



Australian Government

UEERA0054 Maintain microbial control of refrigeration and air conditioning systems

Release: 1

UEERA0054 Maintain microbial control of refrigeration and air conditioning 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 maintain microbial control of refrigeration and air conditioning systems.

It includes quality assurance and risk management compliance processes for maintenance of the air and water systems associated with refrigeration and air conditioning.

It also includes working safely and to technical, quality and risk management industry standards, work specifications, maintenance schedules and sample inspections; evaluating components and completing the necessary maintenance documentation.

The skills and knowledge in this unit will be applied by those cleaning and maintaining refrigeration and air conditioning chilled water, hot water or cooling tower water systems.

Most state/territory jurisdictions have legislative requirements for the management of microbial control in cooling water systems to prevent the growth and transmission of Legionnaires' Disease.

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

Pre-requisite Unit

Not applicable.

Competency Field

Refrigeration and air-conditioning

Unit Sector

Electrotechnology

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 Prepare to maintain microbial control of air and water systems

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) hazards, risk control methods, relevant standards, codes and legislation are obtained and applied in accordance with workplace procedures
- 1.2** Safety hazards which have not been previously identified are noted on risk assessment documents and risk control measures determined and implemented
- 1.3** Maintenance schedule and process compliance requirements are confirmed and appropriately sequenced in accordance with legislative, industry standards and code requirements and established procedures
- 1.4** Appropriate person/s is consulted to ensure the work is coordinated effectively with others involved on the worksite
- 1.5** Location of equipment to be maintained is determined from maintenance schedule, workplace procedures and/or system specifications and diagrams
- 1.6** Resources needed to conduct the maintenance are obtained in accordance with workplace procedures and checked against job requirements
- 1.7** Tools, equipment and testing devices needed to conduct the maintenance work are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Maintain microbial control of air and water systems

- 2.1** Circuits/machines/plant are checked and isolated in accordance with WHS/OHS requirements and workplace procedures
- 2.2** Water samples are taken and tested in accordance with legislative, industry standards and code requirements and established methods and routines
- 2.3** Air and water system apparatus to be maintained is inspected and evaluated for compliance with legislative, industry standards and code requirements in accordance

with maintenance schedule.

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| 2.4 | Non-compliant apparatus/components/samples are documented and arrangements made for their rectification in accordance with workplace procedures |
| 2.5 | Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment |
| 2.6 | Ongoing checks of quality of maintenance work are undertaken in accordance with workplace procedures |
| 2.7 | Maintenance process compliance is performed efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy practices |
| 3 Complete maintenance processes and documentation | 3.1 Worksite and equipment are cleaned and made safe in accordance with workplace procedures |
| | 3.2 Final checks are made to verify that the maintenance complies with maintenance requirements |
| | 3.3 Maintenance completion is documented and appropriate person/s notified in accordance with established procedures and regulations |

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.

maintaining microbial control of refrigeration and air conditioning systems must include at least the following:

- two different air and water systems

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ168A Maintain microbial control of refrigeration and air conditioning systems.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEERA0054 Maintain microbial control of refrigeration and air conditioning systems

Modification History

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

Performance Evidence

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

- applying relevant legislative, industry standards, codes and practices
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including using risk control measures
- applying sustainable energy principles and practices
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining and arranging for corrective action of non-compliant apparatus
- documenting maintenance work
- following maintenance schedule
- following quality assurance and risk management compliance processes
- inspecting and evaluating apparatus for quality assurance and risk compliance
- interpreting maintenance schedule requirements correctly
- planning to maintain microbial control of air and water system
- sampling water condition.

Knowledge Evidence

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

- harmful microbes and the effects if left uncontrolled
- maintenance microbial control of refrigeration and air conditioning system, including:
 - data acquisition
 - inspection techniques
 - maintenance plans
 - plant history cards/files
 - predictive maintenance
 - principles and function

- recording methods
- systems and terminology
- methods of controlling harmful microbes, including regular cleaning/decontamination of effected plant, sample testing and approved treatment
- microbial control safe working practices and relevant industry standards, codes of practice and regulations
- relevant air and water system manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including safe handling and application of treatment materials
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- types of air and water systems that require control of harmful microbes.

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:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

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