



**MINISTRY OF TRANSPORTATION AND TRANSIT AVALANCHE
PROGRAMS**

BACKCOUNTRY AVALANCHE RISK ASSESSMENT PROTOCOL

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Ministry of Transportation and Transit Avalanche Programs Backcountry Avalanche Risk Assessment Protocol

1.0 Introduction

The rising popularity of winter recreational activities has resulted with an increase in backcountry winter rescue call outs. Ministry of Transportation and Transit (MoTT) Avalanche and Weather Programs (AWP) staff have been contacted by various authorities (Emergency Management and Climate Readiness BC, RCMP, BC Coroner) to assist in backcountry winter rescue/recoveries and to conduct avalanche risk assessments in those efforts.

With the increasing frequency of these requests, it has become necessary to define conditions for the MoTT AWP staff to participate in these types of events. It is necessary to define levels of responsibilities between MoTT, EMCR, RCMP and the BC Coroners Service. This document identifies the conditions for MoTT involvement and the responsibilities with those agencies.

This document follows the British Columbia Climate Readiness System's (EMCR) Incident Command System and ISO 31000 Risk Management practices.

2.0 Conditions of MoTT Involvement

If Ministry AWP staff receives a request to assist in a backcountry winter rescue, the first consideration must be whether their absence will negatively affect avalanche safety to their highway segments.

Every backcountry winter rescue will have unique considerations, including rescue teams access to and from the rescue site. It will be up to the discretion of the Avalanche Technician to ensure the rescue efforts are congruent with their professional and personal risk criteria or defer a response to the Canada Avalanche Association professional membership resource list.

If the Ministry AWP staff accept this task, they will act in accordance with the Canadian Avalanche Association's Standards of Conduct working within their Scope of Practice following the EMCR's Incident Command System as:

- Avalanche Safety Officer under ICS Command Staff
- Strike Team Leader under ICS Operations Section
- Task Force Leader under ICS Operations Section

Depending on circumstances of the rescue or recovery, involved participants may also be called upon to give statements and/or be a witness in criminal or social legal proceedings. The BC Coroner may request MOTT AWP to assist with a site investigation.

3.0 Avalanche Risk Assessment Protocol

If a member of the MoTT AWP accepts responsibility to participate in a backcountry winter rescue effort, their roles may include one or more of the following duties:

- Avalanche Safety Officer will identify the avalanche hazard, assess the avalanche risks, delineate safety and avalanche risk zones, and offer treatments to reduce threats during the entire rescue mission
- Strike Team Leader will strive to reduce the avalanche risk to rescuers using helicopter deployment of explosives following the WorkSafeBC approved MOTT Explosives Use Operational Plan
- Task Force Leader will instruct agencies in safe, effective and efficient search and rescue techniques

The Avalanche Safety Officer will utilize the EMCR Active Avalanche Safety Program ICS 305-A form and the Canadian Avalanche Association, Avalanche Incident Report form found in the appendix of this document.

An EMCR task number must be confirmed prior to MOTT involvement in a backcountry winter rescue effort. The task number confirms that participants involved in the rescue are covered by the Emergency Program Act and liability provisions. The ASE number is necessary if any aircraft are used for the rescue effort. If necessary, call the Emergency Management Climate Readiness phone number for these assigned numbers:

- **888.344.5888 (agency use only)**
- **800.663.3456 (24 hour -7 days/week)**

Expenses incurred by the AWP through the involvement of Ministry staff and resources will be reimbursed by EMCR, referencing the task number assigned to the rescue effort.

Incidents involving fatalities may escalate to supervision by the BC Coroner Service. MOTT AWP staff involved in these rescues may be requested to write a formal report of their observations and involvement.

4.0 Responsibilities

Responsibilities of agencies likely to become involved in a backcountry winter rescue include the following:

4.1 RCMP

- Is the agency responsible for the overall coordination of the rescue effort
- Likely to be the first agency to receive request for assistance
- Contacts EMCR with preliminary incident particulars
- Contacts BC Coroners Service if fatalities involved and may be authorized by the coroner to take charge of the avalanche scene.

4.2 BC Coroners Service

- Investigates all unnatural and unexpected deaths, including avalanche-related deaths and other accidental deaths
- Has jurisdiction over the human remains. The coroner must provide authorization before the body can be moved/transported
- Has jurisdiction over the avalanche scene where a death occurred. The coroner may authorize the police to take charge of the avalanche scene
- May request involvement from Ministry Avalanche staff, to act as technical experts in assessing scene safety, analyzing avalanche /snowpack related information and in some cases preparing an incident investigation report.

4.3 EMCR

- Provide and/or coordinate resources in support to responsible agency
- Confirm Avalanche Safety Officer has Canadian Avalanche Association proper affiliation
- Request assistance from the Ministry Avalanche and Weather Programs, or other appropriate agencies
- Issues Task and ASE numbers, as appropriate
- Reports fatalities to Coroner/RCMP via the SAR team on site
- Reimburse authorized cost of the rescue.

4.4 MOTT

- Ensures EMCR task and ASE numbers are assigned with initial request to assist in rescue
- To provide an avalanche risk assessment in order to ensure safety for all participants and patients during rescue efforts
- To provide technical avalanche expertise of rescue equipment and search techniques to locate victims
- To provide avalanche risk reduction through explosives control if necessary.

5.0 Insurance and Financial Coverage

Ministry AWP employees who become involved in backcountry winter related incidents are protected by existing provincial government coverage and considered working as a Ministry employee, even if the response is made on a scheduled day off. Wages, WSBC coverage and overtime benefits apply as when working for the Ministry.

6.0 Liability Coverage

Section 18 of the Emergency Program Act, 1996 (appendix A) states that no person is liable for their actions (or lack of actions) which may cause injury, death or damage, provided they were acting in “good faith”.

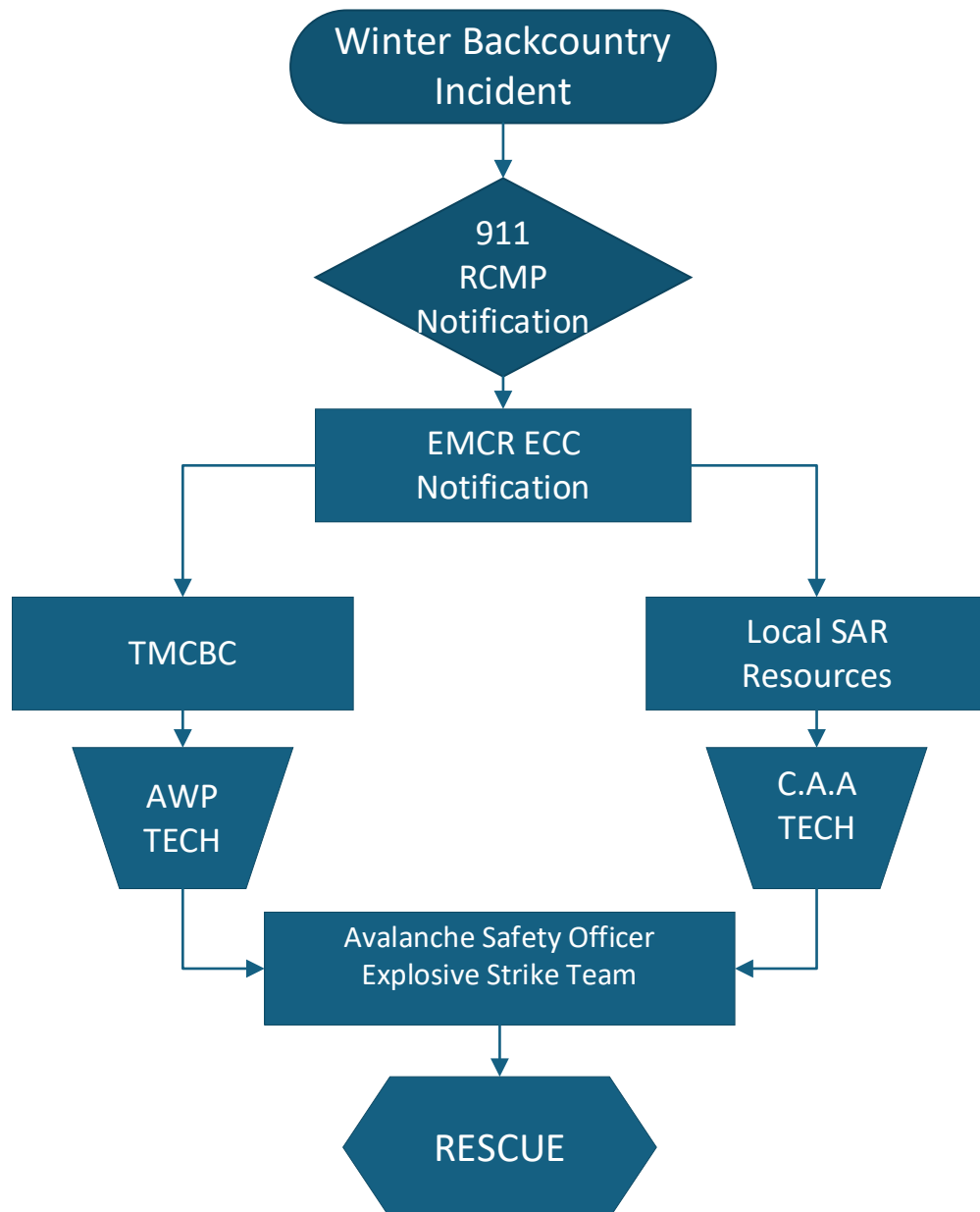
7.0 Documentation

Attached is the EMCR Active Avalanche Safety Program ICS 305-A form (appendix 8.3).

Ministry Avalanche staff should be aware that any written notes in field books can be used as evidence in a criminal or coroner court case. In consideration of this possibility, it is important to make field notes in accordance with the CAA, Observation Guidelines and Recording Standards for Weather, Snowpack and Avalanches.

EMCR / TMCBC / AWP Rescue Communications Path

EMCR TMC AWP Rescue Communications Path



ACTIVE AVALANCHE SAFETY PROGRAM		TASK #	DATE & TIME PREPARED:
FOR OP. PERIOD #	TASK NAME:	PREPARED BY:	

IDENTIFIED HAZARD #	HAZARD NAME: AVALANCHE	SAFETY OFFICER:
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LOCATION:	DESCRIPTION:

CURRENT DANGER RATING: (Check Highest Level for BTL, TL and/or ALP)	AVALANCHE TERRAIN EXPOSURE SCALE CLASSIFICATION:
	<input type="checkbox"/> SIMPLE <input type="checkbox"/> CHALLENGING <input type="checkbox"/> COMPLEX <input type="checkbox"/> UNKNOWN
<input type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> Considerable <input type="checkbox"/> High/Extreme or Unknown	AVALANCHE INCIDENT DETAILS <input type="checkbox"/> Avalanche Incident Involvement Form Attached

ON-SITE OPERATIONS ACCESS / EGRESS, WEATHER AND AVALANCHE CONDITIONS ADVISORY:

ACTIVE AVALANCHE SAFETY PROGRAM MEASURES:

SPECIAL INSTRUCTIONS:

AVALANCHE DANGER IDENTIFICATION / MITIGATION AND RISK CONTROL CHECKLISTS

✓ REFERENCE DESCRIPTION	✓ ASSIGNMENT CHECKLIST	✓ SAFETY MEASURES
<input type="checkbox"/> PUBLIC AVALANCHE BULLETIN	<input type="checkbox"/> TEAM ASSIGNMENT	<input type="checkbox"/> Personnel Protective Equipment (Transceiver, Shovel, Probe)
<input type="checkbox"/> WEATHER FORECAST	<input type="checkbox"/> TEAM ASSIGNMENT BRIEFING	<input type="checkbox"/> Explosive Strike Team
<input type="checkbox"/> CAA InfoEx™	<input checked="" type="checkbox"/> SUPPLEMENTARY REFERENCES	<input type="checkbox"/> Helicopter Based Signal Search - Barryvox External Transceiver
<input type="checkbox"/> SNOW STABILITY EVALUATION WORKSHEET	<input type="checkbox"/> AVAILABLE AVALANCHE ATLAS'S	<input type="checkbox"/> Helicopter Based Rescue Effort - Class D Fixed Line Helicopter Support
<input type="checkbox"/> SNOW STABILITY FORECAST WORKSHEET	<input type="checkbox"/> LOCAL AVALANCHE PROFESSIONAL	<input type="checkbox"/> Rapid Intervention Team
<input type="checkbox"/> AVALANCHE PATH SUMMARY	Name: _____	<input type="checkbox"/>