



Australian Government

MSS025015 Plan and conduct environmental project work

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS025015A Plan and conduct environmental project work

Application

This unit of competency covers the ability to plan and conduct a small scale, low risk, measurement-based environmental project. Personnel may work individually, or as part of a team. They are required to develop and confirm a project brief/plan with their supervisor, execute and document the project, and evaluate the outcomes. The unit does not cover procurement of project resources and contract management.

This unit of competency is applicable to environmental technicians working in all industry sectors.

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 essential outcomes.

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

1 Scope project with supervisor

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| 1.1 | Clarify project aim, objectives and timeframe. |
| 1.2 | Identify intended outcomes, key stakeholders, drivers and likely constraints. |

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| | | 1.3 | Identify key activities, milestones and resources required to achieve deliverables on time. |
| | | 1.4 | Agree on performance indicators to monitor project progress and acceptance criteria for deliverables. |
| 2 | Prepare project plan in consultation with supervisor | 2.1 | Identify relevant legislation, standards, codes, procedures and/or workplace requirements. |
| | | 2.2 | Locate and review background information to inform the development of project methodology. |
| | | 2.3 | Analyse risks for all aspects of project work. |
| | | 2.4 | Consider a range of 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 | Consider integration and sequencing of tasks as part of optimising work breakdown structure. |
| | | 2.7 | 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/or provide proof of concept, as necessary. |
| | | 3.2 | Troubleshoot equipment and methodology problems and develop/test solutions in consultation with supervisor, as necessary. |
| | | 3.3 | Modify draft project plan, as necessary. |
| | | 3.4 | Document all accepted/rejected ideas and/or prototypes from trials. |
| 4 | Execute project plan and analyse outcomes | 4.1 | Communicate plan to other participants, as necessary. |
| | | 4.2 | Safely operate measurement equipment/instruments in accordance with manufacturer requirements, test methods and workplace procedures. |

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| | | 4.3 | Obtain data using specified methods and in accordance with safety and legislative/regulatory/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 appropriate mathematical/statistical/graphical methods and software to analyse and present results. |
| | | 4.8 | Report results using the appropriate accuracy, precision and units. |
| 5 | Report project progress and outcomes | 5.1 | Provide progress reports/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 | Prepare 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 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, Australian Heritage Council Act, Native Title 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; cultural/heritage protection; vegetation management; nature conservation and 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 (e.g. AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set)
- industry guidelines and codes, such as state and territory regulator (e.g. EPA) sampling and testing manuals, and Australian Dangerous Goods Code
- registration/licensing and/or accreditation requirements
- 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 environmental management plans and procedures for specific sites and/or activities (e.g. sampling, monitoring, construction and mining)
- 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.

Background information includes one or more of:

- site or project history, and client history
- records of consultations with stakeholders
- emergency plans and safety procedures
- site access protocols and permits

- maps (road and topographical)
- existing databases (e.g. vegetation, topography, soils and regional ecosystem maps)
- legislative/regulatory requirements
- workplace environmental management plans for site
- workplace, regulatory or standard methods/procedures for environmental sampling, monitoring or in-field testing
- manufacturer information or manuals for environmental equipment
- relevant case studies and good practice models.

Environmental project work includes collecting and presenting data relating to one or more of:

- outdoor air quality
- noise
- water quality, surface water, environmental flows, groundwater and catchment studies, and hydrological surveys
- occupational hygiene (e.g. air quality, noise and radiation)
- ecology studies
- soil surveys, geotechnical surveys
- contaminated site management (with appropriate risk analysis and supervision)
- land management
- coastal management
- wetland management
- stormwater management
- energy technologies and services
- waste management.

Environmental measurements include one or more of:

- conducting in-field sampling and testing
- conducting flora and/or fauna surveys
- conducting soil surveys and soil profiling at a site
- commissioning or modifying field equipment or instruments
- establishing or modifying environmental monitoring stations
- growth of species of environmental interest under controlled conditions
- remediation trials
- laboratory testing of environmental samples.

Project plans include

- scope, objectives, work breakdown structure

- one or more of:**
- sampling/testing/monitoring/survey methods
 - available resources (e.g. equipment and personnel), specific roles and responsibilities of participants
 - budget and cost estimates
 - data quality requirements and assurance procedures
 - risk analysis and control measures, safety requirements and related work procedures
 - stakeholders and consultation procedures
 - milestones, output/project deliverables and their acceptance criteria
 - project management procedures covering planning, risk analysis, communications and reporting
 - project management software and tools, such as Gantt and program and evaluation review technique (PERT) charts, critical path method, and records of costs and inputs.
- Safety procedures and control measures include one or more of:**
- use of personal protective equipment (PPE), such as sunscreen, hats, safety glasses, gloves, coveralls and safety boots
 - use of specified safe work procedures for tasks
 - ‘stay with vehicle’ and other survival techniques
 - regular communication schedule
 - use of global positioning system (GPS), maps and aerial photos
 - handling, storage and disposal of all hazardous materials/waste in accordance with SDS, labels, workplace procedures, codes and regulations.
- Mathematical/statistical/graphical methods and software include one or more of:**
- determination of linear, logarithmic, exponential and power relationships
 - determination of regression lines and correlation coefficients
 - uncertainty calculations
 - frequency and probability plots
 - parametric statistical tools, such as t-test, z-test, binomial and analysis of variance (ANOVA)
 - non-parametric statistical tools, such as Chi-square test
 - use of spreadsheets and databases.
- Project documentation includes one or more of:**
- sampling, monitoring, survey or in-field test data and results
 - records of equipment use, time spent and approved

expenditure

- emails and correspondence, records of consultations
- progress reports
- final reports/briefings

**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

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>