



Australian Government

Department of Education, Employment and Workplace Relations

UEENEEJ168A Maintain microbial control of refrigeration and air conditioning systems

Release: 2

UEENEEJ168A Maintain microbial control of refrigeration and air conditioning systems

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

1)

1.1) Descriptor

This unit covers the quality assurance and risk management compliance processes for maintenance of the air and water systems associated with refrigeration and air conditioning. It encompasses working safely and to technical, quality and risk management standards, work specifications and maintenance schedules, sample inspections, evaluating components and completing the necessary maintenance documentation.

Application of the Unit

Application of the Unit 4)

This unit apply to any qualification in this standard at an AQF 2 level.

Licensing/Regulatory Information

1.2) License to practice

The skills and knowledge described in this unit require a license to practice in the work place where plant and equipment operate at voltage above 50 V a.c. or 120 V d.c. Where refrigeration and air conditioning are involved practice in the workplace is subject to Federal/State/Territory regulations covering public health and the relevant codes of practice; in some jurisdictions a licence is required.

Practice in the workplace is also subject to regulations directly related to occupational health and safe and contracts of training such as new apprenticeships.

Pre-Requisites

Prerequisite Unit(s) 2)

2.1) Competencies

There are no prerequisite competencies for this unit.

Employability Skills Information

Employability Skills

3)

This unit contains Employability Skills. The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1	Prepare to maintain microbial control of air and water systems.	1.1	OHS procedures for a given work area are identified, identified, obtained and understood
		1.2	Established OHS risk control measures and procedures are followed in preparation for the work.
		1.3	Safety hazards which have not previously been identified are noted and established risk control measures are implemented.
		1.4	The maintenance schedule and process compliance requirements are confirmed and work appropriately sequenced in accordance with established procedures.
		1.5	Appropriate person(s) are consulted to ensure the work is coordinated effectively with others involved on the work site.

ELEMENT	PERFORMANCE CRITERIA
	1.6 Location equipment to be maintained is determined from maintenance schedule procedures and/or system specifications and diagrams. 1.7 Resources needed to conduct the maintenance is obtained in accordance with established procedures and checked against job requirements. 1.8 Tools, equipment and testing devices needed to conduct the maintenance are obtained in accordance with established procedures and checked for correct operation and safety.
2 Maintain microbial control of air and water systems.	2.1 OHS risk control measures and procedures for carrying out the work are followed. 2.2 Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures. 2.3 Water samples are taken and tested in accordance with established methods and routines. 2.4 Apparatus to be maintained is inspected and evaluated for compliance with requirements in accordance with maintenance schedule. 2.5 Non compliant apparatus/components/samples are documented and arrangements made for their rectification in accordance with established procedures. 2.6 Established methods for dealing with unexpected situations are discussed with appropriate person or persons and documented. 2.7 Ongoing checks of the quality of the maintenance are undertaken in accordance with established procedures. 2.8 Maintenance process compliance is performed efficiently without waste of materials or damage to apparatus and the surrounding environment or services and using sustainable energy practices.

ELEMENT		PERFORMANCE CRITERIA	
3	Complete of maintenance processes and documentation.	3.1	OHS work completion risk control measures and procedures are followed.
		3.2	Work site and equipment is cleaned and made safe in accordance with established procedures.
		3.3	Final checks are made to verify that the maintenance complies with requirements.
		3.4	Maintenance completion is documented and an appropriate person or persons notified in accordance with established procedures and regulations.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and maintaining microbial control of air and water systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EJ168A Microbial control

Evidence shall show an understanding of microbial control, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

- T1 Legislation and regulatory requirements for microbial control
- T2 Types of air and water systems that require control of harmful microbes.
- T3 Harmful microbes and they effects if left uncontrolled
- T4 Methods of controlling harmful microbes, including regular cleaning/decontamination of effected plant, sample testing and approved treatment.
- T5 Safe handling and application of treatment materials.
- T6 Maintenance

- Principles and function
- Systems and terminology
- Data acquisition
 - plant history cards/files
 - inspection techniques
 - predictive maintenance
- Maintenance plans
- Recording methods

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement

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and the Assessment Guidelines for this Training Package. .

The Evidence Guide forms an integral part of this Unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. In some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/how much the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also

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comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
 - Demonstrate an appropriate level of skills enabling employment
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Maintain microbial control of air and water systems as described in 8) and including:
 - A Interpreting maintenance schedule requirements correctly
 - B Following quality assurance and risk management compliance processes
 - C Following maintenance schedule
 - D Sampling water condition
 - E Inspecting and evaluating apparatus for quality assurance and risk compliance
 - F Arranging for corrective action of non compliant apparatus
 - G Documenting maintenance work.

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- H Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

Evidence should show demonstrated competency in maintaining microbial control of air and water systems.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is intended primarily for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with

9.5)

There are no concurrent assessment recommendations for this

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other units unit.

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit must be demonstrated in relation to maintaining microbial control of at least two different air and water systems.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3
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2.2) Literacy and numeracy skills

Competency Field 5)

Refrigeration and Air Conditioning

