



Australian Government

Department of Education, Employment and Workplace Relations

RIISAM304A Install, commission and maintain major conveyor equipment and systems

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the installation, commissioning and maintenance of major conveyor equipment and systems in the coal mining industry. It includes: planning and preparing for work; installing conveyor equipment; commissioning conveyor systems; carrying out operator maintenance.

Application of the Unit

This unit is appropriate for those working in operational roles, in surface and underground sites within:

- Coal 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. Plan and prepare for work	<p>1.1. Access, interpret and apply compliance documentation relevant to the installation, commissioning and maintenance of major conveyor equipment and systems</p> <p>1.2. Obtain, interpret and clarify/confirm work requirements before proceeding</p> <p>1.3. Access, interpret and apply geological and survey data required to complete the allocated work</p> <p>1.4. Obtain, transport and prepare materials and resources required for the work</p>
2. Install conveyor equipment	<p>2.1. Coordinate activities with others at the site prior to commencement of, and during, the work activity</p> <p>2.2. Apply and monitor isolation and tag out procedures to establish and maintain a safe work environment throughout the job</p> <p>2.3. Install conveyor equipment and systems</p> <p>2.4. Recognise and respond to hazardous and emergency situations</p> <p>2.5. Perform work in accordance with agreed plan and outcomes and within the operating capacities of the allocated equipment</p>
3. Commission conveyor systems	<p>3.1. Carry out inspection of conveyors and belts and auxiliary componentry to ensure compliance with relevant technical specifications</p> <p>3.2. Carry out start-up and shut-down procedures</p> <p>3.3. Test and test run equipment to ensure compliance with manufacturer instructions and site procedures</p>
4. Carry out operator maintenance	<p>4.1. Carry out conveyor equipment inspections and fault finding</p> <p>4.2. Carry out routine operational maintenance, servicing, lubrication and housekeeping tasks</p> <p>4.3. Carry out minor maintenance to manufacturer's instructions and site requirements</p> <p>4.4. Provide operator support during preparation for, and conduct of, major maintenance tasks in accordance with site</p>

	requirements 4.5.Process records
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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 installation, commissioning and maintenance of major conveyor equipment and systems:

- 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
- communicate and coordinate activities with others
- apply equipment records maintenance requirements
- apply diagnostic / fault finding techniques
- use hand tools
- apply environmental compliance 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 installation, commissioning and maintenance of major conveyor equipment and systems:

- operational safety procedures
- mine operational procedures related to conveyors
- mine communication procedures
- conveyor equipment characteristics, uses and limitations
- conveyor equipment installation procedures
- site mechanical / technical maintenance systems and procedures
- relevant geological and survey information
- equipment maintenance / lubrication requirements
- site environmental requirements and constraints related to conveyor systems

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	<p>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:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for installation, commissioning and maintenance of major conveyor equipment and systems • implementation of requirements, procedures and techniques for the safe, effective and efficient installation, commissioning and maintenance of major conveyor equipment and systems • working with others to install, commission and maintain major conveyor equipment and systems and meet all of the required outcomes • consistent timely completion of installation, commissioning and maintenance of major conveyor equipment and systems that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	<ul style="list-style-type: none"> • 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

	<p>environment to sensitively accommodate cultural diversity.</p> <ul style="list-style-type: none"> • 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	<p>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:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • working with others to install, commission and maintain major conveyor equipment and systems
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

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:	<ul style="list-style-type: none"> • 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
Work requirements may be in the form of:	<ul style="list-style-type: none"> • shift briefings • handover details • work orders • safe working procedures (or equivalent)
Work requirements may include:	<ul style="list-style-type: none"> • nature and scope of tasks • sequencing • equipment / plant allocation, including any defects • locations and essential survey data • working conditions • geological data • ventilation systems information • hazards and potential hazards • coordination requirements / issues
Specific safe requirements are to include:	<ul style="list-style-type: none"> • isolation of existing systems and services • observance of safety tagging procedures • restoration after isolation
Installation may include:	<ul style="list-style-type: none"> • fixing on concrete slab • dirt floor • between floor and roof • suspended from roof • disassembly prior to installation to allow transportation of components to assembly location
Equipment may include:	<ul style="list-style-type: none"> • chain blocks

	<ul style="list-style-type: none">• airbags• bolters• borers• drills and bits• hand tools• levelling equipment• pulley blocks• cables and chains• lifting equipment, which may include:<ul style="list-style-type: none">• mobile cranes• gantry cranes• truck mounted hoist• forklifts• general rigging equipment
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Conveyors may include:	<ul style="list-style-type: none"> • belt • chain • roller link • cable belt
Belts may be:	<ul style="list-style-type: none"> • cable • steel core • canvas woven • rubber • PVC which may be: <ul style="list-style-type: none"> • clipped • hot spliced • cold spliced joined
Auxiliary componentry may include:	<ul style="list-style-type: none"> • drive heads, which may include: <ul style="list-style-type: none"> • multi-roller • motorised pulley • pneumatic fluid drives • belt starter • guarding items • loop take-ups • weight towers • transfer points • surge bins • clamping stations • mobile stacker • magnets
Operator (operational) maintenance procedures are:	<ul style="list-style-type: none"> • those established and authorised for the site
Maintenance may include Installation and repair of:	<ul style="list-style-type: none"> • skirts • scrapers • snubber drums • weighers • tracking • tensioning equipment • pulley lagging

Unit Sector(s)

Service and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.