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# **UEERA0096 Inspect, test and repair fire and smoke control features of mechanical services systems**

## **Modification History**

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

## **Application**

This unit involves the skills and knowledge required to inspect, test and repair all safety measures relating to fire and smoke control features of mechanical services systems.

Mechanical services refers to equipment required to operate or switch off as an active part of a buildings fire and smoke hazard management system not limited to the following: vents and dampers including fire, smoke and air dampers, smoke and heat vents, motorised relief openings, windows and shutters, and outdoor intakes; fire and smoke curtains; exhaust systems, including kitchen exhaust systems; fire fan control panel and fire indicator panel; fire isolated exit pressurisation systems; smoke exhaust systems; system shutdown; and smoke reservoirs.

It includes relevant Australian Standards and Building Code responsibilities and statutory requirements of building owners, contractors and service technicians related to fire and smoke control features of mechanical services systems.

This unit is suitable for trade and post trade training in the refrigeration and air conditioning sectors.

Although this unit does not include designing systems, it includes understanding the different types of systems and their installation, relevant parts of the associated Australian Standards, the Building Code of Australia and Building Regulations. Refer to the UEE Electrotechnology Companion Volume Implementation Guide for a list of Standards relevant to this unit.

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V alternating current (a.c.) or 120 V direct current (d.c.).

Competency development activities in this unit are subject to regulations directly related to licensing. Where a licence or permit to practice is not held, skills and knowledge described in this unit require a relevant contract of training, such as an Australian Apprenticeship.

Additional licences, permits and/or other conditions may apply in some jurisdictions subject to regulations related to fire and smoke control features of mechanical services systems work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

Permits may also be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

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## Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEERA0051 Install, commission, service and maintain air conditioning systems

## Competency Field

Refrigeration and air-conditioning

## Unit Sector

Electrotechnology

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

1 Prepare to conduct safety checks and routine service activities

2 Perform safety measures inspections and tests

### PERFORMANCE CRITERIA

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

1.1 WHS/OHS risk control measures and procedures for carrying out the work are obtained and implemented in accordance with workplace procedures

1.2 Relevant legislation, codes and standards are identified and obtained

1.3 Facility specific approved design, drawings, baseline data and other relevant information as required are identified and obtained

1.4 Routine service or inspection cycle or schedule and responsibilities are determined in compliance with statutory requirements and standards

1.5 Log-sheet of safety and/or operational checks, inspections, tests and routine service action requirements are obtained or created

1.6 Details of any reported defects are obtained

1.7 Required tools, instruments, equipment and resources are determined

2.1 Inspection and test tools, instruments or equipment are obtained

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- 2.2 Tools, instruments and equipment for correct operation and calibration if required are checked
  - 2.3 Safety measures inspections and tests on individual components or sections and systems are performed
  - 2.4 Inspections and tests in compliance with legislation, codes, standards and OHS/WHs requirements and responsibilities are carried out
- 3 Carry out safety measures routine service
- 3.1 Routine service work in compliance with legislation, codes, standards and OHS/WHs requirements and responsibilities are carried out
  - 3.2 Equipment, machines and plant are isolated and checked where necessary in strict accordance with WHs/OHS requirements
  - 3.3 Routine service tasks are carried out according to regulatory requirements without compromising the integrity of the building or environmental requirements
  - 3.4 Routine service personnel required to perform the tasks are coordinated in an efficient and effective manner
  - 3.5 Responsibility boundaries with other routine service participants are observed
  - 3.6 Unexpected situations are addressed by reference to job specifications, building management procedures and discussion with appropriate personnel
  - 3.7 Defects and faults are identified and reported, and rectification recommended
  - 3.8 Plant, systems and equipment are checked for correct operation on completion of routine service tasks
- 4 Develop and maintain records
- 4.1 Notes and/or complete checklists of the inspections, tests and routine service carried out are prepared in accordance with regulatory requirements and timeframes
  - 4.2 Notes, checklists and updated log sheets are collated and readily accessible on site

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- 4.3 Safety checks, routine service and yearly condition report are signed off and reports submitted to building manager and/or owner

## **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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Demonstration of this unit of competency must include:

- planning, implementing and applying a building's routine service program of fire and smoke control features of mechanical services systems on more than one occasion and in two different facilities

## **Unit Mapping Information**

Newly created unit.

## **Links**

Companion Volume implementation guides are found in VETNet - LINK POPULATED ON PUBLICATION

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# Assessment Requirements for UEERA0096 Inspect, test and repair fire and smoke control features of mechanical services systems

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## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least two separate occasions and include:

- implementing WHS/OHS workplace procedures and practices including the use of risk control measures
- reading and interpreting a cause-and-effect chart
- testing air handling changeover under fire/smoke conditions
- testing fire isolated stairwells and escape routes protected by air-pressurisation systems
- testing of mechanical services required to shut down under fire/smoke conditions
- using test instruments
- carrying out performance testing
- reporting defects, faults and recommend timeframes and solutions
- signing off and submitting documentation
- carrying out scheduled routine service at required intervals.

## Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- types of safety measures and typical defects and faults
- types of buildings and Safety Measures requirements based on occupancy permit
- Building regulations and legislation
- Building Code of Australia relevant to smoke hazard management systems
- relevant Australian Standards (Refer UEE Companion Volume Implementation Guide)
- statutory requirements and responsibilities in relation to safety measures
- routine service participants and responsibilities
- routine service, inspection and testing standards and requirements at various intervals
- documentation types and their purpose
- fire and smoke control features of mechanical services requirements, methods, applications, systems and equipment

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- inspection and test tools, instruments and equipment types, applications, operation, use and care
  - individual components or sections and systems safety measure inspection and test methods
  - how to read and interpret a cause-and-effect chart.

## **Assessment Conditions**

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

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.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including: regulations, codes of practice, industry standards, workplace procedures, equipment specifications, relevant facility specific designs, drawings, baseline data or records and operation manuals.

## **Links**

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