



Australian Government

UEPOPS514 Control hydro generation pumping

Release: 1

UEPOPS514 Control hydro generation pumping

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 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 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 practice

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 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 workplace procedures and manufacturers' specifications
	1.2	Hydro generation plant is run at peak efficiency, or 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 workplace procedures and the operating regimes dictated by the electricity generation schedule
	2.2	Power generating plant is remotely switched in and out of synchronous condenser operation, as required, in accordance with workplace procedures
3 Maintain policies and procedures	3.1	Communication procedures used to alert public of increased river flows, in accordance with workplace procedures
	3.2	Minimum river flows are maintained, in accordance with workplace procedures and agreed limits
	3.3	Water storage levels are monitored and maintained, in accordance with workplace procedures, legislative requirements and policy guidelines
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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS514B Control hydro generation and 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 UEPOPS514 Control hydro generation pumping

Modification History

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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, performance criteria and range of conditions on at least two separate occasions and includes:

- 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 legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and 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, performance criteria and range of conditions and includes knowledge of:

- communication required by public and stakeholders about dam or river levels
- hydro power generating plant and equipment, its location and operating parameters
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- typical 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
- WHS/OHS legislated requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- 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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