10.02 Alpine Resorts SOP

Section 1 - Purpose and Objectives

(1) To outline the procedures for responding to fires or incidents and operating in alpine environments.

Section 2 - Scope

(2) This procedure applies to all CFA members who are operating in an alpine environment where conditions require additional risk mitigation actions.

Section 3 - Procedure

Prior to Operations

Station Readiness

(3) CFA members need to undertake additional activities to ensure that stations and equipment are ready to respond to incidents when environmental conditions require it, such as:

a. Monitoring the snow shed – also known as falling sheets of snow from roofs of buildings and trees - surrounding the fire stations.
b. Taking applicable actions to ensure entry and exit points to the fire station are clear of snow and ice to maintain members' and visitors' safe access and to ensure vehicle egress is not compromised.

CFA Vehicle Readiness

(4) Ensure that snow and ice have been cleared from CFA vehicles so they can be operated safely.

(5) Pre-prepare wheel chains for wheeled vehicles to enable safe response to an incident.

(6) Ensure all fuel tanks in CFA vehicles are ¾ to full always, and that alpine/winter mix diesel is used at all times when available from the fuel provider. If an alpine/winter mix diesel is not available, a CFA DMO-supplied and approved additive should be added to the fuel tank as needed.

During Operations

Personal Protective Clothing (PPC) and Protective Equipment (PE)

(7) CFA members should always consider the conditions, and where necessary, wear the appropriate layers underneath firefighting Personal Protective Clothing (PPC).

a. Wearing inappropriate or too many layers underneath Personal Protective Clothing (PPC) can result in CFA members overheating.
b. Undergarments should be specifically chosen for the benefit and safety of the CFA member. This includes

wearing undergarments with natural fibres, wool, or cotton that are more heat resistant.

(8) When operationally practicable, boot chains should be considered to reduce slip hazards.

Driving

(9) Travelling on alpine roads has heightened risks. Caution must be taken when traversing the road networks, and to do it safely for CFA members, the members of the public and the environment. The following factors should be considered as part of your dynamic risk assessment:

a. The gradient of the road (elevation and camber).
b. Snow conditions.
c. Weather conditions.
d. Road conditions (e.g. snowy roads with soft edges, or ice on the road).
e. Other road users (e.g. people, skiers/snowboarders, cars, or over-snow vehicles).

(10) The position of the building, the building design, and the building type are important factors in operational activities. It is important to consider the following:

a. Note if the building is on higher or lower ground than the road or CFA vehicle.
b. Consider the snow shed zones from surrounding trees and buildings.
c. Locate the nearest first and second fire hydrants.
d. Ensure the ground surface the vehicle is parked on will be stable and suitable for the duration of the incident.

Dynamic Risk Assessment

(11) The Incident Controller should conduct a dynamic risk assessment that takes into account the unique nature of the alpine environment such as:

a. Access to the structure and if an alternate route is needed for vehicle access due to snow, ice, or traffic.
b. Availability of water resources e.g. potential for frozen water supply.
c. Access and egress arrangements in icy/slippery environments.
d. The safest route possible for the evacuation of persons (this may be indirect if entry/exit points are blocked by snow/ice).
e. Shelter for displaced persons from any affected buildings should be arranged as a matter of priority.
f. The welfare and regular rotation of crews into a sheltered area, especially in extended response and adverse weather conditions. Additional resources can be considered for this.
g. Requesting support from brigades and external agencies as early as possible due to time and distance considerations.

(12) Incident Controllers should make contact with resort management and/or a site representative as soon as operationally practicable and include them in the Emergency Management Team.

(13) Refer to any pre-incident plans that have been prepared for the building or site you are attending as per parts of the Chief Officer's SOP 9.09 High-Rise Fire Strategy and Tactics.

Water Supply

(14) Water supply differs across the resorts, the following factors should be considered:

a. The differing flow rate due to low and high water pressures across the resorts' fire hydrant networks when

responding in alpine environments. This can change depending on the time of day and in peak periods.

b. Alpine resorts utilise a combination of wet and dry fire hydrants.
c. At times, fire hydrants can be frozen or buried under snow.

Situational Awareness

(15) Monitoring the environment in alpine operations is essential to managing the response, equipment, vehicles, and risks when conducting operational activities.

(16) Snow conditions are critical to alpine response as the type of snow that covers the ground can dictate the safety of the operation for CFA members. Especially with the risk of slips, trips, and falls. Snow conditions might be:

a. Icy.
b. Fresh dry snow.
c. Fresh wet snow.
d. Crust.
e. Slush – typical for spring conditions.
f. No snow, but wet and slippery.

> Note: There is a possibility for a combination of the above conditions to occur at one time across the resort. The type of snow can change rapidly over a short period, which can change the nature of the response quickly and needs to be considered while operations are occurring.

(17) The weather conditions should be consistently monitored as typical weather conditions in alpine environments are dynamic and unpredictable, including:

a. Strong or gale-force winds.
b. Blizzard/whiteout (reduced visibility).
c. Heavy snow.
d. Heavy rain.
e. Extremely cold temperatures.
f. Sun exposure.

> Note: There is the potential for some or all of the above conditions to occur simultaneously in the same area.

After Operations

(18) Remaining in wet undergarments in cold environments presents a risk to CFA members. Where CFA members undergarments have become wet during firefighting operations they should be conscious of their personal health and welfare following alpine operations and remove the wet gear and uniforms as soon as operationally practicable.

Safety Note

(19) Considerations must be made regarding water runoff during pump operations. This can cause channels and ruts in the snowpack, which must be monitored for the safety of CFA crews and members of the public

(20) Operating in alpine locations has risks associated with the unique and dynamic conditions of the response. The

Incident Controller and CFA members should consider these risks and monitor the conditions for the safety of all those who are operating in alpine incidents/operations.

Environmental Note

(21) The Victorian alpine environment is sensitive and is easily harmed. As a result, care should be taken when CFA members are entering unmarked paths and when CFA vehicles are driving off-road.

(22) Before using firefighting foam, the Incident Controller should seek advice from the State Duty Officer (SDO)/District Duty Officer (DDO).

(23) The alpine environment has limited resources, and when responding to incidents, this must be conserved when operationally practicable. The local environment in the alpine is fragile and hosts unique ecosystems that are vulnerable to harsh chemicals and water runoff from firefighting operations. If there is considerable water runoff, the Incident Controller should notify the Alpine Resorts Victoria Municipal Emergency Management Officer as soon as possible.

Section 4 - Definitions

Commonly defined terms are located in the CFA centralised glossary. Document-specific definitions are listed below.

Snow shed zone: The area surrounding a building that is likely to be impacted by snow that has fallen from the roof, trees, or other parts of the construction.

Alpine roads: Formed or unformed roads in which CFA vehicles will travel on. There are various road forms like gravel tracks, aqueducts, or ski trails.

Section 5 - Related Documents

Individual Alpine Resort Emergency Management Plans

CFA Structural Fire Pre-Incident Plans (Brigade level)

CFA Alpine Service Delivery Strategy 2019-2024

Status and Details

Status	Not Yet Approved
Effective Date	To Be Advised
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Approval Authority	
Approval Date	To Be Advised
Expiry Date	Not Applicable
Accountable Officer	Jason Heffernan Chief Officer
Responsible Officer	Garry Cook Deputy Chief Officer Operational Response & Coordination
Author	Emma Pollard
Enquiries Contact	Specialist Response

Glossary Terms and Definitions

"CFA member" - Refers to all CFA volunteers, volunteer auxiliary workers, officers, employees and secondees.

"CFA vehicle" - All vehicles owned or operated by CFA or any Group or Brigade. This includes FRV vehicles being driven by an FRV Secondee.

"Incident Controller" - The individual designated by the control agency to have overall management of the incident and who is responsible for all incident activities.

"Dynamic Risk Assessment" - The continuous assessment and control of risk in the rapidly changing circumstances of an operational incident. DRA is an intuitive thought process and is typically not recorded.

"Personal Protective Clothing (PPC)" - Includes clothing used to provide protection to CFA members from the risks associated with performing a specific operational task for which they are competent and endorsed

"Protective Equipment (PE)" - An object that is utilised during the execution of CFA operational activities and training, which includes breathing apparatus, gas suits, gas monitoring equipment, oxygen resuscitation equipment, safety harnesses and all technical rescue equipment.

"Alpine Environment" - Land considered to be subject to significant snowfalls as determined by the local council. The National Construction Code 2019 defines an alpine area in Victoria as land more than 1200 metres above the Australian Height Datum.