



Australian Government

UEPOPS020 Control hydro generation pumping

Release: 1

UEPOPS020 Control hydro generation pumping

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 undertake the control of hydro generation pumping through remote control of hydro generating plant.

Hydro pumping is a system for generating hydroelectric power for peak periods. This is performed by pumping water from a lower to a higher reservoir during low demand periods and then releasing it during peak periods.

Competency in this unit requires the ability to maintain key indicator limits, operate remote hydro plant, maintain policies and procedures and complete work. Individuals will, in general, work as an operator, in a power generation facility.

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.

1 Maintain key indicator limits	1.1	Pond levels, power station discharges, plant voltage and current limits, frequency and time errors are maintained in accordance with manufacturers' recommendations and specifications, and workplace procedures
	1.2	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 monitored
	1.3	Hydro generation plant is run at peak efficiency, to the load schedule, avoiding rough running zones, in accordance with workplace procedures
2 Operate remote hydro plant	2.1	Hydro generation power plant is remotely stopped, started, loaded and unloaded in accordance with the electricity generation schedule and workplace procedures
	2.2	Power generating plant is remotely switched in and out of synchronous condenser operation in accordance with workplace procedures
3 Maintain policies and procedures	3.1	Communication procedures are used to alert public of increased river flows in accordance with workplace procedures
	3.2	Minimum river flows are maintained and agreed limits set in accordance with workplace procedures
	3.3	Water storage levels are monitored and maintained in accordance with legislative requirements and workplace procedures
4 Complete documentation	4.1	Equipment problems, movements and status are reported in accordance with workplace procedures
	4.2	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 UEPOPS514 Control hydro generation pumping.

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 UEPOPS020 Control hydro generation pumping

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.

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:

- applying work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating dam and river levels to public
- completing documentation using recording procedures
- determining remote indication of hydro plant status and condition
- identifying hydro power generating plant status
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements'
- interpreting manuals
- maintaining policies and procedures
- operating remote hydro plant within design parameters
- preserving hydro generation pumping key indicator limits
- recognising abnormal hydro plant operating conditions and determining corrective actions

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:

- arrangements of hydro power production plant, including:
 - dam types and characteristics
 - hydro generator types and characteristics
 - hydro power generating equipment status
 - hydro turbine types and characteristics, including hydro turbine governors
- communication required by public and stakeholders about dam or river levels
- hydro power generating plant and equipment, location and operating parameters

- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- manuals
- WHS/OHS requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- 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

Companion Volume implementation guides are found in VETNet -

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