

G6 Ventilation (NCI 8)

Purpose

This document provides for:

- carrying out ventilation at incidents.

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Requirements for ventilation

Executive Officers' responsibilities

Chief Fire Officers will issue a procedure for ventilation at:

- fires
- hazardous substance emergencies
- operating in confined spaces
- other places where ventilation is required.

Fire Region Managers will ensure that every Fire District in the Fire Region has a procedure in accordance with this instruction.

Local procedures

Local procedures will take into account:

- authorisation of ventilation
- tactics
- crew safety
- use of positive pressure ventilation.

PPV Technical Manual

When PPV is carried out, NZFS personnel will follow the procedures described in:

- the *PPV Technical Manual*.

Ventilation at fires procedure

Operations

Ventilation will only be carried out on the instruction of the OIC Fire.

Upon arrival

Upon arrival at the incident, the OIC Fire will assess the situation by gathering the following information:

- if persons are reported trapped in the building by fire, establish their location
- assess the size location and nature of the fire
- assess the suitability of inlet and outlet vents
- determine wind direction
- assess the potential fire spread.

Tactics

Select the method of ventilation to be used:

- natural
- forced
 - positive pressure
 - negative pressure
 - building systems
- offensive/defensive
- vertical/horizontal.

To establish ventilation:

- estimate the size of the compartment to be ventilated
- create outlet and inlet vents (construct outlet vent first)
- ensure that a continuous path is established and maintained before proceeding
- if using positive pressure ventilation (PPV), ensure that the fan is positioned correctly
 - set up deliveries to cover the outlet vent and exposures
 - check that the number of outlet vents are adequate
 - establish communications between IC, PPV operator and BA crews
 - make all crews aware when ventilation is about to take place
 - check for backdraught/flashover conditions
 - consider withdrawing crews from inside of building
 - monitor size, spread and any changes in fire behaviour
 - monitor volume, colour, quantity and pressure of smoke
- brief oncoming and relief crews.

Hazard Identification and Control: Ventilation

Hazard control

All hazards will be controlled by eliminating, isolating where elimination is impracticable, or minimising, using one or more of the control methods given in the below:

Ventilation

Hazards	Control measures
<p><i>Significant hazards:</i></p> <ul style="list-style-type: none"> • backdraught • flashover • usual hazards associated with fire fighting 	<ul style="list-style-type: none"> • applying Safe Person Concept • pre-planning and risk assessment • structural firefighting uniform and BA worn correctly • all personnel are under appropriate supervision • briefing crews on the action plan (IAP or AAP) and on safety measures • all personnel trained in the methods, risks, and safe practices needed when carrying out ventilation, including: <ul style="list-style-type: none"> • forced entry • natural ventilation • recognition of potential for flashover and backdraught • designated crews will be trained in the methods, risks and safe practice for carrying out positive pressure ventilation • all personnel are under supervision • be aware of exposures created by ventilation
Once structure entered	
<p><i>Significant hazards:</i></p> <p>As Above, PLUS</p> <ul style="list-style-type: none"> • increased fire intensity • pushing fire into compartments that are not exposed to fire 	<p>As above, PLUS</p> <ul style="list-style-type: none"> • communications need to be established between OIC Fire, internal crews and ventilation crews • consideration of additional support for search and rescue crews