

Title	Maintain mechanical building services		
Level	4	Credits	25

Purpose	<p>This unit standard is intended primarily for use in the training of personnel in the mechanical building services industry and covers maintenance of mechanical building services.</p> <p>People credited with this unit standard are able to: prepare maintenance schedules and reports for mechanical building services; maintain mechanical building services components, controls and operation; and complete and monitor mechanical building services maintenance documentation.</p>
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Classification	Mechanical Engineering > Heating, Ventilating, and Air Conditioning
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Available grade	Achieved
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Guidance Information

- 1 Reference and legislation
Health and Safety at Work Act 2015.
Ministry of Business, Innovation and Employment (MBIE). *New Zealand Building Code Handbook, 3rd Edition*. Available at <https://www.building.govt.nz/building-code-compliance/building-code-and-handbooks/building-code-handbook/>.
- 2 Definitions
Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the mechanical building services industry sector as examples of best practice.
System documents include all documents and drawings required to maintain the system. This may include maintenance contract documentation, system drawings and specifications, operating procedures, maintenance procedures, and manufacturers' specifications.
Workplace procedures refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 Range
Air conditioning and ventilation system includes – large central air conditioning systems, ducted constant-flow rate and variable-flow rate air conditioning systems, packaged and split air conditioning, heat pumps, supply and extract ventilation systems, fume ventilation, industrial ventilation systems.

Chilled water system includes – plain water, brine, glycol systems.

Gas systems include – medical gases, LPG, CNG, oxygen, acetylene, compressed air, natural gas.

Hot water heating systems include – low, medium, and high temperature systems.

Industrial liquids systems include – dry goods systems such as grains, industrial fluids systems such as inks, systems for slurries such as whey milk products, pelletized bed systems.

Industrial liquids may include – acids, alkalis, detergents, printing inks, food products.

Steam and condensate systems include – systems that use gas, coal, oil, or electricity as fuel sources for the heating system components.

Evidence is required of maintenance of: an air conditioning and ventilation system, a chilled water system, and a hot water heating system, and one from – an industrial liquid system, a steam and condensate system, a gas system.

4 Assessment information

All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.

Outcomes and performance criteria

Outcome 1

Prepare maintenance schedules and reports for mechanical building services.

Performance criteria

- 1.1 Maintenance schedules and report formats for the system are prepared to meet client's requirements.
- 1.2 Maintenance schedules and reports comply with legislative and regulatory requirements and are consistent with building code standards.
- 1.3 Maintenance schedules and reports comply with operating and maintenance specifications laid down in system documents.

Outcome 2

Maintain mechanical building services components, controls and operation.

Performance criteria

- 2.1 Mechanical building services components are inspected at the intervals specified in the maintenance schedule.
- 2.2 Mechanical building services components are maintained to the standards and maintenance specifications laid down in the maintenance schedule.
- 2.3 Control functions and system operation are tested and adjusted to perform within the tolerances and ranges specified in the maintenance schedule.

Outcome 3

Complete and monitor mechanical building services maintenance documentation.

Performance criteria

- 3.1 Maintenance reports are completed and actioned in accordance with system documents.
- 3.2 Maintenance schedule and report formats are periodically reviewed, revised and verified as accommodating changes in system or equipment characteristics or changes in legislative requirements.

Replacement information	This unit standard replaced unit standard 3217, unit standard 3218, unit standard 3219, unit standard 3220, unit standard 3221, unit standard 3222, and unit standard 3223.
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Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 July 2010	31 December 2023
Review	2	29 March 2018	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.