Australian Government

Department of Education, Employment and Workplace Relations

RIIPBP302A Control operations in acid plant

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the controlling of acid plant operations in the metalliferous mining industry. It includes assuming control of acid plant operations from a previous shift, managing acid plant operations, and passing control of the acid plant to the next shift. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in a technician role at worksites within:

- 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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assume control of acid plant operations from previous shift	1.1. Access, interpret and apply ***compliance documentation*** relevant to the work activity 1.2. Communicate with other personnel by approved methods 1.3. Receive, interpret and clarify shift changeover information 1.4. Ensure area is well ventilated before entry into work area 1.5. Select personal protective equipment appropriate for work activities 1.6. Perform ***pre-start checks*** to ensure correct equipment operation 1.7. Identify, address and report potential risks and hazards 1.8. Identify, address and report ***environmental issues***
2. Manage acid plant operations	2.1. ***Monitor*** performance of acid ***plant*** components regularly 2.2. Regulate flow of substrate between process components to maximise production 2.3. Regulate heat exchangers in accordance with operational requirements 2.4. Handle acid ***plant*** products and reagents safely at all times 2.5. *Monitor* and adjust volume of gas through acid ***plant*** 2.6. Regulate gas impurity removal systems 2.7. Regulate by-product disposal in accordance with ***plant*** operating requirements 2.8. ***Monitor*** available acid ***plant*** storage capacity
3. Pass control of acid plant to next shift	3.1. Complete all required documentation for shift handover 3.2. Pass on all shift information to oncoming shift 3.3. Review ***plant*** performance with oncoming shift

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 of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following as required to control acid plant operations:

- apply legislative, organisation and site requirements and procedures
- handle dangerous materials
- read and interpret instrumentation/interpret reports
- diagnose faults
- lift (manual, cranes and loads)
- maintain records
- apply safe work practices
- use hand and power tools

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following as required to control acid plant operations:

- breakdown procedures
- contaminant identification
- sources of acid plant materials
- gas purification process
- drying process
- conversion and absorption
- storage methods and capacities
- emergency procedures
- environmental procedures
- equipment limitations and operating parameters
- equipment safety requirements
- hazardous goods procedures and consequences of spills and hazardous goods
- identifying repair requirements
- isolation procedures
- technical data (basic)
- OHS procedures
- operational procedures and checks
- pumping system
- reagent types

- sampling
- site procedures/site safety requirements
- types of ores (basic)
- wet and dry working 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 controlling acid plant operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of acid plant operations control • working with others to undertake and complete the control of acid plant operations that meets all of the required outcomes • consistent timely completion of acid plant operations control 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. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • 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. • 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
	  • consistent achievement of required outcomes
	• first hand testimonial evidence of the candidate's:
	  • working with others to undertake and complete the control of acid plant operations

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, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Legislation may include acts and regulations dealing with:	• mining safety and health • mine inspection • OHS • explosives • environment
Pre-start checks may include:	• detection of conditions that are unusual • personnel availability • job requirements • walk through plant
Environmental issues may include:	• drainage • dust (dump) • emissions • flora and fauna • hazardous chemicals • noise • recycling • run-off/spills • waste management and disposal • water quality
Monitoring the acid plant process may include:	• gas temperatures • blockages and spillages • feed rates • calcine content • mercury levels/moisture levels • on stream analysis (OSA) • overloads/pressures

	• power draw • equipment temperature • wear and tear • emission (e.g. sulphide gases) • laboratory results • acid strength • gas analysis
Plant may include:	• heat exchanger • storage facilities • pipelines • electrostatic mist precipitators • gas train • vessels • conveyors • valves • acid heat exchanges • converters • absorbing and drying towers • mercury removal plant

Unit Sector(s)

Processing

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.