



Australian Government

Department of Education, Employment and Workplace Relations

RIIWBP601A Establish and maintain waste and by-product management system

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers establishing and maintaining waste and by-product management systems in the mining and extractive industries. It includes: identifying and researching requirements; facilitating site environmental investigations, design of dams and selection of equipment; establishing water recycle procedures, tailings disposal, water recycling operations procedures, installation and commissioning procedures, systems for operation and maintenance, and the review and audit of the systems and their equipment.

Application of the Unit

This unit is appropriate for those working in a management or technical specialist roles, within:

- Coal mining
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

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

ELEMENT	PERFORMANCE CRITERIA
1. Identify and research requirements	1.1. Access, interpret and apply compliance documentation relevant to related to establishing and maintaining waste and by-product management systems 1.2. Analyse organisation goals, objectives and strategies as they effect waste and by-product management 1.3. Identify the requirements for and purpose of waste and by-product managements systems in accordance with legislative and organisation's requirements and the systems of working the site 1.4. Develop and implement strategies, which translate the objective into the planning process
2. Facilitate site environmental investigations	2.1. Establish information requirements and ensure information sources are identified and accessed 2.2. Establish strategies and systems to support analysis of the worksite environments 2.3. Ensure worksite environment are investigated to identify and assess the factors that impact on waste and by-product development 2.4. Ensure market opportunities are identified and explored to assist the organisation to forecast trends and options 2.5. Ensure threats and opportunities are identified, analysed and used to optimise project outcomes 2.6. Ensure titles search are undertaken 2.7. Ensure legal obligations are identified and documented
3. Establishing of water recycling procedures	3.1. Ensure a detailed scoping of the work requirement and key selection criteria is conduct and that hazard identification and risk analysis is carried out 3.2. Ensure procedures for need, quantity, quality, source and means of treatment of water for production needs are developed and implemented 3.3. Ensure procedures for water quality and watercourse groundwater contamination are

	develop and implemented to meet legislative and organisation's requirements, community objectives and safe responsible work practices 3.4. Ensure site treatment works are designed and located for contaminated drainage or development/processing waters, to satisfy relevant legislative and organisation's requirements 3.5. Ensure procedures with appropriate inlet/outlet works and means of improving the natural settlement process are developed and implemented 3.6. Ensure work schedules for operational best practice associated with management systems and water quality specifications are developed and implemented
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4. Establish tailing disposal and water recycling operation procedures	4.1. Ensure a procedure for treated site water reuse to meet environmental and quality standards is developed and implemented 4.2. Ensure a program for regular inspections of the water recycling system is developed and implemented 4.3. Ensure procedures for tailings reuse to satisfy regulations, environmental criteria and company policies are developed and implemented
5. Facilitate the design of dam systems	5.1. Ensure the requirements for and purpose of dam management systems are identified in accordance with legislative and organisation's requirements and the system of working the site 5.2. Ensure a specification for the dam management system is developed from a comprehensive analysis of site requirements 5.3. Ensure dam de-commissioning procedures are developed in accordance with safe working practices and legislative and organisation's requirements
6. Facilitate the selection of equipment for waste and by-product management systems	6.1. Ensure the requirements for and purpose of waste and by-product equipment is identified against system requirements 6.2. Ensure a detailed scoping of the work requirement and key selection criteria including hazard identification and risk analysis is conducted and developed 6.3. Ensure the requirements for and purpose of waste and by-product equipment is identified against systems requirements 6.4. Develop a specification for the required waste and by-product equipment 6.5. Ensure the preferred equipment solutions are selected on the basis of performance against specification requirements
7. Establish installation and commissioning procedures	7.1. Establish a procedure to identify hazards and analyse and evaluate risks associated with the installation of waste and by-product systems and equipment 7.2. Ensure the integration of new and existing systems and process is planned and implemented to achieve optimum performance

	7.3.Ensure safe operating procedures and rules are developed from a detailed analysis of legislative and organisation's requirements 7.4.Ensure procedures for installing and commissioning waste and by-product systems and equipment are developed and implemented 7.5.Ensure a program, including systems and procedures, to satisfy identified waste and by-product training requirements is implemented 7.6.Ensure emergency response and evacuation systems, plans and procedures are implemented in accordance with legislative and organisation's requirements
8. Establish systems for the operation and maintenance of waste and by-product management systems and equipment	8.1.Ensure operational procedures for waste and by-product systems and equipment are developed and implemented from legislative and organisation's requirements and incorporated into site documentation. 8.2.Ensure maintenance procedures for waste and by-product systems and equipment are developed from legislative and organisation's requirements and incorporated into site documentation. 8.3.Ensure procedures for reviewing and modifying work processes are develop and implemented
9. Establish systems for audit and review of waste and by-product systems and equipment	9.1.Establish and ensure implementation of procedures to evaluate and confirmation of system/equipment compliance with statutory and site requirements. 9.2.Ensure that future waste and by-product systems and equipment requirements are identified, assessed and incorporated into planning processes. 9.3.Establish and ensure the implementation of procedures to confirm the currency and compliance of waste and by-product maintenance and safety standards. 9.4.Establish and ensure implementation of the system for recording and reporting of waste and by-product and equipment information. 9.5.Audit the waste and by-product training program for currency and relevance. 9.6.Establish and ensure implementation of procedures for incorporating feedback into

	the audit/review system. 9.7. Audit emergency response and evacuation systems plans and procedures for compliance with site requirements. 9.8. Establish and ensure implementation of procedures for response to instances of non-compliance or other discrepancies/deficiencies revealed by audit.
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Required Skills and Knowledge

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

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to establish and maintain waste and by-product management system:

- apply legislative, organisation and site requirements and procedures
- access and use appropriate information management technologies
- apply techniques for analysing and reviewing waste management systems
- apply techniques for auditing waste management performance - energy, safety, environment, quality assurance, legislative compliance
- apply operating budget preparation requirements and procedures
- apply operating cost control requirements and procedures
- apply techniques for the coordination of resources - human, financial and physical
- apply business and resource plan development requirements and procedures
- apply techniques for the evaluation of new and used equipment
- apply the requirements and procedures for gaining statutory/legal approvals
- apply techniques for implementing change
- apply people and process management techniques
- apply conflict resolution techniques
- apply project and task management requirements and procedures
- apply procedures for monitoring and maintaining waste management systems
- apply tender specifications preparation requirements and procedures
- apply negotiation techniques and requirements and procedures for finalising contracts
- apply management report preparation and presentation requirements and procedures

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to establish and maintain waste and by-product management system:

- dam design and construction
- emergency response and disaster planning
- environmental management
- financial management
- mine plans
- mine products and services

- mining operations
- negotiation techniques
- organisational objectives
- quality system
- risk management, principles, strategies and applications
- safety and health requirements
- statutory control requirements
- team management
- training and assessment systems
- water recycling
- training systems
- emergency response and evacuation planning processes and techniques

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	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for the establishing and maintenance of waste and by-product management systems • implementation of procedures and techniques for the safe, effective and efficient establishing and maintenance of waste and by-product management systems • the identification of the relevant information and scope of the work required to meet the required outcomes • the identification of viable program options and the selection of programs that best meet the required outcomes • working with others to undertake and complete the establishing and maintenance of waste and by-product management systems • consistent and timely establishing and maintenance of waste and by-product management systems
Context of and specific resources for assessment	• This unit must be assessed in the context of the 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 workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of

	assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in a civil works environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
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Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • identification of the relevant information and scope of the work required • identification of viable options and the selection of options that best meet the required outcomes • consistently achieving the required outcomes • first hand testimonial and documentary evidence of the candidate's: • working with others to establishing and maintenance of waste and by-product management systems • consistent and timely gaining of approval of waste and by-product management systems • provision of clear, timely required support and advice on the implementation of waste and by-product management systems
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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.

Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Legislative and organisation requirements and procedures may include:	• risk management • statutory compliance • development approval, mining licences (or equivalent), which may include: • occupational health and safety • environmental • quality • purchasing • contract management • administration, including records and reports
Legislative regulatory bodies may include:	• Mineral Resources or equivalent body • safety and health authority • environmental authority • federal/state and local government • harbours and marine authority • port authority • road authority
Hazard is defined as:	• a source of potential harm or a situation with a potential to cause loss
Risk is defined as:	• the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood
Audit is defined as:	• a systematic examination against defined criteria to determine whether activities and related results conform to planned

	arrangement, and whether these arrangements are implemented effectively and are suitable to achieve the organisation policy and objectives
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Unit Sector(s)

Waste and By-products

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.