



Australian Government

UEPOPS322 Operate and monitor alkalinity reduction plant

Release: 1

UEPOPS322 Operate and monitor alkalinity reduction plant

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

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 typically 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.

Note: Workplace practices

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

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.

1 Plan and prepare work

- 1.1 Safety issues related to the operating and monitoring of alkalinity reduction plant are identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements
- 1.2 Work requirements are identified, in accordance with workplace procedures, from appropriate personnel and documentation
- 1.3 Documentation to determine alkalinity reduction plant status is assessed and evaluated, in accordance with workplace procedures
- 1.4 Inspection and field preparation for alkalinity reduction plant service is carried out, in accordance with workplace procedures and manufacturers' recommendations
- 1.5 Alkalinity reduction plant operational prerequisites are established, in accordance with workplace procedures and manufacturers' recommendations
- 1.6 Sequence for recommissioning of alkalinity reduction plant is determined, in accordance with workplace procedures and site requirements

2 Operate alkalinity reduction plant

- 2.1 Alkalinity reduction plant is operated, in accordance with workplace procedures and manufacturers' operating recommendations
- 2.2 Alkalinity reduction plant is monitored and observed, in accordance with workplace procedures, to detect deviations from normal operating conditions
- 2.3 Corrective actions are taken to rectify abnormalities in alkalinity reduction plant, in accordance with workplace procedures and manufacturers' recommendations
- 2.4 Alkalinity reduction plant is identified and removed from service, in accordance with workplace procedures and site requirements

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| | 2.5 | Corrective actions are taken, in accordance with workplace procedures, when abnormalities are identified during the removal from service of alkalinity reduction plant |
| 3 Test alkalinity reduction plant operation | 3.1 | Operational tests are performed, in accordance with workplace procedures |
| | 3.2 | Alkalinity reduction plant is observed for correct operational response, in accordance with workplace procedures |
| | 3.3 | Corrective action is taken, in accordance with workplace procedures, when response does not meet with documentation, alkalinity reduction plant integrity or personnel safety requirements |
| | 3.4 | 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, in accordance with workplace procedures, and by analysing technical and operational information |
| | 4.2 | Corrective action is taken, in accordance with workplace procedures |
| | 4.3 | Alkalinity reduction plant integrity, and personnel safety, is maintained, in accordance with workplace procedures, and in consultation with appropriate personnel and technical and operational documentation |
| 5 Monitor and inspect alkalinity reduction plant | 5.1 | Alkalinity reduction plant to be monitored or inspected is physically identified, in accordance with workplace procedures |
| | 5.2 | Alkalinity reduction plant is monitored or inspected, in accordance with workplace procedures, for normal operation or to detect deviations |
| | 5.3 | Corrective action is taken, in accordance with workplace procedures |
| | 5.4 | Appropriate 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS322B 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 UEPOPS322 Operate and monitor alkalinity reduction plant

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

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

- 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)/Material Safety Data Sheets (MSDS)
- communicating with personnel
- completing documentation
- identifying alkalinity reduction plant status
- implementing legislation, industry standards, codes of practice and regulations
- interpreting manufacturers specifications and manuals
- monitoring and inspecting alkalinity reduction plant operation
- operating alkalinity reduction plant
- organising resources
- planning and preparing work
- preparing alkalinity reduction plant and/or equipment for operation
- recognising and responding to abnormal alkalinity reduction plant operating conditions
- testing alkalinity reduction plant operations using diagnostic and test 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, performance criteria and range of conditions and includes knowledge of:

- alkalinity reduction plant and equipment, its location and operating parameters including

- supervisory, alarm, protection and control equipment
- alkalinity reduction plant status
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - chemical use and hazards
 - emergency procedures
 - risk control measures
 - safe work practices including use of Safety Data Sheets (SDS)/Material Safety Data Sheets (MSDS)
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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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.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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