

## SOP 10.02 - Alpine Resorts SOP

The new **10.02 Alpine Resorts SOP** replaces the outdated 10.02 Alpin Response – Snow Conditions SOP (2005)

- Renamed and aligned with current CFA practices.
- Updated legislative requirements.
- Focus of requirements specific to volunteer brigade operations in an alpine environment not typically encountered by other brigades
- New Sop is considerably longer with extensive Safety Notes and Environmental considerations

NOTE – We have done our best to match the new SOP clauses with the old SOP however in some cases they do not match and the comparison is left blank.

### Colour code

	Minor change in wording
	Small updates in the wording but the intent is the same as the old SOP
	Significant change or new procedure in the new SOP

	NEW SOP 10.02 Alpine Resorts SOP	OLD SOP 10.02 Alpine Response SOP
Objective	(1) To outline the procedures for responding to fires or incidents and operating in alpine environments.	To describe the procedures for managing fires and incidents in snow covered alpine areas.
Scope	(2) This procedure applies to all CFA members who are operating in an alpine environment where conditions require additional risk mitigation actions.	This Standard Operating Procedure applies to all CFA members operating in alpine areas.
Procedure	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: <ol style="list-style-type: none"> <li>a. Monitoring the snow shed – also known as falling sheets of snow from roofs of buildings and trees- surrounding the fire stations.</li> <li>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.</li> </ol>	1. Pre-incident plans shall identify issues related to responding to fires and incidents in snow covered alpine conditions, which include: <ol style="list-style-type: none"> <li>1.1 Isolated nature;</li> <li>1.2 Extended travel times over snow;</li> <li>1.3 Welfare of crews; and</li> <li>1.4 Appropriate PPC including alpine PPC, where necessary.</li> </ol>
Prior to Operations	CFA Vehicle Readiness	2. The Incident Controller shall consider:

## SOP 10.02 - Alpine Resorts SOP

	(4) Ensure that snow and ice have been cleared from CFA vehicles so they can be operated safely.	<p>2.1 Specific safety issues (refer to Safety Notes);</p> <p>2.2 Notification of Regional Duty Officer;</p> <p>2.3 Support from brigades and other agencies;</p> <p>2.4 Regular rotation of crews into a sheltered area; and</p> <p>2.5 Shelter for displaced persons and residents of any affected buildings should be arranged as a matter of priority.</p>
	(5) Pre-prepare wheel chains for wheeled vehicles to enable safe response to an incident.	
	(6) Ensure all fuel tanks in CFA vehicles are $\frac{3}{4}$ 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	<p>Personal Protective Clothing (PPC) and Protective Equipment (PE)</p> <p>(7) CFA members should always consider the conditions, and where necessary, wear the appropriate layers underneath firefighting Personal Protective Clothing (PPC).</p> <p>a. Wearing inappropriate or too many layers underneath Personal Protective Clothing (PPC) can result in CFA members overheating.</p> <p>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.</p>	
	(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	

SOP 10.02 - Alpine Resorts SOP

	<p>following factors should be considered as part of your dynamic risk assessment:</p> <ul style="list-style-type: none"> <li>a. The gradient of the road (elevation and camber).</li> <li>b. Snow conditions.</li> <li>c. Weather conditions.</li> <li>d. Road conditions (e.g. snowy roads with soft edges, or ice on the road).</li> <li>e. Other road users (e.g. people, skiers/snowboarders, cars, or over-snow vehicles).</li> </ul>	
	<p>(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:</p> <ul style="list-style-type: none"> <li>a. Note if the building is on higher or lower ground than the road or CFA vehicle.</li> <li>b. Consider the snow shed zones from surrounding trees and buildings.</li> <li>c. Locate the nearest first and second fire hydrants.</li> <li>d. Ensure the ground surface the vehicle is parked on will be stable and suitable for the duration of the incident.</li> </ul>	
<p>Dynamic Risk Assessment</p>	<p>(11) The Incident Controller should conduct a dynamic risk assessment that takes into account the unique nature of the alpine environment such as:</p> <ul style="list-style-type: none"> <li>a. Access to the structure and if an alternate route is needed for vehicle access due to snow, ice, or traffic.</li> <li>b. Availability of water resources e.g. potential for frozen water supply.</li> <li>c. Access and egress arrangements in icy/slippery environments.</li> <li>d. The safest route possible for the evacuation of persons (this may be indirect if entry/exit points are blocked by snow/ice).</li> <li>e. Shelter for displaced persons from any affected buildings should be arranged as a matter of priority.</li> </ul>	

SOP 10.02 - Alpine Resorts SOP

	<p>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.</p> <p>g. Requesting support from brigades and external agencies as early as possible due to time and distance considerations.</p>	
	<p>(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.</p>	
	<p>(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.</p>	
<p>Water Supply</p>	<p>(14) Water supply differs across the resorts, the following factors should be considered:</p> <ul style="list-style-type: none"> <li>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.</li> <li>b. Alpine resorts utilise a combination of wet and dry fire hydrants.</li> <li>c. At times, fire hydrants can be frozen or buried under snow.</li> </ul>	
<p>Situational Awareness</p>	<p>(15) Monitoring the environment in alpine operations is essential to managing the response, equipment, vehicles, and risks when conducting operational activities.</p> <p>(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:</p> <ul style="list-style-type: none"> <li>a. Icy.</li> </ul>	

SOP 10.02 - Alpine Resorts SOP

	<ul style="list-style-type: none"> <li>b. Fresh dry snow.</li> <li>c. Fresh wet snow.</li> <li>d. Crust.</li> <li>e. Slush – typical for spring conditions.</li> <li>f. No snow, but wet and slippery.</li> </ul> <p>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.</p>	
	<p>(17) The weather conditions should be consistently monitored as typical weather conditions in alpine environments are dynamic and unpredictable, including:</p> <ul style="list-style-type: none"> <li>a. Strong or gale-force winds.</li> <li>b. Blizzard/whiteout (reduced visibility).</li> <li>c. Heavy snow.</li> <li>d. Heavy rain.</li> <li>e. Extremely cold temperatures.</li> <li>f. Sun exposure.</li> </ul> <p>Note: There is the potential for some or all of the above conditions to occur simultaneously in the same area.</p>	
After Operations	<p>(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.</p>	
Safety Notes	<p>(19) Considerations must be made regarding water runoff during pump operations. This can cause channels and ruts</p>	<ul style="list-style-type: none"> <li>▪ Consider:</li> </ul>

## SOP 10.02 - Alpine Resorts SOP

	<p>in the snowpack, which must be monitored for the safety of CFA crews and members of the public</p> <p>(20) Operating in alpine locations has risks associated with the unique and dynamic conditions of the response.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>▪ Sheet ice on paths, around the pump, walkways on vehicles and areas where water spray is present.</li> <li>▪ Use of wheel chocks.</li> <li>▪ Snow-shed zones of adjacent buildings and vegetation and locate vehicles and crew accordingly.</li> <li>▪ Blocked access.</li> <li>▪ Building collapse.</li> <li>▪ Dangers of operating on steep sloping surfaces.</li> </ul>
<p>Environmental Note</p>	<p>(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.</p> <p>(22) Before using firefighting foam, the Incident Controller should seek advice from the State Duty Officer (SDO)/District Duty Officer (DDO).</p> <p>(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.</p>	<ul style="list-style-type: none"> <li>▪ Fire water runoff in alpine areas poses a significant risk of contamination of water ways. Resort Management Boards must be notified of any fire water run off as soon as possible.</li> <li>▪ Water supplies are often limited and should be conserved where possible.</li> <li>▪ Alpine vegetation is fragile. Care should be taken when driving off road. Driving off road should be avoided wherever possible.</li> <li>▪ Take care to prevent erosion and pollution of water ways. <ul style="list-style-type: none"> <li>▪</li> </ul> </li> </ul>
	<p>Section 4 – Definitions- Commonly defined terms are located in the CFA centralised glossary. Document-specific definitions are listed below.</p> <p>Snow shed zone: The area surrounding a building that is likely to be impacted by snow that has fallen from the roof,</p>	

## SOP 10.02 - Alpine Resorts SOP

	<p>trees, or other parts of the construction.</p> <p>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.</p> <p>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</p>	
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