and environmental aspects of relevant workplace activities
- trials to assess if production can proceed, such as:
  - confirming and clarifying requirements
  - liaising with production area
  - allocating work
  - reviewing and evaluating processes and products

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  - performing trials
  - interpreting data
  - analysing results
- reporting processes
- quality practices
- workplace procedures
- recording and reporting practices.
-

Assessment Conditions

- Assessors must:
  - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
  - have vocational competency in contributing to the development of products or processes, at least to the level being assessed, with relevant industry knowledge and experience.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The unit is applicable to all TCF sectors and assessment must ensure it is delivered to suit the industry it is being applied to.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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PMASUP520 Review procedures to minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP520B Review procedures to minimise environmental impact of process

Application

This unit of competency covers the skills and knowledge required to establish and review procedures to minimise the environmental impact of a process and/or plant using a proactive environmental management approach. Proactive environmental management goes beyond complying with environmental requirements and integrates environmental goals with core business objectives.

This unit of competency applies to senior technicians, paraprofessionals or those in similar roles who are required to apply in-depth knowledge of process and plant in order to develop, implement and review procedures that will conserve resources and minimise pollution and waste, and ensure that the procedures are supported by appropriate training and record keeping.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Develop procedures for**	1.1 Develop workplace procedures of proactive environmental management which include resource

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	environmental management		conservation, pollution and waste minimisation
		1.2	Determine primary source of respective aspects
		1.3	Determine the negative impact of these aspects on the environment and the society if they are mismanaged
		1.4	Prioritise management options according to the greatest benefit to environment and the society
		1.5	Develop management procedures
		1.6	Complete required documentation to implement change
2	**Review procedures for environmental management**	2.1	Review the procedures on a regular basis by consulting relevant work groups for feedback
		2.2	Incorporate relevant feedback into the revised procedures in consultation with the relevant personnel
		2.3	Inform relevant work groups of any changes and implement changes in the procedures
3	**Implement and review an environmental management training program**	3.1	Identify the workplace environmental management training program
		3.2	Review the program on a regular basis by consulting relevant work groups for feedback
		3.3	Incorporate relevant feedback into the revised program in consultation with the relevant personnel
		3.4	Inform relevant work groups of any changes and implement changes in the training program
4	**Implement and review environmental management recording system**	4.1	Identify the workplace environmental management recording system
		4.2	Review the system on a regular basis by consulting relevant work groups for feedback
		4.3	Incorporate relevant feedback into the revised system in consultation with the relevant personnel
		4.4	Inform relevant work groups of any changes and

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implement changes in the management of environmental records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Stakeholders

Stakeholders include one or more of the following:

- organisation management and operational staff
- suppliers
- contractors
- others acting on the organisation's behalf
- customers

Sources of information

Sources of information include one or more of the following:

- organisation goals, commitments and procedures (e.g. business/strategic plans, voluntary environmental agreements entered into with external organisations/authorities, and organisation policies and procedures)
- regulatory framework
- consultation with internal stakeholders
- own knowledge and experience of plant/process
- technical/operational documentation
- schematic (e.g. piping and instrumentation diagrams (P&IDs and process flow diagrams (PFDs))

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP520B Review procedures to minimise environmental impact of process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP520 Review procedures to minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP520B Review procedures to minimise environmental impact of process

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include the ability to:

- analyse information from a range of sources to determine environmental aspects/interactions of plant and/or processes and potential impacts
- develop, evaluate and prioritise options for minimising impact
- develop and document procedures to implement priority options
- communicate and consult effectively with stakeholders
- review and revise relevant procedures, record keeping system and training programs to reflect amendments and feedback from stakeholders.

Knowledge Evidence

Evidence must be provided that demonstrates sufficient knowledge to interact with relevant personnel and be able to establish and review procedures to minimise the environmental impact of a process, including knowledge of:

- aspects of interaction of plant/processes with the environment and society
- the effects on the environment and society of the organisation's:
  - liquid waste
  - solid waste
  - gas/fume/vapour/smoke emissions, including fugitive emissions
  - hazardous materials
  - energy and water use
  - noise
- management strategies and workplace practices that can be used to minimise or prevent these effects, including:
  - recycling and reusing
  - reducing amount of non-renewable resources used
  - reducing volume and/or concentration/intensity of pollutants made
  - reducing emissions
  - improving housekeeping (e.g. using a broom instead of a hose, and using old rags for cleaning instead of toxic cleaners or water)

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  - substituting materials (e.g. replacing toxic solvent-based coatings with water-based ones)
  - changing processes (e.g. mechanical cleaning, and re-design of products/procedures so that materials are used more efficiently)
  - tenders for the provision of goods and services that specify environmentally preferred selection criteria
- nature and severity of the effect the pollutants and waste materials can have on the environment and society
- types of local conditions that can make environmental threats more 'sensitive'
- pathways of entry to the environment from the plant
- systems operating parameters
- system integrity limits
- process control philosophies and strategies
- product specifications and tolerances
- principles of operation of plant/equipment
- science (e.g. physics, chemistry and biochemistry) relevant to process and materials
- organisation procedures, including those covering:
  - environmental management
  - safety, emergency and hazard control
  - procurement
- hierarchy of control.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- It is not necessary for the recommended improvements in utility/efficiency to be complete for the purposes of this unit.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).

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- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMASUP620 Manage environmental management system

Modification History

Release 1. Supersedes and is equivalent to PMASUP620B Manage environmental management system

Application

This unit of competency covers the skills and knowledge required to establish and manage the environmental management system.

This unit of competency applies to senior technicians, paraprofessionals and those in similar roles who are required to demonstrate in-depth knowledge of the business, process and plant in order to identify and quantify business opportunities from environmental management and establish procedures, goals and systems to implement environmental sustainability, continuous improvement and sustainable innovation as integral to the business.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Develop an environmental management system**	1.1 Select an appropriate environmental management system as a model for the enterprise/plant
		1.2 Develop environmental management policies that reflect the organisation's commitment to environmental sustainability as an integral part of business planning

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			and as a business opportunity
		1.3	Develop strategies to encourage all stakeholders to meet high standards of environmental performance and support sustainable innovation and continuous improvement
		1.4	Develop policies and procedures to incorporate and support triple bottom line principles
		1.5	Develop policies/procedures which minimise environmental impacts
		1.6	Check policies conform to current regulatory requirements
		1.7	Address environmental management at the planning, design and evaluation stages to ensure that any changes in the workplace are identified for ongoing impact and opportunity
2	**Manage innovation and improvement**	2.1	Identify, evaluate and take into consideration changing trends and opportunities relevant to the organisation for ongoing improvement programs
		2.2	Promote continuous improvement and sustainable innovation as an essential part of doing business and as a context for assessment and planning of environmental performance
		2.3	Develop continuous improvement and innovation policies and procedures that include training and professional development to optimise the environmental performance of the organisation
		2.4	Develop a system to analyse and communicate the costs and benefits of innovations and improvements and to measure, monitor and record environmental performance
		2.5	Develop performance benchmarks and indicators and set targets to maximise continuous improvement
3	**Review environmental management system**	3.1	Develop processes to ensure that an integrated ongoing review is part of the organisation policy and procedures
		3.2	Promote improvement and sustainable innovation to

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organisational performance by ongoing evaluation and assessment, and changes to policies

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- relevant Commonwealth and state/territory Environment Acts
- applicable state/territory environmental regulations
- licences and permit conditions
- industry codes of practice and guidelines
- Australian and other standards
- environmental treaties and conventions
- national environmental policies, strategies and initiatives, such as the National Greenhouse Strategy and National Strategy for Ecologically Sustainable Development
- National Pollutant Inventory
- State of the Environment Reports
- Industry Association Commitments (e.g. The Global Mining Initiative)
- health and safety legislation, codes of practice and guidance material
- legislative requirements, including work health and safety (WHS)
- environmental regulations and guidelines
- licence and certification requirements

All operations to which this unit applies are subject to stringent health,

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safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Sources of information

Sources of information include one or more of the following:

- organisation goals, commitments and procedures (e.g. business/strategic plans, voluntary environmental agreements entered into with external organisations/authorities, and organisation policies and procedures)
- regulatory framework
- consultation with internal and external stakeholders
- own knowledge and experience of plant/process
- technical/operational documentation
- schematic (e.g. piping and instrumentation diagrams (P&IDs) and process flow diagrams (PFDs))
- available research/data (e.g. industry benchmarking data/systems and sustainability performance measures/metrics)

Performance benchmarks

Performance benchmarks and targets include one or more of the following:

- best practice or industry codes for the industry/sector
- levels of performance expected of organisation sectors and/or the organisation as a whole

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Stakeholders

Stakeholders include one or more of the following:

- board members, financial backers and owners
- all members of the organisation, including management and staff members
- suppliers
- contractors
- others acting on the organisation's behalf
- customers
- external individuals or bodies who may have an interest in or may be affected by the organisation

Continuous improvement and innovation policies

Continuous improvement and innovation policies include one or more of the following:

- consistent reviewing activities in search of a better way
- improving the organisation in all aspects of its operation and may look at life cycle impacts of the organisation, including:
  - activities and products are designed to minimise life cycle impacts and maximise opportunities
  - tendering and purchasing processes that include life cycle criteria
  - product design and manufacture
  - packaging policies
  - product use and disposal
- vehicle policies that include use of cleaner fuels or alternative energy sources and regular servicing intervals to reduce pollution and improve efficiency

Environmental sustainability

Environmental sustainability may be influenced by one or more of the following:

- the organisational culture and operations
- internal or external economic climate
- political climate
- market focus/considerations
- environmental impacts of the business operation

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP620B Manage environmental management system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP620 Manage environmental management system

Modification History

Release 1. Supersedes and is equivalent to PMASUP620B Manage environmental management system

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include the ability to:

- obtain and analyse information from a range of sources to determine environmental aspects/interactions of plant and/or processes and potential impacts
- communicate, consult and negotiate effectively with internal and external stakeholders from a range of social, cultural and ethnic backgrounds, and physical and mental abilities
- use problem-solving skills to develop strategies and procedures to deal with identified environmental impacts and opportunities
- plan, write and evaluate a system of policies and procedures to implement the strategies and procedures into the organisation.

Knowledge Evidence

Evidence must be provided that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage the environmental management system, including knowledge of:

- change management
- continuous improvement
- policy development, performance benchmarking and indicator development relevant to the organisation's activities
- environment sustainability as a 'whole system' approach
- implications/application of sustainable development for a business
- techniques to measure sustainability/environmental performance in terms of an organisation's impact on the environment and their ability to manage and minimise negative impacts
- application of the 'triple bottom line' (TBL) principle as a framework for measuring and reporting corporate performance against economic, social and environmental parameters
- management strategies and workplace practices that can be used to minimise or prevent these effects, including:
  - recycling and reusing
  - reducing amount of non-renewable resources used
  - reducing volume and/or concentration/intensity of pollutants made

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  - reducing emissions
  - improving housekeeping (e.g. using a broom instead of a hose, and using old rags for cleaning instead of toxic cleaners or water)
  - substituting materials (e.g. replacing toxic solvent-based coatings with water-based ones)
  - changing processes (e.g. mechanical cleaning, and re-design of products/procedures so that materials are used more efficiently)
  - tenders for the provision of goods and services that specify environmentally preferred selection criteria
- quality systems
- supply chain management
- relevant system analysis and design principles
- organisation business goals and strategic plans
- strategies to maximise opportunities
- environment impact minimisation strategies
- environmental issues, including as relevant to the organisation, water catchments, air/emissions, noise, ecosystems, habitat and waste minimisation
- relevant social sustainability issues, including corporate image, staff morale, customer loyalty and community engagement
- financial/market issues related to environmental management, including cost reduction, product differentiation/branding and identification of market potential
- organisation procedures, including those covering:
  - environmental management
  - safety, emergency and hazard control
  - procurement
- duty of care obligations
- hierarchy of control.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Simulation may be used for part only of this unit.
- It is not necessary for the recommended improvements in utility efficiency to be complete for the purposes of this unit.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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Links

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PSPRAD003 Perform basic radiation measurements

Modification History

Release	Comments
1	This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to PSPRAD301 Perform basic radiation measurements. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to directly measure radiation using instruments calibrated by others. Basic radiation measurements will be straightforward involving one or two steps, take a short time and produce results that can be easily compared with specified limits. Measurements that are part of this unit would be performed under the authorisation and supervision, or delegated supervision, of a responsible person.

The activities may take place:

- at a mine or plant that processes radioactive ore and minerals
- with instruments that emit ionising radiation at geotechnical, construction, mining and manufacturing sites, or analytical and research facilities
- in a laboratory or licensed facility that handles radioactive materials or has radiation-emitting apparatus
- in a nuclear facility.

This unit applies to those undertaking radiation-related work activities, including:

- extracting, milling, processing and packing radioactive ores
- operating, installing, servicing and calibrating fixed radiation gauges, bore hole logging or industrial radiography equipment, and moisture/density gauges
- decontaminating and servicing equipment that has been in contact with radioactive material
- XRF and XRD analysis

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- collecting, preparing and testing samples containing radioactive materials.
- using radionuclides in a laboratory

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work under supervision, or be authorised by the responsible person, to perform routine tasks in familiar contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Radiation Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Prepare for radiation measurements	1.1 Confirm purpose, priority and nature of required ionising radiation measurements and any site access arrangements with supervisor. 1.2 Use organisation's radiation management plan to obtain information about the hazards associated with performing the measurements, measuring instruments and safe working rules to be used and refer to radiation protection safety standards, codes and guidelines as necessary. 1.3 Perform and record pre-use checks of measuring instruments and tag or replace faulty items as necessary. 1.4 Check that personal protective equipment (PPE) and other task-related equipment is fit for purpose. 1.5 Stow measuring instruments and task-related equipment to ensure safe transport to the site and within the boundaries of the site.
2. Obtain reliable radiation data	2.1 Operate measuring instruments in accordance with radiation management plan and manufacturer specifications and applying safe working rules to minimise personal radiation exposure. 2.2 Perform measurements at specified locations and times.

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	2.3 Seek advice if required measurements cannot be made or if specified procedures require modification. 2.4 Conduct regular instrument checks and minor maintenance if required. 2.5 Take sufficient measurements to ensure reliable data. 2.6 Recognise obvious errors and atypical data, and take appropriate corrective actions. 2.7 Record data with the required precision, accuracy and units. 2.8 Record environmental/site conditions or observations that may impact on data quality.
3. Finalise radiation measurements	3.1 Check for contamination and, if necessary, perform personal decontamination. 3.2 Re-stow measuring instruments and task-related equipment to ensure safe transport from the site and within the boundaries of the site. 3.3 Record use of PPE and measuring instruments according to radiation management plan. 3.4 Check condition of measuring instruments, PPE and task-related equipment before storing them.
4. Report results	4.1 Record results. 4.2 Compare results with relevant radiation limits and identify/record significant differences or atypical results. 4.3 Maintain required records that are complete, accurate, legible and secure.
5. Respond to potential or actual radiation incidents	5.1 Recognise unusual situations, unexpected hazards, and potential or actual emergency radiation incidents. 5.2 Inform relevant personnel about the situation, hazard or incident and seek their advice. 5.3 Initiate appropriate workplace emergency first response.

Foundation Skills

Foundation skills are embedded within the elements and performance criteria of this unit.

Unit Mapping Information

This unit supersedes and is equivalent to PSPRAD301 Perform basic radiation measurements.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

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Assessment Requirements for PSPRAD003 Perform basic radiation measurements

Modification History

Release	Comments
1	These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages. • Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- applying manufacturer's recommended procedures for using and caring for radiation measuring instruments
- applying safe working rules and those parts of the organisation's radiation management plan relevant to job role
- conducting pre-use checks and simple maintenance for radiation measuring instruments and task-related equipment used in job role
- reading scales and displays accurately for a wide range of values
- regularly assessing and reassessing hazards and taking appropriate protective measures
- seeking advice and further directions when faced with unforeseen circumstances or situations that may require decisions or response actions beyond technical competence
- using and caring for PPE used in job role

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- ionising radiation, radioactivity, radioactive material, activity, dose, contamination, contamination controls, shielding, half-life, radionuclide, and safe distance
- types and properties of ionising radiation, sources and shielding methods
- radiation measuring instruments used in job role, including at least one of:
  - air proportional
  - gas proportional

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  - gas ionisation
  - Geiger-Muller (GM)
  - compensated GM
  - scintillation
  - neutron monitors
  - solid state
  - personal dosimeters (badge and electronic)
- definitions of radiation quantities
- international system (SI) of units for radiation quantities, multiples and sub-multiples, and significant figures
- function of key components and operating principles of radiation measuring instruments used in job role
- effects on results of modifying instrument settings and variables
- basic instrument troubleshooting and maintenance procedures
- guidelines and safety procedures for working with radiation sources, based on principles:
  - reducing exposure time
  - maintaining greatest distance
  - using as much shielding as possible
- techniques for assessing radiation hazards likely to be encountered in job role
- health, safety and workplace emergency response procedures relevant to job role

Assessment Conditions

This unit contains no specific industry-mandated assessment conditions. Guidance on suggested and recommended conditions and methods can be found in the Implementation Guide.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

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PSPRAD007 Monitor radiation

Modification History

Release	Comments
1	This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to PSPRAD401 Monitor radiation. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to safely monitor radiation and the exposure of people and environment during radiation-related work activities. This involves identifying information about the work activities to be monitored, using the specified monitoring equipment, and applying safe working rules and monitoring procedures to obtain reliable results.

This unit applies to those working in radiation-related work activities, including:

- extracting, milling, processing and packing radioactive ores
- operating, installing, servicing and calibrating fixed radiation gauges, bore hole logging or industrial radiography equipment, and moisture and density gauges
- decontaminating and servicing equipment that has been in contact with radioactive material
- XRF and XRD analysis
- collecting, preparing and testing samples containing radioactive materials
- using radionuclides in a laboratory

The activities may take place:

- at a mine or plant that processes radioactive ore and minerals
- with instruments that emit ionising radiation at geotechnical, construction, mining and manufacturing sites, or analytical and research facilities
- in a laboratory or licensed facility that handles radioactive materials
- in a nuclear facility.

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The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would be authorised by the responsible person to perform routine tasks in familiar contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Radiation Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Prepare for assigned monitoring tasks	1.1 Apply radiation management plans concerning hazards, monitoring equipment and safe working rules. 1.2 Liaise with relevant site personnel to arrange access and confirm the nature and likely duration of assigned monitoring tasks. 1.3 Perform and record pre-use checks of radiation instruments and tag or replace faulty items as necessary. 1.4 Check that personal protective equipment (PPE) and other task-related equipment is fit for purpose. 1.5 Stow all radiation instruments and monitoring equipment to ensure safe transport to the site and within the site.
2. Obtain reliable monitoring data or samples	2.1 Apply safe working rules to minimise personal ionising radiation exposure. 2.2 Conduct regular instrument checks and minor maintenance if required. 2.3 Conduct repeat measurements for quality control purposes and identify and report atypical equipment response. 2.4 Collect and label environmental samples using specified equipment and procedures to preserve their integrity. 2.5 Record atypical radiation conditions. 2.6 Seek advice to deal with any situation beyond own technical

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	competence.
3. Complete assigned monitoring tasks	3.1 Check for contamination of equipment. 3.2 Re-stow all radiation instruments and monitoring equipment to ensure safe transport from the site and within the site. 3.3 Record use of PPE and radiation instruments in accordance with radiation management plans. 3.4 Check condition of PPE, radiation instruments and monitoring equipment before storing. 3.5 Store any samples to preserve their integrity, security and traceability in accordance with sampling procedures. 3.6 Manage waste.
4. Analyse monitoring data and report results	4.1 Record results. 4.2 Check that recorded outcomes are consistent with expectations. 4.3 Compare results with relevant radiation limits and identify and record any significant differences or atypical results. 4.4 Identify potential or actual radiation protection issues revealed by the site monitoring tasks. 4.5 Identify potential improvements that could be made to monitoring at site. 4.6 Maintain required records that are complete, accurate, legible and secure. 4.7 Provide site and personal radiation data to authorised personnel.
5. Respond to potential or actual radiation incidents	5.1 Recognise unusual situations, unexpected hazards, and potential or actual emergency radiation incidents. 5.2 Inform the responsible person or delegate about the situation, hazard or incident and seek their advice. 5.3 Initiate appropriate workplace emergency first response.

Foundation Skills

Foundation skills are embedded within the elements and performance criteria of this unit.

Unit Mapping Information

This unit supersedes and is equivalent to PSPRAD401 Monitor radiation.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

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Assessment Requirements for PSPRAD007 Monitor radiation

Modification History

Release	Comments
1	These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages. • Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- recognising different types of monitoring equipment and their limitations, restrictions and applicability, including at least one of:
  - air proportional
  - gas proportional
  - gas ionisation
  - Geiger-Muller
  - Scintillation
  - neutron monitors
  - solid state
  - personal dosimeters (badge and electronic)
- using relevant information sources to locate and interpret information about radiation sources and equipment encountered in job role or duties
- conducting pre-use checks for radiation instruments and monitoring equipment used in job role or duties
- interpreting manuals for radiation monitoring equipment used in job role or duties
- collecting, labelling and preserving occupational and environmental processing and analysing radiation monitoring data
- assessing and reassessing risks and hazards regularly and taking appropriate protective measures
- safely operating radiation instruments and monitoring equipment to obtain reliable data
- seeking advice and further directions when faced with unforeseen circumstances or situations that may require decisions or response actions beyond technical competence
- using and caring for PPE

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Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- ionising radiation, radioactivity, radioactive material, activity, dose, contamination, contamination controls, shielding, half-life, and radionuclide
- types and properties of ionising radiation, sources and shielding methods
- definitions of radiation quantities, including exposure, dose, effective dose, dose rate, dose equivalent, and dose limits
- international system (SI) of units for radiation quantities, multiples and sub-multiples
- function of key components and operating principles of radiation instruments and monitoring equipment used in job role
- guidelines and safety procedures for working with radiation sources, based on principles of:
  - reducing exposure time
  - maintaining greatest distance
  - using as much shielding as possible
- health, safety and workplace emergency response procedures relevant to job role or duties
- techniques and procedures for collecting potentially radioactive samples
- techniques for assessing radiation hazards likely to be encountered in job role or duties
- techniques for conducting monitoring surveys used in job role or duties

Assessment Conditions

This unit contains no specific industry-mandated assessment conditions. Guidance on suggested and recommended conditions and methods can be found in the Implementation Guide.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

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PUAWER009B Participate as a member of a workplace emergency initial response team

Modification History

Release	TP version	Comments
2	PUA12 V1	Layout adjusted. Application, PC, Required Knowledge and Range Statement revised.
1	PUA00 V8.1	First release in TGA.

Unit Descriptor

This unit covers the competency required to participate as a member of a workplace emergency initial response team. This team works in conjunction with the emergency control organisation in the control of workplace emergencies in their early stages prior to the arrival of emergency services or specialist response teams.

This unit has been developed to cover the broad range of emergencies and workplaces as considered in Australian Standard 3745-2010.

This unit does not cover the competency required for crisis management, recovery or restoration.

Application of the Unit

This unit applies to employees in the workplace within all industries and in all contexts.

This unit places responsibility on individual employees who are delegated responsibility as part of an initial response team to participate in the preparation of workplace emergency procedures and respond to workplace emergencies. This expectation will be included in appropriate position descriptions and duty statements.

The knowledge and skills gained through the completion of this unit may be applied by employees across all industries.

Licensing/Regulatory Information

Not applicable.

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Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for workplace emergencies	1.1 ***Emergency equipment*** assigned for use by the initial response team is stored and maintained in a safe, accessible and serviceable state. 1.2 Current workplace emergency procedures to be used by employees are identified and accessed. 1.3 Risk assessment of initial response team activities is undertaken according to workplace procedures. 1.4 Initial response team training activities are undertaken according to workplace emergency procedures and relevant legislation.
2. Respond to workplace emergencies	2.1 Emergency is responded to according to workplace emergency procedures. 2.2 Emergency situation is assessed for hazards and appropriate precautions against those ***hazards*** are implemented. 2.3 Identified hazards are reported to people in danger and the initial response team leader. 2.4 An appropriate level or response is determined according to the status of the emergency. 2.5 Instructions from the initial response team leader are confirmed and implemented safely and promptly. 2.6 Appropriate equipment is selected and operated

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ELEMENT	PERFORMANCE CRITERIA
	according to workplace emergency procedures. 2.7 Situation is contained to the extent necessary to prevent an escalation of the emergency and to enable emergency services and specialist response team activity to be completed safely.
3. Communicate with and complement other personnel	3.1 Effective communication with initial response team members and initial response team leader is constantly maintained. 3.2 Activities are consistent with the initial response team leader's plan of action and support the work of other initial response team members. 3.3 Activities support the actions of ***other initial response teams.*** 3.4 Any injuries, accidents or near misses involving team members are reported to the team leader.
4. Assist with recovery from workplace emergencies	4.1 Evidence relating to the cause, origin and progress of the emergency is preserved and recorded as far as possible. 4.2 Appropriate assistance is provided in accordance with the workplace emergency procedures. 4.3 Emergency equipment is returned to a state of readiness as soon as is reasonably practicable. 4.4 Debriefings are attended and participated in as appropriate.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- access and use protective clothing and equipment safely and effectively under emergency conditions
- communication skills during emergencies
- care for protective clothing and equipment
- interpret and respond to alarm systems
- re-stow initial response equipment

Required Knowledge

- alarm systems and associated equipment
- appropriate personal protective clothing and equipment

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- concept of dynamic risk assessment
- equipment operating characteristics, limitations, hazards, precautions, procedures and general care
- general emergency priorities and strategies
- hazard analysis
- hierarchy of control
- hazards and the precautions necessary during control activities
- procedures for responding to alarms
- survival, rescue and recovery procedures
- tactics for safely handling specific emergencies
- workplace emergency procedures

Evidence Guide

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessment must confirm the ability to be prepared for a safe and prompt response to a workplace emergency; to identify hazards and implement appropriate precautions; to use equipment safely and effectively; and to work as a team member safely and effectively under the direction of a workplace emergency initial response team leader.

Consistency in performance

Competency should be demonstrated over time with a range of emergencies that could be expected in the workplace, including dealing with plausible contingencies.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in a simulated environment under conditions that safely replicate workplace emergency situations.

Specific resources for assessment

Access to:

- scenarios that reflect a range of emergency situations that may be expected in the workplace
- material safety data sheets
- workplace register of hazardous substances

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Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Emergency equipment may include:

- emergency vehicles, trailers, trolleys or caches
- fire protection equipment
- forcible entry tools
- life support equipment
- monitors (or turrets)
- monitoring equipment
- personal protective clothing and equipment
- rescue equipment
- spill or leak control kits

Hazards may include:

- chemical, biological, radiological
- climatic
- electrical
- environmental
- explosive
- fire
- mechanical
- psychological (e.g. critical incident stress)
- noise related
- security related
- storm/flood
- structural
- thermal
- wildlife related

Other initial response teams may include:

- damage control
- emergency control organisation
- fire team
- first aid
- maintenance
- security

Unit Sector(s)

Not applicable.

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Corequisite Unit/s

Co-requisite Unit/s Nil

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PUAWER010B Lead a workplace emergency initial response team

Modification History

Release	TP version	Comments
2	PUA12 V1	Layout adjusted. Application, Required Skills and Range Statement revised.
1	PUA00 V8.1	First release in TGA.

Unit Descriptor

This unit covers the competency required to lead a workplace emergency initial response team in the control of workplace emergencies in their early stages prior to the arrival of emergency services or specialist response teams.

This unit has been developed to cover the broad range of emergencies and workplaces as considered in Australian Standard 3745—2010.

Application of the Unit

This unit applies to employees in the workplace within all industries and in all contexts.

This unit places responsibility on individual employees who are delegated the responsibility to lead an emergency response team; to prepare the team for workplace emergencies; coordinate and communicate the control of workplace emergencies; and lead the team's recovery from an emergency. This expectation will be included in appropriate position descriptions and duty statements.

The knowledge and skills gained through the completion of this unit may be applied by employees across all industries.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUAWER009B Participate as a member of a workplace emergency initial response team

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Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the team for workplace emergencies	1.1 ***Pre-incident planning*** sessions are conducted to familiarise team members with relevant workplace procedures and safe and effective actions to control workplace emergencies according to relevant legislative requirements. 1.2 Processes are developed and implemented to ensure the competence of team members is developed and maintained. 1.3 Discussions, practice drills and exercises are conducted in accordance with workplace emergency procedures. 1.4 ***Emergency equipment*** is confirmed to be in a serviceable and accessible condition in accordance with standard/operating procedures.
2. Coordinate the response to control workplace emergencies	2.1 Initial response team is made aware of the workplace emergency. 2.2 Team's response to the emergency is coordinated according to workplace emergency procedures, risk assessment and available resources. 2.3 Situation and its likely development is constantly assessed, ***hazards*** are identified and appropriate ***precautions*** are applied and maintained to safeguard team members. 2.4 Appropriate actions to safely control the emergency are selected, and contingency plans are developed and implemented if needed.

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ELEMENT	PERFORMANCE CRITERIA
	2.5 Instructions to implement selected actions are conveyed to team members in a clear manner and confirmed with them.
	2.6 Actions chosen for the team to implement are consistent with available resources and the priority order of safely protecting self, other people and property where safe to do so.
	2.7 Team actions are monitored, recorded and adjusted if needed to ensure safe and appropriate action is maintained.
3. Communicate with and coordinate personnel	3.1 Effective communication with team members is constantly maintained according to communication systems.
	3.2 Activities are consistent with the workplace emergency procedures and team members' actions are coordinated.
	3.3 Team members' actions are coordinated with the activities of ***other initial response teams*** .
	3.4 On arrival incident controller is briefed and control is transferred to the appropriate emergency services/specialist response team.
	3.5 Liaison is established with the responding emergency services or specialist response team, and all relevant information and support is provided to them.
4. Lead team's recovery from workplace emergencies	4.1 Team actions are coordinated to prevent a re-occurrence of the emergency and to enable recovery activities to be commenced safely.
	4.2 Appropriate assistance is coordinated, within the scope of the workplace emergency procedures.
	4.3 Equipment is checked, serviced and stored, replaced or disposed of, to ensure its readiness for use .
	4.4 Any injuries, accidents or near misses involving the team are reported and critical incident support services for the team are requested in accordance with relevant regulatory requirements.
	4.5 A debriefing of the team is conducted and an incident report is prepared and submitted according to workplace procedures.

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Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- coordinate the use of emergency equipment safely and effectively under emergency conditions
- communication skills during emergencies
- ability to take on a leadership role, which includes giving clear directions under emergency conditions, making decisions appropriate to the situation and keeping others appropriately informed

Required Knowledge

- alarm systems and associated equipment
- appropriate personal protective clothing and equipment
- building fire safety features
- dealing with contingencies
- equipment operating characteristics, limitations, hazards, precautions, procedures and general care
- general emergency priorities and strategies
- hazards and relevant precautions
- how people react in emergency situations
- procedures for responding to alarms
- risk assessment
- roles, responsibilities and authority of emergency services personnel
- situational awareness
- survival, rescue and recovery procedures
- tactics for safely handling specific emergencies
- workplace emergency management plan

Evidence Guide

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessment must confirm the ability to lead a safe and prompt response to a workplace emergency; to constantly assess the situation, identify hazards, apply and coordinate appropriate precautions; to select, implement and coordinate safe and effective actions by the team; to support the responding emergency services or specialist response teams; and to complete appropriate reports. **Consistency in performance** Competency should be demonstrated over time with a

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	range of emergencies that could be expected in the workplace, including dealing with plausible contingencies while leading a team.
Context of and specific resources for assessment	**Context of assessment** Competency should be assessed in a simulated environment under conditions that safely replicate a range of workplace emergency situations. **Specific resources for assessment** Access to: • scenarios that reflect emergency situations that may be expected in the workplace • workplace emergency initial response equipment

Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Pre-incident planning may include:	• contingency plans, sketches or notes about workplace layout, features, hazards and emergency control facilities • discussions and/or use of operational procedures involving emergency plans, sketches, notes, procedures or material safety data sheets
Emergency equipment may include:	• emergency vehicles, trailers, trolleys or caches • fire protection equipment • forcible entry tools • life support equipment • monitors (or turrets) • monitoring equipment • personal protective clothing and equipment • rescue equipment • spill or leak control kits
Hazards may include:	• chemical, biological, radiological • climatic • electrical • environmental • explosive • fire • mechanical

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Other initial response teams may include:	• psychological (e.g. critical incident stress) • noise related • security related • storm/flood • structural • thermal • wildlife related • damage control • emergency control organisation • fire team • first aid • maintenance • security

Unit Sector(s)

Not applicable.

Corequisite Unit/s

Co-requisite Unit/s	Nil

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RIINHB408D Supervise environmental drilling operations

Modification History

Release	Comment
1	This unit replaces RIINHB408A Supervise environmental drilling operations
2	Performance Criteria amended to make requirements more explicit.
3	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to supervise environmental drilling operations in the Resources and Infrastructure Industry.

No licensing, legislative or certification requirements apply to this unit at the time of publication

Elements and Performance Criteria

1. Plan and prepare for supervising environmental drilling operations	1.1 Access, interpret and apply environmental drilling operations documentation and ensure the work activity is compliant 1.2 Access, interpret clarify and ensure the application of the specific task information for the required outcomes 1.3 Prepare an operational plan, in consultation, which makes best use of the available resources and for the safe effective and efficient conduct of the operations 1.4 Identify the training requirements of team members and develop training plans
2. Initiate environmental drilling operations	2.1 Acquire and make available the necessary resources 2.2 Issue clear and timely instructions to team members and others involved 2.3 Ensure compliance to training plans

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3. Monitor, adjust, communicate and report on the execution of environmental drilling operations	3.1 Monitor the execution of operations 3.2 Initiate adjustments to drilling practices or the operational plan to ensure safe, effective and efficient execution of the operations 3.3 Provide advice to team members to overcome operational problems encountered during the execution of drilling operations 3.4 Ensure plant equipment and tools maintenance requirements are carried out and recorded 3.5 Ensure reports are completed and submitted 3.6 Recommend changes to improve the safety, efficiency and effectiveness of the execution of drilling operations

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

No equivalent Unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272

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Assessment Requirements for RIINHB408D Supervise environmental drilling operations

Modification History

Release	Comment
1	This unit replaces RIINHB408A Supervise environmental drilling operations
2	Performance Criteria amended to make requirements more explicit.
3	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- implements the appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes of environmental drilling operations including:
  - interpreting client requirements and procedures
  - interpreting manufacturer's requirements and procedures
  - interpreting project site geological data
  - interpreting project site geotechnical data
  - interpreting project site hydrological data
  - interpreting project site metrological data
  - interpreting project engineering survey information
  - interpreting project plans and drawings
  - interpreting project specifications
  - preparing for and conducting of briefings, toolbox and site meeting
  - preparing of short messages
  - preparing and presenting of job reports
  - preparing and maintaining of log books and diaries
  - providing leadership

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- applying performance monitoring
- applying operations troubleshooting skills
- applying operations problem solving skills
- performing calculations for the execution of drilling operations
- providing recommendations for the improvement of the safe, effective and efficient execution of drilling operations

- works effectively with others to plan, prepare and execute environmental drilling operations including:
  - communicating clear and timely instructions to those involved
  - preparing for and conducting briefings, toolbox and site meetings
  - maintaining clear and legible written records and the reports

- demonstrates completion of the supervision of environmental drilling operations that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
  - development of an implementation action plan, in consultation with team members
  - execution of operations
  - acquiring and making available the necessary resources for the safe, effective and efficient conduct of the operations
  - providing advice to team members to overcome operational problems encountered during the execution of operations
  - completion of an improvement assessment report, in consultation with team members
  - identifying training requirements of team members and implementing training plans

Knowledge Evidence

The candidate must demonstrate knowledge in supervising environmental drilling operations through:

- accessing, interpreting and applying legislative, organization and site requirement and procedures for:
  - risk assessment and management
  - statutory compliance
  - workplace health and safety
  - environmental management
  - workplace communication
  - quality management
  - work zone traffic management
  - contract management
  - plant, equipment and tools maintenance
  - materials deliveries
  - supervising workplace relationships

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- plant and equipment capabilities and application
- operational techniques for the execution of operations
- potential operational problems in the execution of operations
- operations resource requirements and procedures
- scheduling work activities
- conducting job planning and administration
- conducting job planning and administration
- relationship between various areas of resources and infrastructure industries
- and applying monitoring methods
- understanding engineering survey principles

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	**AQF** Level**	**Required assessor or Industry subject matter expert experience**
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years

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Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272

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RIIPRM501D Implement, monitor, rectify and report on contracts

Modification History

Release	Comment
1	This unit replaces RIIPRM501A Implement, monitor, rectify and report on contracts
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to implement, monitor, rectify and report on contracts in the Resources and Infrastructure Industries.

This unit is appropriate for those working in a supervisory or management role.

No licensing or certification requirements apply to this unit at the time of publication.

Elements and Performance Criteria

1. Implement, monitor and report on contract administrative procedures	1.1 Access, interpret and apply contract administrative procedures documentation and ensure the work activity is compliant 1.2 Implement contract administration procedures for reviewing contract performance against performance criteria 1.3 Implement procedures for monitoring and rectifying contract performance 1.4 Develop and implement written procedures for adjusting contract performance where performance does not meet contractual requirements
2. Monitor contract time frame and specifications	2.1 Undertake regular inspection of contract services to ensure compliance with contract specifications 2.2 Identify and document variations between the specified scope of services and the contract, and notify relevant personnel 2.3 Carry out testing of services in progress by the contractor

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3. Resolve contractual disputes	3.1 Investigate disagreements to identify cause and validity 3.2 Negotiate and agree terms of resolution 3.3 Follow contracted prescriptions for dispute resolution 3.4 Seek specified advice to resolve disputes 3.5 Seek appropriate technical/legal advice to clarify dispute issues
4. Implement contract completion	4.1 Review contract conditions and responsibilities with appropriate personnel to ensure satisfactory completion 4.2 Report contract completion to appropriate personnel 4.3 Evaluate contract performance against agreed benchmarks

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIIPRM501A Implement, monitor, reactivity and report on contracts

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272

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Assessment Requirements for RIIPRM501D Implement, monitor, rectify and report on contracts

Modification History

Release	Comment
1	This unit replaces RIIPRM501A Implement, monitor, rectify and report on contracts
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- demonstrates completion of the implementation, monitoring, rectifying and the reporting on contracts that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
  - developing and reviewing procedure/s for the management of contracts
  - planning and coordinating work, prioritises and adjusts activities to meet contract requirements
  - identifying contract issues and consults, negotiates and uses conflict resolutions techniques to resolve contractual disputes
  - monitoring contract and reviewing conditions to identify and document variations between the specified scope of services and the contract
  - preparing clear, concise and legible completion report/s on contracts variations, performance and outcomes

Knowledge Evidence

The candidate must demonstrate knowledge of implementing, monitoring, rectifying and reporting on contracts through:

- site contract management procedures
- contract management requirements
- inspection and testing of contracted services / products

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- site reporting procedures
- review processes and techniques
- negotiation and communication techniques to resolve contractual activity and disputes
- contract design criteria

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit is best assessed in the context of this sector's work environment;
- where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
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	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil	3-6	5 Years

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Construction		
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

Links

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TAEDEL301 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with *TAE Training and Education Training Package Version 2.0.*

Application

This unit describes the skills and knowledge required to conduct individual and group instruction, demonstrate work skills and assess the success of training and one's own training performance, using existing learning resources in a safe and comfortable learning environment.

It emphasises the training as being driven by the work process and context, and applies to a person working under supervision as a work skill instructor in a wide range of settings not restricted to training organisations,

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Delivery and facilitation

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Organise instruction and demonstration	1.1 Gather information about learner characteristics and learning needs 1.2 Confirm a safe learning environment 1.3 Gather and check instruction, demonstration objectives, and seek assistance if required 1.4 Access and review relevant learning resources and learning

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ELEMENT	PERFORMANCE CRITERIA
	materials for suitability and relevance, and seek assistance to interpret the contextual application 1.5 Organise access to necessary equipment or physical resources required for instruction and demonstration 1.6 Notify learners of details regarding the implementation of the learning program and/or delivery plan
2. Conduct instruction and demonstration	2.1 Use interpersonal skills with learners to establish a safe and comfortable learning environment 2.2 Follow the learning program and/or delivery plan to cover all learning objectives 2.3 Brief learners on any workplace health and safety (WHS) procedures and requirements prior to, and during, training 2.4 Use delivery techniques to structure, pace and enhance learning 2.5 Apply coaching techniques to assist learning 2.6 Use communication skills to provide information, instruct learners and demonstrate relevant work skills 2.7 Provide opportunities for practice during instruction and through work activities 2.8 Provide and discuss feedback on learner performance to support learning
3. Check training performance	3.1 Use measures to ensure learners are acquiring, and can use, new technical and generic skills and knowledge 3.2 Monitor learner progress and outcomes in consultation with the learner 3.3 Review relationship between the trainer/coach and the learner, and adjust to suit learner needs
4. Review personal training performance	4.1 Reflect upon personal performance in providing instruction and demonstration, and document strategies for improvement 4.2 Maintain, store and secure learner records, according to organisational and legal requirements

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

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Skill	Performance Criteria	Description
Learning	4.1	• Reflects on practice to improve
Reading	1.1, 1.3, 1.4, 2.2	• Sources and interprets processes and procedures, learning resources and information relevant to providing a work instruction and delivery
Writing	1.4, 1.6, 2.3, 2.6, 2.8, 3.2, 4.1, 4.2	• Accurately maintains learner records and documentation appropriate to the learning context and audience
Oral Communication	1.1, 1.6, 2.3, 2.4, 2.6	• Uses appropriate communication strategies to engage, build rapport, provide instruction, monitor progress and provide feedback to individuals or groups
Interact with others	1.2, 1.3, 2.1, 2.5, 2.8, 3.2	• Recognises the importance of consultation and negotiation while collaborating to confirm strategy and achieve required outcomes • Asks questions in order to clarify understanding, and to provide and seek feedback • Builds rapport to establish effective working relationships and to achieve effective outcomes
Get the work done	1.1-1.6, 2.1-2.8, 3.1-3.3, 4.1, 4.2	• Organises and completes work according to defined requirements, taking responsibility for some decisions and sequencing tasks to achieve efficient outcomes • Identifies and responds to potential risks, problems and opportunities for improvement and considers options for different approaches

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
TAEDEL301 Provide work skill instruction	TAEDEL301A Provide work skill instruction	Updated to meet Standards for Training Packages	Equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3

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Assessment Requirements for TAEDEL301 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with *TAE Training and Education Training Package Version 2.0.*

Performance Evidence

The candidate must show evidence of the ability to complete tasks outlined in the elements and performance criteria of this unit, including:

- carrying out a minimum of three training sessions, involving demonstrating and instructing particular work skills for at least two different individuals or small groups, with each session addressing:
  - different learning objectives
  - a range of delivery techniques and effective communication skills appropriate to the audience.

Knowledge Evidence

The candidate must be able to demonstrate essential knowledge to effectively complete the task outlined in the elements and performance criteria of this unit. This includes knowledge of:

- learner characteristics and needs
- the content and requirements of the relevant learning program, and/or the delivery plan
- the sources and availability of relevant learning resources and learning materials
- the content of relevant learning resources and learning materials
- training techniques that enhance learning, and when to use them
- introductory knowledge of learning principles and learning styles
- key workplace health and safety (WHS) issues in the learning environment, including:
  - roles and responsibilities of key personnel
  - responsibilities of learners
  - relevant policies and procedures, including hazard identification, risk assessment, reporting requirements, safe use of equipment and emergency procedures
  - risk controls for the specific learning environment.

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Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Conditions must be typical of those experienced in the training and assessment environment and include access to any necessary workplace documents.

Assessors must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3

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MSS Sustainability

Modification History

Release #	Release Date	Comments
2.0	22 October, 2018	Release 2.0 of the MSS Sustainability Training Package replaces MSS Release 1.0. New skill set and new unit added to MSS Training Package. Updated units and qualifications.
1.0	23 June, 2016	Release 1 of the MSS Sustainability Training Package supersedes and is equivalent to MSS11. Release 1 of the MSS Sustainability Training Package includes the following components: • Competitive Systems and Practices qualifications and units of competency • Sustainable Operations qualifications, Skill Sets and units of competency • Environmental Monitoring and Technology qualifications and units of competency. • Sustainability Skill Sets

Credit Arrangements

At the time of endorsement of this Training Package no national credit arrangements exist.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSSSS00007 SS7 Lead energy and greenhouse gas improvements

Modification History

Release 1. New Skill Set

Description

This skill set reflects the skill and knowledge requirements to identify opportunities to manage and improve energy and greenhouse gas (GHG) reduction processes. This includes scoping opportunities, procuring and leading a team of experts to undertake an energy audit and reporting on recommendations for improvements and reductions. It includes project managing the collection, analysis and reporting of data and communicating findings and recommendations to the organisation's internal and external stakeholders. It also includes developing and implementing strategies for sustainable operations.

Pathways Information

These units provide credit towards MSS50118 Diploma of Sustainable Operations.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this qualification at the time of publication.

Skill Set Requirements

MSS015020	Facilitate an energy audit
MSS015024	Develop required sustainability reports
MSS015025	Develop a business case for sustainability improvements
MSS015026	Develop strategic sustainability plans
MSS015027	Implement sustainability plans

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Target Group

This skill set is for workers in a related field who are responsible for identifying opportunities to manage and improve energy and greenhouse gas (GHG) reduction processes within an organisation. These workers would typically hold a minimum Certificate IV qualification or equivalent.

Suggested words for Statement of Attainment

These competencies from the MSS Sustainability Training Package meet industry requirements for identifying opportunities to manage and improve energy and greenhouse gas (GHG) reduction processes within an organisation.

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MSSSS00008 SS8 Audit energy usage for a work area

Modification History

New skill set. Unit codes updated. Supersedes MSSSS00001 SS1 Audit energy usage for a work area.

Description

This Skill Set provides the skills to audit energy usage within a work or process area where energy has been identified as a priority sustainability issue. It is intended to build on technical or operational qualifications or equivalent vocational experience relevant to business operations.

Pathways Information

These units can provide credit towards the MSS40118 Certificate IV in Sustainable Operations. These units may also be applied where other aspects of sustainability are identified as the priority issues in which case a Statement of Attainment will be issued instead of the Skill Set.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSS014009	Evaluate sustainability impact of a work or process area
MSS014013	Contribute to sustainability related audits

Target Group

The target area for this Skill Set is people who are undertaking an energy audit for a process or a work area, either as a component of a more general energy audit of an entire process or organisation, or independently examining just a work or process area.

This Skill Set complements the Improve energy usage for a work area Skill Set which not only evaluates an area but also seeks to improve the energy use of the area. It also supports the Determine energy usage Skill Set where similar work is being done for an entire process or organisation.

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Suggested words for Statement of Attainment

These competencies from the MSS Sustainability Training Package meet the minimum industry requirements for auditing energy usage for a work area.

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MSSSS00009 SS9 Determine energy usage

Modification History

New Skill Set. Unit codes updated. Supersedes MSSSS00002 SS2 Determine energy usage

Description

This Skill Set provides the skills to determine energy usage and make recommendations for improvements. It is intended to build on technical or operational qualifications or equivalent vocational experience relevant to business operations.

Pathways Information

These units can provide credit towards the MSS50116 Diploma of Sustainable Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSS015011	Conduct a sustainability energy audit
MSS015021	Measure and report carbon footprint of a product or product class

Target Group

This Skill Set targets those who need to measure and calculate the energy consumption of an organisation or part of its value chain in order to determine priority areas for activity that will increase sustainability.

Suggested words for Statement of Attainment

These competencies from the MSS Sustainability Training Package meet the minimum industry requirements for determining energy usage and recommending improvements.

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MSSSS00010 SS10 Improve energy usage for a process or organisation

Modification History

New Skill Set. Unit codes updated. Supersedes MSSSS00003 SS3 Improve energy usage for a process or organisation.

Description

This Skill Set provides the skills to make improvements to energy usage. It is intended to build on technical or operational qualifications or equivalent vocational experience relevant to business operations.

Pathways Information

These units can provide credit towards the MSS50118 Diploma of Sustainable Operations. These units may also be applied where other aspects of sustainability are identified as the priority issues in which case a Statement of Attainment will be issued instead of the Skill Set.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSS405086	Develop sustainable energy practices
MSS015022	Develop strategies for more sustainable use of resources

Target Group

This Skill Set targets people who need to make energy improvements, based on available data, and to ensure that improvements are embedded in day-to-day work.

Suggested words for Statement of Attainment

These competencies from the MSS Sustainability Training Package meet the minimum industry requirements for improving energy usage for a process or organisation.

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MSSSS00011 SS11 Improve energy usage for a work area

Modification History

New Skill Set. Unit codes updated. Supersedes MSSSS00004 SS4 Improve energy usage for a work area.

Description

This Skill Set provides the skills to make energy improvements within a work or process area where energy has been identified as a priority sustainability issue. It is intended to build on technical or operational qualifications or equivalent vocational experience relevant to business operations.

Pathways Information

These units can provide credit towards the MSS40118 Certificate IV in Sustainable Operations. These units may also be applied where other aspects of sustainability are identified as the priority issues in which case a Statement of Attainment will be issued instead of the Skill Set.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSS014009	Evaluate sustainability impact of a work or process area
MSS014010	Optimise sustainability of a process or work area

Target Group

This Skill Set targets team leaders, technicians or similar people who have sufficient authority to undertake limited changes in their work area with a view to improving energy usage for that work area. This may be as either an independent project or as part of a larger organisation or process-wide improvement project.

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Suggested words for Statement of Attainment

These competencies from the MSS Sustainability Training Package meet the minimum industry requirements for improving energy usage for a work area.

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MSSSS00012 SS12 Recommend energy improvements

Modification History

New Skill Set. Unit code updated. Supersedes MSSSS00005 SS5 Recommend energy improvements.

Description

This Skill Set provides the skills to use mathematics and process data to identify the energy intensive steps of a process and to recommend energy improvements. It is intended to build on technical or operational qualifications or equivalent vocational experience relevant to business operations.

Pathways Information

This unit can provide credit towards the MSS80118 Graduate Certificate in Sustainable Operations. This unit may also be applied where other aspects of sustainability are identified as the priority issues in which case a Statement of Attainment will be issued instead of the Skill Set.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSS017010	Determine process loss through mass or energy balancing

Target Group

This Skill Set will typically be undertaken by a technician, technologist or engineer who needs to calculate the energy usage and/or energy loss for steps within a process and to recommend improvements.

Suggested words for Statement of Attainment

This competency from the MSS Sustainability Training Package meets the minimum industry requirements for calculating energy loss and recommending improvements.

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MSSSS00013 SS13 Reduce sustainability risk

Modification History

New Skill Set. Unit code updated. Supersedes MSSSS00006 SS6 Reduce sustainability risk.

Description

This Skill Set provides the skills to analyse the sustainability risk caused by different steps in the process and/or different links in the value chain and then develop recommendations to reduce that risk. It is intended to build on technical or operational qualifications or equivalent vocational experience relevant to business operations.

Pathways Information

This unit can provide credit towards the MSS80118 Graduate Certificate in Sustainable Operations. The unit takes a broad view of sustainability risk; however, the risk posed by energy usage is typically significant and will emerge as a priority sustainability issue.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSS017009	Analyse and determine organisational risk areas in sustainability

Target Group

This Skill Set will typically be undertaken by a technical person or a manager. It complements the **Recommend energy improvements Skill Set** which has a more mathematical approach and could be used develop data to drive the decision making required in this Skill Set.

Suggested words for Statement of Attainment

This competency from the MSS Sustainability Training Package meets the minimum industry requirements for reducing sustainability risk.

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