



Australian Government

Department of Education, Employment and Workplace Relations

MSL976002A Prepare plans and quality assurance procedures for environmental field activities

Release: 1

MSL976002A Prepare plans and quality assurance procedures for environmental field activities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to use a systematic planning process to develop plans and quality assurance procedures covering multiple environmental field monitoring or survey activities for a wide range of environmental systems. The unit covers both defining the purpose of the environmental field activities and establishing their overall requirements. These requirements will involve the collection of appropriate data, the monitoring/survey methodologies to be used and the design and documentation of a final overall implementation plan that includes budget, training and resource requirements. This unit of competency does not cover the development of monitoring or survey protocols.
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Application of the Unit

Application of the unit	This unit of competency is applicable to laboratory supervisors and managers working in the environmental industry sector. All operations must comply with relevant standards, appropriate procedures and/or enterprise requirements. Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These can be found at the end of this unit of competency under the section 'This competency in practice'.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	<i>MSL975011A</i>	<i>Design and supervise complex environmental field surveys</i>
	<i>MSL974007A</i>	<i>Undertake environmental field-based monitoring</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
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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

ELEMENT	PERFORMANCE CRITERIA
1. Establish the overall requirements of the field activities	1.1. Identify key stakeholders along with their potential interests, sensitivities, roles and responsibilities 1.2. Clarify the purpose and general objectives of the field activities with stakeholders and the level/detail of information required 1.3. Identify and accurately interpret all statutory requirements that apply to the field activities 1.4. Identify and interpret all existing enterprise requirements associated with field monitoring and/or survey activities 1.5. Analyse drivers and constraints that may influence field activities 1.6. Refine and document the detailed objectives of the field activities with senior management and key stakeholders
2. Scope all requirements to collect appropriate data under field conditions	2.1. Identify the type, quantity and quality of data needed to meet the defined objectives 2.2. Identify sites or areas and resources required for all planned field activities 2.3. Define data quality procedures that must be incorporated in all field activities 2.4. Identify risks, environmental and safety issues associated with field activities 2.5. Inspect all sites or areas and assess them against defined requirements and any standards that apply to the field activities 2.6. Refine and document all requirements necessary to collect appropriate field data
3. Select and adapt field protocols covering the field activities	3.1. Identify field protocols that may be suitable for the defined field activities 3.2. Review and select the most appropriate field protocol for the defined field activities 3.3. Develop and document detailed methodologies, risk management plans and general time schedules covering all the planned field activities
4. Design and document a detailed implementation plan	4.1. Define all staff tasks, roles and responsibilities and the overall staff work program 4.2. Identify and list all resources needed to undertake all planned field activities and associated pre- and post-field activities 4.3. Design and document an overall implementation plan covering all enterprise field activities 4.4. Meet with all staff involved and clearly outline the

ELEMENT	PERFORMANCE CRITERIA
	objectives, field methodologies and data quality procedures covered in the implementation plan
5. Prepare a financial budget and staff training and work programs	5.1. Develop a detailed budget, including contingencies covering all planned field activities 5.2. Develop detailed staff work programs for individual field activities in the context of the implementation plan 5.3. Identify competencies required to undertake all field activities and, if appropriate, develop appropriate training programs for all staff involved in field activities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Required skills include:

- designing and documenting field work plans
- emergency planning
- project management
- negotiation and conflict resolution techniques
- communicating effectively and efficiently with clients, stakeholders and other relevant parties
- identifying and interpreting policy and statutory requirements
- analysing enterprise field procedures and drivers
- identifying type, quality and quantity of data needed for defined field activities
- reviewing literature to identify existing and relevant field protocols
- developing and documenting the enterprise's field monitoring/survey procedures and practices
- reviewing enterprise databases
- developing detailed budgets, work programs, resource requirements and staff training needs
- developing data quality procedures
- undertaking reconnaissance and evaluation of field sites
- developing and documenting overall implementation plan
- responding effectively to changes or unforeseen circumstance
- negotiating effectively with stakeholders on multiple issues and, in general, reaching satisfactory agreements
- leading, supporting and mentoring junior staff

Required knowledge

Required knowledge includes:

- general field monitoring and survey protocols
- specific field monitoring and survey practices and techniques
- correct terminology relevant to defined field activities
- staff training procedures
- current developments in field instrumentation, communication equipment and data storage/analysis systems
- environmental planning and assessment procedures
- data quality procedures
- rights and responsibilities of employers and employees in terms of relevant

REQUIRED SKILLS AND KNOWLEDGE
legislation, such as occupational health and safety (OHS), environmental impact assessment and environmental protection

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

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors should ensure that candidates can:

- demonstrate understanding of the purpose of the activity, including:
 - information and analysis required
 - end users of information
 - significance of outcomes for broader programs
- communicate effectively and efficiently with clients, stakeholders and other relevant parties
- document the objectives of field activities accurately and clearly
- identify and interpret policy and statutory requirements accurately
- analyse enterprise field procedures and drivers
- identify type, quality and quantity of data needed for defined field activities
- review literature to identify existing and relevant field protocols
- develop and document enterprise's field monitoring/survey procedures and practices
- review enterprise databases
- develop detailed budgets, work programs, resource requirements and staff training needs
- develop data quality procedures
- undertake reconnaissance and evaluation of field sites
- develop and document overall implementation plan
- respond effectively to changes or unforeseen circumstance
- negotiate effectively with stakeholders on multiple issues and, in general, reaching satisfactory agreements
- lead, support and mentor junior staff.

Context of and specific resources for assessment

This unit of competency is to be assessed in the workplace or simulated workplace environment. This unit of competency may be assessed with:

EVIDENCE GUIDE	
	• <i>MSL916002A Manage and develop teams</i> • <i>MSL916005A Manage complex projects.</i> Resources may include: • legislation, regulations, policies, codes of practice, enterprise procedures and field protocols.
Method of assessment	The following assessment methods are suggested: • review of the design of monitoring/survey plans, quality assurance procedures, field implementation plan and budget prepared by the candidate • feedback from stakeholders that their input was sought and considered • feedback from staff and supervisors that plans were clear, comprehensive and able to be implemented effectively • oral and written questions to assess underpinning knowledge of statutory and enterprise requirements for field activities, relevant policies, procedures, protocols and codes of practice • simulation exercises to assess contingency planning. In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.
This competency in practice	Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. Environmental A large national industrial company has prepared an environmental management plan (EMP) covering all its national locations. Given that 'monitoring' is a major component of any EMP, the environmental manager has

EVIDENCE GUIDE

been instructed to prepare an annual plan covering all environmental field activities so that the company has an integrated, standardised and non-overlapping monitoring plan covering all of its locations. The environmental manager establishes a planning team to develop plans and quality assurance procedures covering all environmental field monitoring or survey activities required during the year. The committee produces a strategic implementation plan which is forwarded to the Board for review and approval.

Construction materials testing

A laboratory supervisor for a large mining company was asked to prepare a proposal outlining the resources necessary to produce an annual state of the environment (SOE) report covering the mine site and surrounding land. Given that the report and associated field data would become a public document, the supervisor was also asked to prepare quality assurance procedures covering all environmental field activities undertaken by the company as part of the proposal. They began by identifying and documenting all existing and future field activities and analysing the drivers and constraints that could influence this work in the future. The supervisor then clarified which activities would impact on the SOE report and prepared an implementation plan covering the time schedule, resources, budget and management of risks, safety and emergencies along with a detailed description of the data quality requirements and field protocols involved. They circulated the draft proposal to relevant staff for comment. The company management then refined the draft for consideration by the Board.

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.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- access to land (e.g. Aboriginal reserves)
- animal care and ethics regulations
- availability of required services
- captured animal welfare and ethics code of practice
- consultation (for example, with traditional owners)
- emergency procedures, data quality procedures, and safety and survival aspects
- environmental audits
- environmental impact assessment procedures
- environmental protection and/or conservation legislation and regulations
- equipment and field instrument operating instructions, calibration procedures, instrument fault finding procedures, and general maintenance and repair procedures
- field sampling plans, field monitoring or survey plans, industry based sampling and/or monitoring protocols
- field test procedures (validated and authorised)
- fieldwork procedures and standard operating procedures (SOPs)
- national environment protection measures
- OHS national standards and codes of practice
- permits and/or licences to undertake field activities (e.g. animal trapping)
- safety and accident/injury plans, emergency

RANGE STATEMENT	
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| | <p>plans and risk management plans</p> <ul style="list-style-type: none">• sampling procedures• site locations• specific environmental standards (e.g. air, water and noise)• staff travel arrangements and accommodation conditions• waste management policies and legislation |
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RANGE STATEMENT	
Environmental field activities	Environmental field activities may include: • meteorology, geology, hydrology and ecology • water quality, industrial waste streams, air quality, noise and vibration • soils, flora, weeds, native fauna, exotic or pest species and threatened species • land use and cultural sites
Clients and stakeholders	Clients and stakeholders may include: • fee-for-service clients • Commonwealth, state/territory and local government agencies • enterprises with monitoring and/or survey responsibilities • private companies • regulatory authorities • environment protection agencies • developers
The purpose or objectives of environmental field activities	The purpose or objectives of environmental field activities will define/target information needs and may include: • part of enterprise environmental management plan • statutory requirements • general environmental monitoring or surveys • research studies
Drivers and constraints	Drivers and constraints may include: • political agendas, social and economic issues • new monitoring protocols • recent environmental impact assessments or audits • media or public concerns • recent judicial decisions • field safety or accident issues • competencies and availability of staff • time available to plan and implement field activities
Staff field tasks and roles	Staff field tasks and roles may include: • team or project leader and survey coordinator

RANGE STATEMENT	
	• field sampling officer, field monitoring officer and data management officer • safety and/or environmental officer • field camp supervisor, field assistant or field-hand • driver • any combination of the above
Field resources	Field resources may include: • sampling equipment • monitoring instruments and associated equipment • survey equipment • first aid and/or survival kits and equipment • navigation and communication equipment (e.g. compass, maps, global positioning system (GPS), two-way radio and mobile phone) • transportation systems (e.g. vehicles, boats and aircraft)
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements: • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		