



Australian Government

UEPOPS077 Operate and monitor alkalinity reduction plant

Release: 1

UEPOPS077 Operate and monitor alkalinity reduction plant

Modification History

Release 1. This is the first release of this unit of competency in the UEP Electricity Supply Industry - Generation Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to operate, inspect and monitor alkalinity reduction plant which includes cooling tower water dosing equipment.

Alkalinity is a measure of the bicarbonates and carbonates in water, i.e. a measure of limestone content in water. Alkalinity can affect the chlorine residual in power generation plant effluent.

Competency in this unit requires the ability to plan work, operate alkalinity reduction plant, test alkalinity reduction plant, analyse alkalinity reduction plant faults, monitor and inspect alkalinity reduction plant and complete all documentation. Individuals will, in general, work under supervision, in a power generation facility as an operator.

Power generation plant operators are trained and authorised to isolate, prepare plant and issue permits to work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

There are no prerequisite units

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|--|---|
| 1 Plan and prepare work | <ul style="list-style-type: none">1.1 Work health and safety (WHS)/occupational health and safety (OHS) regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, environmental requirements and workplace procedures are identified, applied and monitored1.2 Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures1.3 Documentation to determine alkalinity reduction plant status is assessed and evaluated in accordance with workplace procedures1.4 Inspection and field preparation for alkalinity reduction plant service is carried out in accordance with manufacturers' recommendations and specifications, and workplace procedures1.5 Alkalinity reduction plant operational prerequisites are established in accordance with manufacturers' recommendations and specifications, and workplace procedures1.6 Sequence for recommissioning of alkalinity reduction plant is determined in accordance with workplace procedures |
| 2 Operate alkalinity reduction plant | <ul style="list-style-type: none">2.1 Alkalinity reduction plant is operated in accordance with manufacturers' recommendations and specifications, and workplace procedures2.2 Alkalinity reduction plant is monitored and observed to detect deviations from normal operating conditions in accordance with workplace procedures2.3 Corrective actions are taken to rectify abnormalities in alkalinity reduction plant in accordance with manufacturers' recommendations and specifications, and workplace procedures2.4 Alkalinity reduction plant is identified and removed from service in accordance with workplace procedures |
| 3 Test alkalinity reduction plant operation | <ul style="list-style-type: none">3.1 Operational tests are performed in accordance with workplace procedures3.2 Alkalinity reduction plant is observed for operational |

		response in accordance with workplace procedures
	3.3	Alkalinity reduction plant is returned to required operational status upon completion of testing in accordance with workplace procedures
4 Analyse alkalinity reduction plant faults	4.1	Causes of abnormal alkalinity reduction plant operating conditions are identified by analysing technical and operational information in accordance with workplace procedures
	4.2	Alkalinity reduction plant integrity and personnel safety are maintained in consultation with relevant personnel and technical and operational documentation in accordance with workplace procedures
5 Monitor and inspect alkalinity reduction plant	5.1	Alkalinity reduction plant is monitored and inspected for normal operation and to detect deviations in accordance with workplace procedures
	5.2	Relevant personnel are notified when defects are detected in accordance with workplace procedures
6 Complete documentation	6.1	Alkalinity reduction plant problems, movements and status are reported in accordance with workplace procedures
	6.2	Documentation is updated in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEP Electricity Supply Industry - Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS322 Operate and monitor alkalinity reduction plant.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS077 Operate and monitor alkalinity reduction plant

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least two separate occasions and include:

- analysing alkalinity reduction plant faults using data analysis techniques and tools
- applying work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - chemical use and hazards
 - emergency procedures
 - risk control measures
 - safe work practices, including use of safety data sheets (SDS)
- communicating with personnel
- completing documentation
- identifying alkalinity reduction plant status
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- interpreting manuals
- monitoring and inspecting alkalinity reduction plant operation
- operating alkalinity reduction plant
- organising resources
- planning and preparing work
- preparing alkalinity reduction plant and equipment for operation
- recognising and responding to abnormal alkalinity reduction plant operating conditions
- testing alkalinity reduction plant operations using diagnostic and testing techniques
- working with permit to work system.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- alkalinity reduction plant and equipment, location and operating parameters, including supervisory, alarm, protection and control equipment

- alkalinity reduction plant status
- arrangements of power production plant
- manuals
- permit to work system
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- WHS/OHS requirements, including:
 - chemical use and hazards
 - emergency procedures
 - risk control measures
 - safe work practices, including use of SDS
- workplace documentation
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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