



Australian Government

UEPMNT428 Modify complex instrumentation equipment

Release: 2

UEPMNT428 Modify complex instrumentation equipment

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 Minor release to update superseded pre-requisite units.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 conduct modifications of complex instrumentation used in multi-loop configurations including characterising equipment, microprocessor control and interface equipment, as well as laboratory and field analysers, ultrasonic and nucleonic equipment.

Modifications can include any changes which may alter complex electronic instrumentation equipment that is used to measure, monitor, automate and control processes and equipment in a power generation facility from the manufacturers' specifications.

Competency in this unit requires the ability to plan work, carry out modifications to complex electronic instrumentation equipment and to report on all completed tasks. Individuals will, in general, work under supervision in an electrical, electronic and/or mechanical equipment repair workshop or on site.

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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEPMNT356 Maintain instrumentation equipment

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare for work

2 Carry out complex instrumentation

PERFORMANCE CRITERIA

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

- 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 are obtained and inspected, in accordance with workplace procedures, 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
- 2.1** Isolations are confirmed, where appropriate, in accordance with workplace procedures and site

equipment modifications	requirements
	2.2 Complex instrumentation equipment is modified using appropriate plans, drawings and manuals, in accordance with workplace procedures
	2.3 Modifications are carried out, in accordance with workplace procedures, without damage or loss to other equipment
	2.4 Modified equipment is set up, in accordance with workplace procedures and manufacturers' specifications, to meet operational requirements
	2.5 Final inspection is performed, in accordance with workplace procedures
3 Complete work	3.1 Work is completed and appropriate personnel are notified, in accordance with workplace procedures
	3.2 Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
	3.3 Tools and equipment are cleaned, maintained and stored, in accordance with workplace procedures
	3.4 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 UEPMT428B Modify complex instrumentation equipment.

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 UEPMNT428 Modify complex instrumentation equipment

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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
 - hazard identification
 - risk control measures
 - safe working practices
- carry out modifications using modification techniques and procedures
- communicating with personnel
- completing work and finalising completion details
- determining permit to work requirements
- identifying and selecting materials
- implementing regulations, industry standards, codes of practice and legislation
- interpreting manufacturers' specifications and manuals
- modifying complex instrumentation equipment
- planning for modification of complex instrumentation equipment work
- using tools and equipment
- utilising data analysis techniques and tools
- working with test and measurement instruments

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:

- equipment and materials
- instrumentation practices
- isolations

- layout of generation plant and operation of equipment
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- modification techniques
- modifying complex instrumentation equipment
- permit to work system
- test and measurement instruments
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - emergency procedures
 - hazard identification
 - 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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