
**FIRE AND RESCUE SERVICES -
STRUCTURAL AND INDUSTRIAL**
**Apply basic ventilation techniques to
assist fire and rescue operations**

level:	3
credit:	4
final date for comment:	March 2008
expiry date:	December 2009
sub-field:	Fire and Rescue Services
purpose:	<p>This unit standard is for emergency personnel who are required to work in irrespirable or contaminated atmospheres at emergency incidents and who will be required to carry out actions to ventilate confined spaces.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of hazards and principles of ventilation and equipment used at emergency incidents; carry out ventilation operations to assist fire and rescue operations; and re-commission ventilation equipment after fire and rescue operations use.</p>
entry information:	Open.
accreditation option:	Evaluation of documentation and visit by NZQA and industry.
moderation option:	A national moderation system of moderation networks has been established by the Fire and Rescue Services Industry Training Organisation.
special notes:	<ol style="list-style-type: none">1 Compliance with the fire and rescue service provider's Health and Safety policy and procedures is mandatory.2 Assessment against this unit standard may take place under real or practical simulated conditions.

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- 3 The primary references for this unit standard are the *Fire fighter training notes* and the *Positive pressure ventilation station guide* published by the New Zealand Fire Service, and available from NZFS, PO Box 2133, Wellington.
- 4 *Ventilation equipment* refers to all equipment used by the fire service provider to specifically remove contaminants and products of combustion from a structure to atmosphere.
- 5 *Fire and rescue service provider's requirements* or *Standard Operating Procedures (SOPs)* refer to policies and procedures on safety and operation set down by each fire and rescue service employer or host organisation.

Elements and Performance Criteria

element 1

Demonstrate knowledge of hazards and principles of ventilation and equipment used at emergency incidents.

performance criteria

- 1.1 Products found in the atmosphere of confined spaces that present hazards to fire fighters at fire and non-fire incidents are identified in accordance with the primary references.

Range: fire - three products;
non-fire - two products.

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- 1.2 The benefits of tactical ventilation in assisting fire and rescue operations in confined spaces are described in accordance with SOPs.
- Range: four of the following: access, rescue, safety, internal conditions, fire attack, property preservation.
- 1.3 Two risks associated with ventilation are described in accordance with the primary references.
- 1.4 Methods of ventilation are described in accordance with the primary references.
- Range: natural, automatic, and tactical.
- 1.5 Safety and operational factors to be considered prior to implementing ventilation are described in accordance with the primary references.
- 1.6 Ventilation techniques are explained with reference to outlet vent location and in accordance with the primary references.
- Range: vertical (top), horizontal (cross), positive pressure, and negative pressure
- 1.7 The relationship between the inlet vent and outlet vent for forced ventilation is explained in terms of size, in accordance with SOPs.
- 1.8 Equipment used for natural and forced ventilation is identified and is in accordance with that used by the candidate's fire and rescue service provider.
- 1.9 Describe the technique for siting positive pressure fans at inlet openings in accordance with the SOPs.
- Range: single fans, fans in parallel.

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element 2

Carry out ventilation operations to assist fire and rescue operations.

Range: horizontal, vertical, natural and forced (negative and positive pressure).

performance criteria

- 2.1 Personal protective equipment and ventilation equipment are selected and used in accordance with SOPs.
- 2.2 Equipment is placed and readied for use in accordance with SOPs.
- 2.3 Building or space is readied for ventilation in accordance with SOPs.

Range: inlet, outlets, selected internal openings, communicated to personnel.
- 2.4 Equipment is operated in accordance with SOPs and manufacturer's instructions.
- 2.5 Conditions within structure are re-evaluated and then monitored and reported in accordance with SOPs.

element 3

Re-commission ventilation equipment after fire and rescue operations use.

performance criteria

- 3.1 All ventilation equipment is recovered and removed from the site in accordance with SOPs.

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3.2 Ventilation equipment is restored to operational readiness in accordance with SOPs.

Range: drained, cleaned, refuelled.

Comments on this unit standard

Please contact the Fire and Rescue Services Industry Training Organisation info@frsito.org.nz if you wish to suggest changes to the content of this unit standard.

Please Note

Providers must be accredited by the Qualifications Authority or a delegated inter-institutional body before they can register credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for providers wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is covered by AMAP 0039 which can be accessed at <http://www.nzqa.govt.nz/site/framework/search.html>.