



Australian Government

Department of Education, Employment and Workplace Relations

RIIRAI601A Establish and maintain the site infrastructure and fixed plant systems

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers establishing and maintaining the site infrastructure and fixed plant systems in the mining and extractive industries. It includes establishing and confirming the site's operational strategy; developing and testing the detailed site infrastructure and plant proposals; and obtaining and recording site infrastructure and plant system approvals.

Application of the Unit

This unit is appropriate for those working in 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. Establish or confirm the site's operational strategy	1.1. Access, interpret and apply compliance documentation relevant to establishing and maintaining the site infrastructure and fixed plant systems 1.2. Complete and/or confirm feasibility analysis 1.3. Obtain and/or confirm statutory/legal approvals 1.4. Carry out title searches 1.5. Prepare detailed plans, budgets, financial models, in accordance with the feasibility analysis for fixed plant and infrastructure requirements of the site 1.6. Prepare requirements for fixed plant and infrastructure within the general site development proposal and submit to the organisation, board or executive for endorsement 1.7. Collect, analyse and organise strategic resource planning information in preparation for decision making 1.8. Estimate impacts on the organisation business plans, and the financial benefit from fixed plant or infrastructure changes 1.9. Assess hazards associated with the planned option and develop plans to manage identify risks
2. Develop and test the detailed site infrastructure proposal	2.1. Access, identify and interpret the legislative, statutory and likely site requirements related to infrastructure 2.2. Identify the requirements for and purpose of infrastructure items in accordance with site design and system of mining 2.3. Develop specifications for infrastructure items from a comprehensive analysis of site requirements 2.4. Identify infrastructure options from an analysis of all relevant technical, operational and financial information 2.5. Select preferred infrastructure options on the basis of projected performance against specification requirements 2.6. Assess by visit, and confirm potential infrastructure sites/routes and capacities,

	entered on the site plan
3. Develop and test the detailed site plant proposal	3.1. Access, identify and interpret the legislative, statutory and site requirements related to required fixed plant 3.2. Identify the requirements for and purpose of fixed plant in accordance with site design and system of mining 3.3. Identify supporting mobile plant requirements 3.4. Develop specifications for plant from a comprehensive analysis of site requirements 3.5. Identify plant options from an analysis of all relevant technical, operational and financial information 3.6. Select preferred plant options on the basis of projected performance against specification requirements 3.7. Assess by visit and confirm potential sites for fixed plant, entered on the site plan
4. Obtain and record site infrastructure and plant system approvals	4.1. Prepare detailed proposals for the site infrastructure components, layout, specifications and costs 4.2. Prepare detailed proposals for the site plant items, specifications, the locations of fixed plant and costs 4.3. Prepare detailed proposals for supporting plant items and costs 4.4. Obtain formal approvals for the proposed site infrastructure and plant systems in accordance with enterprise policies 4.5. Vary the site infrastructure and plant systems records to reflect any approval conditions and finalised in preparation for implementation

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 site infrastructure and fixed plant systems:

- apply procedures for the development and review of business plans
- apply resource plan development requirements and procedures
- apply project budget preparation requirements and procedures
- apply title search procedures
- apply statutory and legal approval application procedures
- apply project management strategies
- apply techniques to implement change
- access and use appropriate technologies
- apply procedures for the preparation and presentation of management reports
- apply negotiation techniques with internal/external customers, community and statutory/legal authorities
- apply conflict resolution techniques
- access, interpret and apply:
 - technical information
 - site/legislative requirements
 - records and reports
 - briefings and handover details
- apply the principles of site design
- apply hazard identification and risk management processes
- apply work planning and coordination processes
- apply training needs analysis
- interpret and apply manufacturer's instructions
- apply maintenance survey 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 site infrastructure and fixed plant systems:

- business planning
- computer applications
- financial models
- site design

- mining operations, plant and equipment
- negotiation techniques
- organisational change and development
- organisational objectives
- planning and strategic management
- project management
- resource quantification
- risk management
- statutory/legal control
- surveying
- titles management

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 establishing and maintaining site infrastructure and fixed plant systems
- implementation of procedures and techniques for the safe, effective and efficient completion of the establishing and maintenance of site infrastructure and fixed plant 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 site infrastructure and fixed plant systems
- timely completion of establishing and maintenance of site infrastructure and fixed plant 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 option 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 undertake and complete the establishing and maintenance of site infrastructure and fixed plant systems • timely gaining of approval of site infrastructure and fixed plant systems • provision of clear, timely required support and advice on the implementation of site infrastructure and fixed plant 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
Statutory/legal approvals may include:	• boundaries, leases and tenements • licences • approvals by government regulatory authorities or councils • dangerous goods • environmental - noise/air/water • explosives • harbours and marine • site safety and health requirements • port authority • rehabilitation • royalties
Title searches may include:	• issues of land ownership • council • lease • by-laws • contamination • wildlife corridors
Infrastructure may include:	• road and railways • dams • fencing • stockpile/product bays • salvage areas • reticulation systems • car parks

	• communications facilities • power supply • fuel facilities • water supply facilities • water management facilities • product storage facilities • waste management facilities • tailings discharge facilities • pipelines • buildings including: • ablutions • amenities • change room • chemical stores • control rooms • dangerous goods store • explosives magazines • First Aid • fuel storage • laboratory • sites rescue station • offices • oil store • power station • supply stores • tyre stores • weighbridge • workshops
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Fixed plant may include:	• crushers • screens • conveyors • feeders • washery • materials handling systems • waste handling system
Development and planning may include:	• interpreting and communicating information • business/performance plans • location • tender specifications • communication liaison/public relations • resources • statutory/legal/organisational requirements and control • resource parameters • best practice • technical standards established by industry and/or enterprise • legal issues/processes • planning approvals • surveying
Specifications may include:	• environment • health and safety • hours per week of operation • production rate • products • recyclable materials • stack emissions • transportation systems • waste and stockpiles
Legislative, statutory and site requirements may be contained in:	• legislation and regulations • relevant Australian standards • management plans • safety and health policy • code of practice • manufacturer's instruction • standard/safe working or job procedures (or equivalent) • industry guidelines
Mobile plant may include:	• backhoe

	• barge • bucket wheel excavator • cherry picker • compressor • concrete agitator • crane • dozer • dragline • dredge • drill • dump truck • excavator • explosives vehicle • face shovel • forklift • front end loader • generator • grader • integrated carrier • roller • scraper • service/maintenance vehicle • skid steer loader • truck • water truck
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Unit Sector(s)

Resources and Infrastructure

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.