



Australian Government

UEPMNT424 Monitor efficiency of thermal steam cycle power plant

Release: 1

UEPMNT424 Monitor efficiency of thermal steam cycle power 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 for the collection of data and the calculation of the efficiency of power generation plant associated with the thermal steam cycle.

Data collection is the process of gathering and measuring information systematically so that outcomes can be evaluated and calculations undertaken to ensure the efficiency of all plant associated with the thermal steam cycle in a power generation facility.

Competency in this unit requires the ability to plan for plant in-service checks, carry out in-service electrical checks, carry out corrective actions and complete work. Individuals will, in general, work 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

UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEE104A Solve problems in D.C. circuits

UEENEEE105A Fix and secure electrotechnology equipment

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEG006A Solve problems in single and three phase low voltage machines

UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits

UEENEEG063A Arrange circuits, control and protection for general electrical installations

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage A.C. circuits

UEENEEG106A Terminate cables, cords and accessories for low voltage circuits

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Collect data

PERFORMANCE CRITERIA

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

1.1 Information is collected, in accordance with workplace procedures, legislative requirements, industry standards and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations

1.2 Thermal steam cycle plant is identified and its' status is established

1.3' Tools and equipment are identified and acquired, in accordance with workplace procedures

1.4 Specialist assistance or equipment is sought, if required

1.5 Information is recorded, in accordance with workplace procedures

2 Perform calculations

2.1 Calculations are performed, in accordance with workplace procedures

2.2 Information on input and output is checked for accuracy

2.3 Thermal steam cycle plant performance is measured and calculated, in accordance with workplace procedures

3 Evaluate and analyse information

3.1 Analysis of technical and operational performance information is conducted to identify if abnormal

	operating conditions
	3.2 Causes of any abnormal performance in thermal steam cycle plant is identified
	3.3 Thermal steam cycle plant integrity is maintained through consultation with designated personnel and operational documentation
4 Produce report and complete work	4.1 Information and data are collated and documented, in accordance with workplace procedures
	4.2 Reports are produced, in accordance with workplace procedures
	4.3 Recommendations are made to appropriate personnel, in accordance with workplace procedures
	4.4 Implementation of recommendations are monitored, in accordance with workplace procedures, to ensure thermal steam cycle plant efficiency

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 UEPMNT424B Monitor efficiency of thermal steam cycle power 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 UEPMNT424 Monitor efficiency of thermal steam cycle power plant

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
 - potential hazards
 - risk control measures
 - safe working practices
- collecting data
- communicating with personnel
- determining thermal steam cycle plant performance
- evaluating and analysing information
- identifying thermal steam cycle plant status
- implementing legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and manuals
- monitoring thermal steam cycle power plant
- performing calculations
- producing reports and completing work
- recording data and writing reports
- using data analysis techniques and tools
- using resources and materials
- utilising operating parameters for thermal steam cycle plant
- working with performance testing and data collection techniques

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:

- calculations

- evaluation and analysis of data
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- performance testing techniques
- report writing
- resources and materials
- thermal steam cycle plant status
- thermal steam cycle power plant monitoring thermal steam cycle plant and equipment, its location
- thermal steam cycle power plant operating parameters, performance and characteristics
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - emergency procedures
 - potential hazards
 - 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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