Australian Government

UEPMNT408 Install hydro turbines

Release: 2

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Modification History

Release 2. Minor release to update superseded pre-requisite units.

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 install hydro turbines. The installation of a hydro turbine refers to a hydro turbine being removed from service, for repair and overhaul.

Installation is a key feature of placing hydro turbines into service, it can include conducting repairs and/or the overhaul of a hydro turbine to ensure reliability of operation during its service life.

Competency in this unit requires the ability to plan work, disassemble a hydro turbine, inspect hydro turbine's components, repair a hydro turbine and/or its' components and to report on all completed work tasks. Individuals will, in general, work under supervision as a maintenance operative in a power generation facility.

Power generation maintenance personnel are typically trained and authorised to receive 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 of competency may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional and/or other conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

MEM09002 Interpret technical drawing

MEM12023 Perform engineering measurements

MEM18001 Use hand tools

MEM18002 Use power tools/hand held operations

MEM18003 Use tools for precision work

MEM18006 Perform precision fitting of engineering components

MEM18009 Perform levelling and alignment of machines and engineering components

MEM18055 Dismantle, replace and assemble engineering components

UEPMNT402 Conduct complex levelling and alignment

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan and prepare for work	**1.1** Requirements including scope of work and assigned roles are identified and confirmed with appropriate personnel or by site inspection, in accordance with workplace procedures
	1.2 Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards, codes of practice, manufacturers' specifications, environmental obligations and workplace procedures are reviewed in preparation for work
	1.3 Resources are obtained and inspected for compliance with job specification
	1.4 Relevant plans, drawings and manuals are selected and used, in accordance with workplace procedures
	1.5 Correct materials and components for work are obtained and inspected for compliance with job specification
	1.6 Work is planned, sequenced and prioritised, in accordance with workplace procedures
	1.7 Potential hazards are identified and risk control measures are selected and implemented, in accordance with workplace procedures
	1.8 Work area is prepared, in accordance with workplace procedures

2	**Disassemble hydro turbine**	**2.1** Isolations for work are confirmed, in accordance with workplace procedures
		2.2 Hydro turbine is disassembled, in accordance with manufacturers' specifications and workplace procedures
		2.3 Hydro turbine components are removed in priority order, in accordance with manufacturers' specification and workplace procedures
		2.4 Disassembly is carried out to facilitate reassembly, in accordance with workplace procedures
		2.5 Components are measured and clearances are taken, in accordance with workplace procedures, to determine conformity to manufacturer's limits and to ensure assembly meets manufacturers' specifications
		2.6 Measurements and clearances are recorded, in accordance with manufacturer' specifications and workplace procedures
3	**Inspect hydro turbine components**	**3.1** Components are cleaned and inspected, in accordance with workplace procedures
		3.2 Faults are identified and recorded, in accordance with workplace procedures
		3.3 New components are inspected for compliance to manufacturers' specifications, in accordance with workplace procedures
		3.4 Components are prepared for assembly, in accordance with workplace procedures
4	**Repair hydro turbine or components**	**4.1** Repairs are carried out, in accordance with workplace procedures
		4.2 Repairs are tested and results are analysed to ensure conformance to manufactures' specifications, in accordance with workplace procedures
		4.3 Data from testing is recorded, in accordance with workplace procedures
5	**Reassemble hydro turbine**	**5.1** Equipment and plant is prepared for reassembly of hydro turbine, in accordance with workplace procedures.
		5.2 Isolations are confirmed, in accordance with workplace

		procedures
	5.3	Components are refitted, in accordance with workplace procedures and manufacturers' specifications.
	5.4	Hydro turbine is assembled, in accordance with workplace procedures and manufacturers' specifications.
	5.5	Hydro turbine is test run, and operating characteristics are monitored, to ensure compliance with manufacturers' specifications, in accordance with workplace procedures
6 Complete work	**6.1**	Work is completed and appropriate personnel are notified in accordance with workplace procedures
	6.2	Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
	6.3	Tools and equipment are maintained and stored, in accordance with workplace procedures
	6.4	Work completion details are finalised, 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 UEPMNT408B Install hydro turbines.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8