



Australian Government

MSS014005 Apply proactive maintenance strategies to sustainability

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS014005A Apply proactive maintenance strategies to sustainability.

Application

This unit of competency covers using 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/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 individuals who have maintenance related responsibilities, including but not limited to, mechanical, electrical, fabrication and other tradespersons, technicians and operators with maintenance related responsibilities.

The unit scope includes processes and operations, products made, internal and external support services and the services offered, and use of sites by another organisation, such as a contractor or value chain member organisation.

Environmental sensitivities referred to in this unit are at the issue level. 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

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

essential outcomes.	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 Determine current maintenance strategy for work area. 1.4 Identify changes to maintenance strategy which may improve sustainability outcomes. 1.5 Consult with stakeholders with regard to sustainability issues and possible maintenance changes.
2 Assess current maintenance practice for sustainability implications	2.1 Evaluate current maintenance procedures for plant/equipment sustainability implications. 2.2 Discuss current maintenance practices with relevant stakeholders to determine any plant/equipment sustainability issues. 2.3 Recommend changes to improve plant/equipment sustainability impact in accordance with procedures.
3 Implement the sustainable maintenance strategy and practices for the work area	3.1 Arrange for changes to be incorporated into procedures and work plans. 3.2 Identify training needs in liaison with relevant personnel. 3.3 Assist personnel to develop required competencies within scope of authority. 3.4 Collect data as required by 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.

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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| Interactions with the environment include one or more of | <ul style="list-style-type: none">• drawing physical resources from the environment• releasing materials to the environment (e.g. emissions)• drawing energy from/releasing energy to the environment. |
| Environmental sensitivities include one or more of | <ul style="list-style-type: none">• fragile areas and rare or threatened species• heritage or culturally sensitive issues• hazardous emissions• real or perceived overuse of scarce resources• regulated emissions or other regulatory issues• noise• community perceptions or other issues. |
| Sustainability issues need to reduce the carbon footprint of product and process through reduction in use of one or more of | <ul style="list-style-type: none">• energy• water• raw materials• emissions• embedded carbon in transport, storage, rework and errors, and inefficient processes and design. |
| Sustainability related issues include one or more of | <ul style="list-style-type: none">• current and future availability of raw materials• current and future availability of energy• extent and type of waste generation and disposal• efficiency of process in terms of consumption of materials and energy regarded as in short supply or which are regarded as environmentally sensitive• the extent to which the production process, product and waste affects the environment |

	• relationship with the local and broader community, (e.g. effect of operations on aesthetic appearance, preservation of heritage, and proximity to schools and religious facilities) • extent of regulatory oversight and extent and cost of compliance.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of	• work instructions • standard operating procedures • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Overall equipment effectiveness (OEE) includes one or more factors 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 the losses due to rejects, reworks and start-up waste.
Maintenance practices that impact sustainability include one or more of	• increased inspection frequency of equipment above minimum requirements • lubrication and filter changeovers above minimum requirements in order to achieve higher environmental performance • replacement at set intervals to eliminate/reduce breakdowns • duplicate circuits • remote monitoring • increased training of operators in equipment monitoring and minor maintenance.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014005A Apply proactive maintenance strategies to sustainability.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS014005 Apply proactive maintenance strategies to sustainability

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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, to:

- identify key features of maintenance strategies, including breakdown maintenance, TPM, RCM and OEE
- identify current maintenance strategies and practices in a work area
- analyse work area maintenance strategies and practices for sustainability related implications
- develop and implement sustainability improvements.

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/plant
- likely abilities of operations personnel with regard to inspections and servicing
- maintenance procedures relevant to jobs, equipment and processes
- methods of making/recommending improvements
- environmental impacts of materials and energy used/emitted
- environmental sensitivities of all areas impacted by the work/process area (and related areas where impact spreads beyond immediate area, e.g. by loss of containment)
- root cause analysis and problem solving
- mitigation strategies as relevant to work/process area
- sustainability issues relevant to the work/process 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 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 a proactive maintenance strategy is applied to improve the sustainability outcomes 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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