



Australian Government

UEPMNT421 Conduct technical inspection of process plant and equipment

Release: 2

UEPMNT421 Conduct technical inspection of process plant and 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 Minor release to update superseded pre-requisite units.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 a technical inspection of process generation plant, equipment and associated infrastructure.

An inspection is an organised examination or formal evaluation of power generation plant and equipment, it includes verifying compliance with technical specifications, taking measurements and performing tests.

Competency in this unit requires the ability to prepare for an inspection of power generation plant, inspection of power generation plant, analysing inspection results and updating documentation. 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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0043 Solve problems in direct current circuits

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

UEEEL0003 Arrange circuits, control and protection for general electrical installations

UEEEL0011 Evaluate performance of low voltage electrical apparatus

UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits

UEEEL0020 Solve problems in low voltage A.C. circuits

UEEEL0021 Solve problems in magnetic and electromagnetic devices

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

UEEEL0024 Test and connect alternating current (a.c.) rotating machines

UEEEL0025 Test and connect transformers

UEPMNT351 Test and commission electrical equipment

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for inspection process plant

PERFORMANCE CRITERIA

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

- 1.1** Short term maintenance and operating history is identified and obtained from authorised personnel
- 1.2** Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards, codes of practice, manufacturers' specifications and workplace procedures are reviewed in preparation for work
- 1.3** Deviations from normal operational parameters of process plant, equipment and associated infrastructure are identified
- 1.4** Potential options for cause of deviations are established, in accordance with workplace procedures
- 1.5** Needs and outcomes of process plant inspections or testing are defined, in accordance with workplace procedures
- 1.6** Method sheets, check sheets and isolation instructions are obtained, in accordance with workplace procedures

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|---------------------------------------|------------|--|
| | 1.7 | Technical procedures are reviewed and adapted, as required, in accordance with workplace procedures |
| 2 Inspect process plant | 2.1 | Process plant is correctly identified, in accordance with workplace procedures |
| | 2.2 | Process plant's operational status is identified, in accordance with workplace procedures |
| | 2.3 | Inspection work is carried out, in accordance with workplace procedures, legislative requirements and industry standards |
| | 2.4 | Inspection methods are followed, in accordance with workplace procedures |
| | 2.5 | Relevant documentation is completed, in accordance with workplace procedures |
| | 2.6 | Additional tests or inspections are identified, in accordance with workplace procedures |
| | 2.7 | Process plant and/or equipment is left in a safe condition, in accordance with workplace procedures |
| | 2.8 | Process plant and/or equipment availability is declared, in accordance with workplace procedures |
| | 2.9 | Specialist assistance is sought, in accordance with workplace procedures, during a technical inspection |
| 3 Analyse inspection results | 3.1 | Testing and inspection results are analysed |
| | 3.2 | Causes for deviations from normal operation are identified |
| 4 Prepare remedial action plan | 4.1 | Action plan is prepared for any required remedial action on process plant, equipment and associated infrastructure |
| | 4.2 | Remedial action is checked for implementation effectiveness, in accordance with workplace procedures |
| 5 Update documentation | 5.1 | Records and documentation is updated, in accordance with legislative requirements, industry standards and workplace procedures |
| | 5.2 | Testing and inspection results, including reports are forwarded to designated personnel |

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 UEPMT421B Conduct technical inspection of process plant and 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 UEPMNT421 Conduct technical inspection of process plant and 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:

- analysing inspection results
- analysing with data analysis techniques and tools
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- communicating with personnel
- comparing components against drawings, manuals and modules
- determining power generation operating parameters and process plant status
- identifying abnormal power generation plant operating conditions including process plant
- implementing legislation, industry standards, codes of practice and regulations
- inspecting process plant
- locating process plant and equipment at worksite
- meeting permit to work requirements
- organising a remedial action plan
- preparing for inspection
- recognising worn, damaged or seized components
- updating documentation using recording procedures
- using manufacturers' specifications and manuals
- utilising testing and inspection techniques
- working with Safety Data Sheets (SDS)/Material Safety Data Sheets (MSDS)

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:

- data analysis techniques and tools
- inspection and test procedures
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- power generation plant operating parameters including process plant
- process plant and equipment, its location and operation
- process plant status
- Safety Data Sheets (SDS)/Material Safety Data Sheets (MSDS)
- test equipment
- 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
- worn, damaged or faulty process plant and equipment

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.

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