

Exercise Evaluation Report

2022 OTAGO LAKES CENTRAL AVALANCHE – IMT EXERCISE

Location: QUEENSTOWN POLICE STATION

Date: 3 November 2022

Report version: DRAFT

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1. Executive Summary

A Police-led avalanche SAREX desk top exercise was held at the Queenstown Police Station, 3 November 2022 which was part two of the avalanche response training for the Otago Lakes Central region.

The exercise was designed by Snr Sgt John Fookes (OC Otago Central Lakes SAR) and attended by Police SAR Squad members from across the police district and Wakatipu LandSAR MSU members

The exercise was a realistic remote back country avalanche scenario requiring a significant enquiry phase to establish the incident location and planning deployment of responders.

The objective of the tabletop exercise was to test and assess the Incident Management Team response to an out of ski-season avalanche in the back country in the Otago Lakes Central region in unfamiliar locations and at a time when most winter trained responders are not available.

The Incident Management Team was tested across a complex scenario and were able to learn and develop their skills and abilities to manage a remote response.

Some improvements have been summarized in the Recommendations.

1. Recommendations

Improve technology systems available for the Incident Management Team to support utilization of search and rescue management software. Multiple display screens and more computers.

Regular training sessions should be scheduled with appropriate MSU management support unit and IMT staff to build skills using D4H software.

Design an IMT Avalanche response check list and include in the next review of the Otago Lakes Response plan.

Base the check list from the NZ Avalanche Search and Readiness Guidelines (located on NZ SAR website)

<https://nzsar.govt.nz/assets/Downloadable-Files/Avalanche-Readiness-Guidelines-2022.pdf>

2. Introduction

The NZSAR funded Avalanche SAREX's has become an annual event over recent years with exercises being run in Police Districts in the North and South Islands.

Otago Lakes Central Region have the prime responsibility to respond to Avalanche Incidents across their police region including the Coronet and Remarkable Ski Fields and Helicopter Skiing in more remote alpine locations.

Historically, in the Otago Lakes Central Region, the winter avalanche risk has been the principal focus of planning and training. This acknowledges the greater frequency of avalanches during winter with deployments often to areas adjacent to ski fields or areas used by heliskiing companies.

Resourcing is relatively straight forward due to the availability of trained ski-field and Helicopter ski staff.

Considerable vulnerability exists out of the ski season, a time when climbers and trampers are in the backcountry in far greater numbers.

Trained ski industry resources generally have dispersed or are not available, response times can be much longer, and Alpine Cliff Rescue Teams can become the main practical resource.

The training exercises have been separated for specific focus on the technical attributes required: -

- (a) – Field Avalanche Search and Rescue Training
- (b) – Incident Management Avalanche Scenario
- (c) – Remote Field Avalanche Response Training

An out of season response generally requires more initial investigation and efforts to locate resources compared to winter events, the duration and needs of these operations make it more likely that an Incident Management Team will require a full structure.

A tabletop Incident Management Exercise Scenario was designed to be realistic as possible to test the IMT system and processes.

The Exercise IMT was established at the Queenstown Police Station.

3. Background

Context – This exercise is Part Two of the Otago Lakes Central Avalanche training; an earlier field exercise was conducted with ski industry participants. Part Three is planned for a remote alpine location with summer personnel resourcing.

3.1. Background to the Exercise

The Queenstown region is attracting large numbers of alpine recreationalists during the summer who explore The Remarkable's Range and west beyond Glenorchy the Forbes Mountains and Barrier Range. All these alpine areas contain areas where avalanches occur, and summer storm cycles add new snow adding to the avalanche risk.

Considerable vulnerability exists out of the ski season for an avalanche event, a time when climbers and trampers are in the backcountry in far greater numbers.

Trained resources generally have dispersed or are not available once the winter ski season ends, response times can be much longer, and Alpine Cliff Rescue Teams can become the main practical resource.

An out of season response generally requires more initial investigation and efforts to locate resources compared to winter events, the duration and needs of these operations make it more likely that a formal Incident Management Team will be required to manage a remote avalanche event.

3.2. Dates, location, organising agency(s), key people

Date: 3 November 2022
Location: ICP – Queenstown Police Station
Search area – Remarkables Range; Ben Nevis; Rees Valley

Organising Agencies: NZ Police

key People: Snr Sgt John Fookes, Johnny Franklin, Aaron Halstead

3.3. Participating organization's

Police SAR Personnel – Otago Lakes Central
Land SAR MSU – Wakatipu Land SAR

3.4. Exercise aim

To conduct an Incident Management Team response for an out of ski-season avalanche scenario in the back country in the Otago Lakes Central Region

3.5. Exercise objectives – KPI's

To test the IMT response to an out of ski-season backcountry avalanche

The correct interpretation and prioritisation of information received

Appropriateness of the response (Operational) – based on information available

Appropriateness of the response (Enquiries) – based on information available

3.6. Exercise Scenario

Three members of a tramping party of four have been caught in an avalanche.

One member of the party has used an HF radio to communicate the fact to Mountain Radio Base, but communication abruptly ceased before any further information could be given.

Only brief information passed, callsign, three people involved in an avalanche, swept out of sight over a slope rollover, could hear one voice, no location provided.

Scenario prepared with deliberately vague information to require Intel enquiries to be worked through along with Planning, Operational resourcing, and Response planning.

4. Evaluation Methodology

4.1. The agreed outcomes of the evaluation activity

To test and assess the Incident Management Team response to an out of ski-season avalanche in the back country in Otago Lakes Central.

To observe the Incident Management Team at the ICP and report on performance that included the ability to function, and achieve the objectives set for the scenario exercise.

4.2. Evaluation scope

To test the IMT response to an out of ski-season backcountry avalanche

The correct interpretation and prioritisation of information received

Appropriateness of the response (Operational) – based on information available

Appropriateness of the response (Enquiries) – based on information available

Establishment and maintaining of a CIMS (Coordinated Incident Management System) structure appropriate to the level of IMT/ASU resourcing to the scenario

CIMS management components are briefed and understand their roles

CIMS management components work effectively and consistent with their designated role

IMT briefings are conducted at appropriate intervals

Effective working relationship between the IMT and ASU

Effective integration of D4H Software system as a recording & management tool

Effective IMT shift handover

(Excluded was an actual field response with assets being deployed)

4.3. Aspects of the exercise observed, what was not observed

The IMT exercise was observed by being present at the ICP

(Not observed some of the Intel phone enquires to contacts seeking information)

(The Incident Management Role content training delivered by Snr Sgt John Fookes on 2nd November.)

4.4. The process followed in preparing and submitting the report

Consultation was made with the Otago Lakes Central Area Prevention Manager approximately 8 weeks before the scenario IMT exercise. There was no interaction with the exercise (scenario) prior to the IMT SAREX.

The initial plan was supplied and avalanche response plan; Objectives and Key Performance Indicators were developed by Snr Sgt John Fookes

The evaluator attended the SAREX IMT scenario on Thursday including the hot debrief immediately at the conclusion of the exercise.

Evidence was collected by observations and notes taken at the time.

This draft report has been submitted to the Otago Lakes Central Area Prevention Manager. The final version will reflect relevant and appropriate comments to the draft report

4.5. Other information

The scripted role players providing enquiries information were not observed, not being part of the exercise objectives.

5. Findings

Exercise Planning: The exercise was planned and managed and led by the Exercise Director (Snr Sgt John Fookes) Police Area Prevention Manager who facilitated the scenarios and was responsible for:

Setting up the scenario and story scripts.

Provided IMT training the previous day to the Police SAR team.

Initiating the exercise.

Coordinating the use of role players.

The Exercise Planner (John Fookes) set the context scene for the scenario to the assembled Incident Management Team personnel.

Scenario: - Four friends, two locals and two from the North Island had planned a weeklong tramping trip somewhere in the Queenstown region mountains. A brief H/F radio call to the mountain radio base stating 3 members of the party had been caught in an avalanche, transmission was lost, location unknown. The Mountain Radio operator calls Police and reported the radio message.

The exercise commenced with the On-Call Otago Lakes Central SAR team member receiving a phone call from Police Communications about the reported radio call and passing the information.

Incident Management Team: - An IMT was quickly established with an appointed Incident Controller (IC) and other key positions assigned to police SAR team members who donned designated position tabards. Direction on priorities involving intelligence enquiries and putting response assets on standby were given.

Intelligence gathering: Detailed information obtained from the Mountain Radio operator based in Dunedin about who hired the radio set and that the regular helicopter operators were busy with commercial charter work, creating a delay in being able to respond

IC collates a summary of the avalanche situation from the IMT provides direction about further enquires and sourcing of response assets

09:29 – Having confirmed no Queenstown helicopter operator immediately available, looking to Wanaka for resourcing along with the National Ambulance Service Operator helicopter.

Incident Action Plan (IAP) being prepared and briefing about enquires with partners/wives of subjects potentially involved in the avalanche

09:40 – Land SAR Wakatipu MSU team arrive and commence setting up the laptop computers operating DH4 Software to record information.

09:51 – IC leads an IMT briefing, summarise known facts, review objectives, assets status

Communications options discussed, health and safety plan being prepared, operation log transitioning onto DH4 system, Wanaka Avalanche dog and handler on standby. Enquires continue to establish probable location of the party, the Ben Nevis Station location was eliminated after carpark check by local farmer and eliminating other access locations.

Further interviews of partners and wives to obtain further relevant information by Intelligence team while location searching widens to include Aspiring National Park access points like Raspberry Flat carpark, Ski Field carparks and backcountry entry points beyond Glenorchy.

Planning continued resourcing response staff from Queenstown, Wanaka and further afield with Aoraki/Mount Cook Alpine Rescue team. Tasking plans for both Helicopter and field teams, assembly staging area and how to establish a forward staging point.

11:08 – Intel enquiries confirm that the party had booked and stayed overnight in accommodation at Glenorchy, intentions not known. Investigation focus moved to carparks at road ends. Vehicle located at Muddy Creek carpark in the Rees Valley with a registration confirmed being owned by one of the local party members.

11:28 – RCCNZ (Rescue Coordination Centre) advised about a PLB (Personal Locator Beacon) activation. Initially some confusion with the coordinates format which was resolved. Location confirmed at 2,100 metres on Mt. Clarke on the upper western side of the Forbes Mountains in the Rees Valley. Tasking discussions and planning followed, reviewing the weather forecast, cloud layer in the valley around 1,800 metres. Where to establish a forward staging area for rescue personnel, how to insert early response teams immediately below the cloud ceiling.

Information received from a local experienced alpine guide about a potential staging site, concerns about the glaciated slopes and wind loading and ongoing avalanche risk. On scene Avalanche Scene Controller to make a site safety evaluation.

12:12 – Planning for evacuation, resourcing an Alpine Cliff Rescue Team with stretcher to bring subjects below cloud ceiling for evacuation. Contingency planning for a potential overnight operation. Sourcing fresh personnel for both field teams and Incident Management Team.

12:30 – Logistics planning, accommodation, and food at Glenorchy, welfare planning. How to deploy field team members driving out to Glenorchy.

Exercise concluded with simulated handover briefings by the Incident Controller and IMT section leads.

6. Conclusions

The simulated tabletop exercise was successful, and the key objective was achieved to test the Incident Management Team response to an out of season avalanche in the Otago Lakes Backcountry.

The Incident Management Team was challenged with extensive intelligence investigations to establish where the avalanche incident location was in the backcountry coupled with sourcing aviation and trained personnel assets for response deployment.

A full IMT was established with good direction from the Incident Controller who regularly called status update meetings and kept an awareness of the response progress.

Involvement of the LandSAR MSU team helped with the interoperability between the Police and Volunteer IMT personnel to manage the computer systems and operate the management DH4 software system.

Overall, the response was well managed and served to demonstrate the challenge of adequately resourcing a summer season emergency response like an avalanche.

Sourcing and provisioning additional technology assets are needed to support the IMT, to enable multiple displays of maps, asset tracking and review of appropriate data logs from a management software system.

Consideration and strategic planning between Police and the Volunteer Search and Rescue community on how to resource and develop a better provisioned Incident Management Room.

7. Appendix A

Objective	Achieved?	Comments
To test the Incident Management Team response to an out of ski-season avalanche in the Central Otago Lakes Central backcountry	Achieved	A full Incident Management Team was established and engaged with extensive Intelligence investigation's, planning response, operations and logistics resourcing of response assets and personnel
KPI	Achieved?	Comments
The correct interpretation and prioritisation of information received	Achieved	Scenario was complex, information sourced by intelligence was evaluated effectively and shared across the IMT
** (based on information available)		
Appropriateness of the response (Operational) **	Achieved	Relevant response assets were planned, and a sound field execution plan developed
Appropriateness of the response (Enquiries) **	Achieved	Timely enquiries were made, and reviews of the reliability of information and relevance were made
Establishment and maintaining of a CIMS structure appropriate to the level of IMT/MSU	Achieved	Incident Controller established an effective IMT team. MSU support arrived an hour

resourcing available		after the exercise started and were engaged promptly
CIMS management components are briefed and understand their roles	Achieved	Incident Controller maintained briefing by scheduling IMT reviews
CIMS management components work effectively and consistently with their designated role	Achieved	All IMT members remained in role, some components were under time pressure and could have had additional support assigned.
IMT briefings are conducted at appropriate intervals	Achieved	Incident Controller scheduled appropriate briefings
Effective work relationship between IMT and MSU	Partially Achieved	MSU worked well with the technology available, additional computers and display screens needed
Effective integration of D4H as a recording and management tool	Partially Achieved	MSU were always in catchup mode, IMT need to train further with this software
Effective shift handover	Partially Achieved	Conducted at the conclusion of the tabletop exercise

Incident Action Plan (IAP)



Date: 3/4/22		Time: 0930		Situation Summary: Party of 4 climbing Mt. Clarke. 3 persons caught in avalanche. Beacon activation @ 1130 hrs at ~2100m South face Mt. Clarke.					
Operation Name: Wombat									
ICP Location: Mt. Clarke South face ~2100m									
Period Begins: 3/4/22 0915		Period Ends: 3/4/22 1600		Actions Already Taken: IMU setup - Staging area established @ 1428m HP by team. Alert HELO - Garry Dickson on scene coordinator. Alert ACR. Air desk + RCC notified. Enquiries with DOC. Identity confirmed.					
Management Structure:				Operational Goal: Identify location + recover					
<div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Incident Controller Dave</div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">Information: AL</div> <div style="border: 1px solid black; padding: 2px;">Liaison: PL</div> <div style="border: 1px solid black; padding: 2px;">Safety: PL</div> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 30%;">Planning Terry Chris</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Operations Pepper</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Logistics Grant</div> </div>									
Factors:		Objectives:		Strategies/Actions:					
<ul style="list-style-type: none"> - Beacon location 2100m on glacier - Thick cloud 1800m - Avalanche risk low → South facing pockets wind slab - Insulin Diabetic in party, poss injuries. - Vehicle @ muddy creek - Team support/welfare 		<ul style="list-style-type: none"> - Establish staging location on Reese ridge - 1428m - Establish comms with ACR/helo teams - Recovery plan → evac equipment, time delay? - Drop equipment/food/water - Replacement team 		<ul style="list-style-type: none"> - PCR transported by helo to ~1800m to cont. on foot. - Staging area established below cloud layer <table border="1" style="width: 100%;"> <tr> <td>Aspiring x1 dog - ACR</td> <td>MT. Cook 10/2 Staging area</td> </tr> <tr> <td>@ staging area Heliworks 10/2 staging area</td> <td>Heli Otago 10/2 staging area</td> </tr> </table>		Aspiring x1 dog - ACR	MT. Cook 10/2 Staging area	@ staging area Heliworks 10/2 staging area	Heli Otago 10/2 staging area
Aspiring x1 dog - ACR	MT. Cook 10/2 Staging area								
@ staging area Heliworks 10/2 staging area	Heli Otago 10/2 staging area								
Follow Up Tasks/Other Actions:		Resources Required:							
<ul style="list-style-type: none"> - Organise resources & poss replacement teams - Teams en route by vehicle to stop at GY (late shift) 		<ul style="list-style-type: none"> - Back up dogs - Accommodation - Thermal & MVB considerations - On-site medic overnight 		<ul style="list-style-type: none"> - Helo (on desk) - Police - Local SAR - Avo dog ✓ (x1) - Avo trained persons (x3) 					