



Australian Government

Department of Education, Employment and Workplace Relations

RIISAM310A Install and commission plant, machinery and services

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers installing and commissioning of plant, machinery and services in the metalliferous mining and extractive industries. It includes: identifying the plant, machinery and services need; selecting plant, machinery and services delivery equipment; installing plant, machinery and services; and commissioning plant, machinery and services.

Application of the Unit

This unit is appropriate for those working in operational and maintenance roles, at worksites within:

- 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 plant, machinery and services need	1.1. Access, interpret and apply compliance documentation relevant to the installing and commissioning of plant, machinery and services 1.2. Access and clarify the site's requirements and procedures relevant to the acquisition of plant, machinery and services equipment 1.3. Seek input and advice from relevant parties to assist in the identification of appropriate type of plant, machinery and services equipment 1.4. Identify parameters to be applied in the selection of the plant, machinery and services equipment based on relevant requirements 1.5. Draw up specifications for plant, machinery and services equipment that meet the requirements of the identified parameters and are in accordance with relevant legislative and mine requirements
2. Select plant, machinery and mine services delivery equipment	2.1. Identify options that meet the selection parameters 2.2. Gather, validate and assess the data on the various options relevant to the selection parameters 2.3. Analyse the various options and select the options that best meet the required parameters 2.4. Procure/obtain and organise delivery of plant, machinery and mine services delivery equipment to the mine-site
3. Install plant, machinery and services	3.1. Obtain, transport and prepare materials and resources required for installation in accordance with plans and relevant manufacturer's or site requirements 3.2. Coordinate activities with relevant parties at the site prior to commencement of, and during installation and commissioning 3.3. Apply and monitor isolation procedures to establish and maintain a safe work environment throughout installation

	activities 3.4. Install plant, machinery and services in accordance with manufacturer/supplier specifications, mine procedures and safety requirements 3.5. Recognise and respond to hazardous and emergency situations in accordance with manufacturer's instructions and site procedures 3.6. Perform installation work in accordance with agreed plan and outcomes and within the operating capacities of the plant, machinery and services
4. Commission plant, machinery and services	4.1. Carry out inspection of installed plant and machinery to ensure that it complies with relevant technical specifications and safety requirements 4.2. Carry out pre-start checks according to plant and machinery configurations and system requirements 4.3. Test and test run plant and machinery to ensure compliance with manufacturer/supplier instructions and site mine operational requirements 4.4. Configure and test the operation and capacity of mine services delivery equipment/lines 4.5. Return plant and machinery to service in accordance with site procedures and practices and environmental requirements 4.6. Develop and document plant and machinery inspection and maintenance schedules in accordance with manufacturer/supplier instructions

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 install and commission small mine plant, machinery and services:

- apply legislative, organisation and site requirements and procedures
- apply operational safety procedures
- access, interpret and apply technical and safety information
- interpret and apply survey information and plans
- apply plant and machinery operating procedures
- apply communications procedures and coordinate activities with others
- apply equipment records maintenance requirements
- apply diagnostic/faultfinding techniques
- use hand tools
- apply environmental compliance requirements
- interpret tender documents
- draft and interpret contract management documents
- apply and manage purchasing procedures
- apply contract management requirements and procedures
- assess operating capacity
- assess the compatibility of items of plant and equipment
- determine ownership cost
- determine operating cost targets
- determine product support requirements

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 install and commission small mine plant, machinery and services:

- statutory compliance requirements
- development approval, mining licences (or equivalent)
- OHS requirements
- environmental management requirements
- quality requirements
- purchasing requirements and procedures
- capital expenditure requirements and procedures
- contract management requirements and procedures

- administration requirements (including records and reports)
- plant and equipment characteristics
- specification requirements
- contract requirements
- operating cost record and analysis procedures
- product support requirements
- market information
- operational requirements
- approved suppliers
- site machinery and plant safety requirements
- legislative and site requirements and procedures
- geological, geographical and survey data
- mining operations
- equipment characteristics, technical capabilities and limitations
- operational and maintenance procedures
- risk management procedures

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 installing and commissioning plant, machinery and services • implementation of requirements, procedures and techniques for the safe, effective and efficient installation and commissioning of plant, machinery and services • working with others to install and commission plant, machinery and services that meet all of the required outcomes • consistent timely installation and commissioning of plant, machinery and services that safely, effectively and efficiently meets the required outcomes
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 the work 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.
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 requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to install and commission small mine plant, machinery and services
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
Plant and machinery may include:	• hydraulic and pneumatic plant • hoisting plant and equipment • extraction plant and machinery • compressors • agitators • conveyors • electric motors • internal combustion engines • generators • ventilation plant, equipment and devices • drilling equipment • equipment guards
Services may include:	• water pipes and accessories • compressed air lines and accessories • hydraulic lines and accessories • pneumatic lines and accessories • electric cabling and accessories • communication wires and accessories
Site requirements and procedures may include:	• risk management • statutory compliance • development approval, mining licences (or equivalent) • OHS • environmental • quality

	• purchasing • capital expenditure • contract management • administration (including records and reports)
Relevant parties may include:	• contractors • mine personnel • trades people • plant and machinery manufacturers and suppliers • service providers • utilities suppliers • regulatory bodies • safety advisers
Parameters may include:	• physical size • operating capacity • other performance criteria • quality criteria • occupational health, safety and environmental features required • compatibility with existing plant and equipment • capital cost limitation • ownership cost • operating cost targets • nominated suppliers • product support requirements • training to be provided by supplier • maximum downtime requirements
Relevant requirements may include:	• market considerations • operational considerations • compatibility with existing plant and equipment • capital cost limitations • limitations on downtime • approved suppliers
Coordination may include:	• planning activities • setting priorities for activities • establishing liaison channels with other personnel, neighbouring mines, and regulatory bodies • ensuring work and safety requirements are passed to and reinforced with safety, and

	operational personnel and contractors
Pre-start checks may include:	• availability of equipment • detection of conditions that are unusual • fluid levels • job requirements • plant and machinery inspections • personnel availability • equipment status

Unit Sector(s)

Service and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.