From: **Air Vice-Marshal Warren James CBE MA CMgr CCMI FRAeS RAF**

ROYAL AIR FORCE

Air Officer Commanding No 22 Group

Headquarters Air Command
Royal Air Force High Wycombe
Buckinghamshire
HP14 4UE
T: 01494 [redacted]
E: [redacted]

David Green
Head of the Scottish Fatalities Investigation Unit
The Crown Office of the Procurator Fiscal
10 Ballater Street
Glasgow
G5 9PS.

AOC22/19/32

3 September 2019

Dear Mr Green,

I write to advise you on progress made on the implementation of the recommendations made in the Service Inquiry into the accident of 14 February 2013, in which Squadron Leader Rimon Than and Flight Lieutenant Frances Capps were tragically killed, alongside a Mr William Currie, a civilian climber. My thoughts, and those of the Royal Air Force, remain with the families, friends and colleagues of those who lost their lives that day.

It is my intention that this letter will be published along with the Service Inquiry on the Gov.uk website, to ensure that the public have access to the report into this tragic event, its recommendations, and the detail of our continuing actions since then.

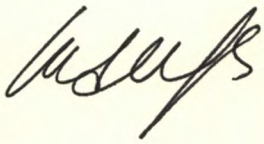
The Service Inquiry identified 25 recommendations to improve safety and avoid any reoccurrence. Please be assured that all 25 recommendations have been addressed, with the measures identified being incorporated into the RAF Mountaineering Association processes and operating procedures over the following two years.

In part as a result of the tragic accident, policy, governance and assurance for all RAF Sport has developed considerably over the last six years. On 1 June 2015, the delivery of Royal Air Force (RAF) Sport became the responsibility of the Air Officer Commanding Number 22 Group, as Head of RAF Sport and its Operational Duty Holder, vice the Chief of Staff Personnel, and the Directorate of RAF Sport was established within this organisation. The Directorate supports me, as the current Air Officer, in both the oversight and safe delivery of RAF Sport. A new Sport Safety Management System was developed within 22 Group's Total Safety architecture; a key element of the new system is the personal appointment of a Responsible Person (a Delivery Duty Holder equivalent) for each of the Service's 49 sports associations, who ensures compliance with National Governing Body and Ministry of Defence (MOD) regulation and who is responsible for the production and implementation of an association specific Sports Safety Management Plan. This system is subject to internal and external assurance activity, which confirms the activity is being conducted to a level of risk that is as low as reasonably practicable and tolerable.

The RAF Mountaineering Association is now using Version 3 of its Safety Management Plan, dated February 2016, and Version 3.1 of its supporting Standard Operating Procedures, dated April 2018. Both documents are very significant improvements on what was in place at the time of the accident and are comprehensive, covering all the association disciplines, with generic and specific sections

on each. The association has been subject to regular audits since the accident; in 2015 a RAF Safety Centre Sport Safety Assurance Visit considered the association provided 'full assurance' against the applicable criteria in the Air Publication 8000, RAF Safety and Environmental Management System. Two additional Directorate of RAF Sport audits since then, in February 2017 and May 2018, have provided 'full assurance' and 'substantial assurance' respectively. 'Substantial assurance' is one level below 'full assurance'. Both require an established and effective system of control; the latter notes some minor weaknesses, which are routine and being addressed.

The management of risk remains at the heart of all Defence's activities, and we continue to evolve our risk management plans and standard operating procedures for all sporting activities, not only for those considered to attract a higher level of risk. We continue to implement a programme of assurance visits, by both internal and external auditors, to ensure that the management and operation of such activities is conducted appropriately, and with appropriate risk mitigation measures in place. Most importantly, we continue to evolve and support an open and engaged safety culture, which encourages the reporting of areas where we might do better.



ROYAL AIR FORCE

Service Inquiry into the deaths of Squadron Leader R Than (5209108X) and Flight Lieutenant F L Capps (2659709G) on 14 February 2013 in the Cairngorms National Park

Date

AOC 22 (Trg) Gp

SERVICE INQUIRY TO INVESTIGATE THE DEATHS OF SQN LDR R THAN (5209108X) AND FLT LT F L CAPPS (2659709G) ON 14 FEB 13 – FINAL REPORT

The SI Panel assembled at HQ Air Command, RAF High Wycombe on 20 Feb 13 at 1400 hrs by order of AOC 22 (Trg) Gp, in order to investigate the incident resulting in the deaths of Sqn Ldr R Than (5209108X) and Flt Lt F L Capps (2659709G) on 14 Feb 13. The SI Panel has concluded its inquiries and submits the Provisional Report (including the record of proceedings and supporting paperwork) for the AOC's consideration as the Convening Authority.

[redacted]	[redacted]	[redacted]
Wg Cdr	Sqn Ldr	Sqn Ldr
President	Member	Member

The following papers are enclosed:

Part 1 (The Report)

a. Convening Order and TORs at Section 1.

b. Introduction at Section 2.

c. Narrative of Events at Section 3.

d. Findings at Section 4.

e. Causes and Contributory Factors at Section 5.

f. Recommendations and Observations at Section 6.

Part 2 (The Record of Proceedings)

g. A Diary of Events at Section 1.

h. The List of Witnesses at Section 2.

i. The List of Witness Statements at Section 3.

j. The List of Attendees at Section 4.

k. The List of Exhibits at Section 5.

l. List of Annexes at Section 6.

m. The Schedule of Matters not Germane to the Inquiry at Section 7.

n. An electronic copy of the Report and Record of Proceedings as listed above.

AIR/37006/12/01/13/APC

20 Feb 13

SI President
SI Members
SO2 LEGAD (Ops), DLS
SO1 APC

Copy to:

AOC 1 Gp (PSO)
AOC No 22 Trg Gp (PSO)
ACOS Pers Pol (SSIC)
Stn Cdr RAF Odiham
Stn Cdr RAF Valley
Gp Capt DLS
Gp Capt Media & Comms
DRes Sec1
APC Cswk 2 SO2
RAF High Wycombe (OC PMS)

NO 22 TRG GP CONVENING ORDER FOR A SERVICE INQUIRY CONVENED TO INVESTIGATE THE DEATHS OF SQN LDR R THAN (5209108X) AND FLT LT F L CAPPS (2659709G) ON 14 FEB 13 AT CAIRNGORM RANGE, SCOTLAND

Reference:

A. JSP 832: Guide to Service Inquiries.

1. A Service Inquiry is to be held under section 343 of AFA 06 an in accordance with Reference A.

2. The purpose of this Inquiry is to investigate the circumstances which led to the deaths of Sqn Ldr R Than (5209108X) and Flt Lt F L Capps (2659709G) on 14 Feb 13, and to review the actions carried out immediately afterwards.

3. The Inquiry panel is to assemble at HQ Air Cmd on 20 Feb 13 at 1400 hrs in AOC No 22 (Trg) Gp's office.

4. The Inquiry panel comprises:

a. President: Wg Cdr [redacted] – No 22 Trg Gp, RAF High Wycombe.

b. Specialist Member: Sqn Ldr [redacted] – JSATI & FDTC Fairbourne.

c. Board Member: Sqn Ldr [redacted] – JFAC, RAF High Wycombe.

5. The legal advisor to the Inquiry is Sqn Ldr [redacted] SO2 LEGAD (Ops), DLS, HQ Air (95221 5628).

6. The Inquiry is to investigate and report on the facts relating to the matters specified in its Terms of Reference (TORs) and otherwise to comply with those TORs (attached at Annex A). It is to record all evidence and express opinions as directed in the TORs.

7. At the discretion of the Convening Authority, advisors/observers may attend the Inquiry in whole or in part; attendance will be subject to such conditions as may be described by the Convening Authority.

8. CO RAF High Wycombe is to provide facilities, equipment and assistance suitable for the nature and duration of the inquiry.

9. Costs are to be met by RAF High Wycombe using the UIN F0052A.

10. The President of the Inquiry is also to ensure that:

a. Any person whose character may be called into question is to be duly advised under The Armed Forces (Services Inquiries) 2008 Regulation 18. In addition, OC PMS RAF High Wycombe is to be notified in order for the correct administration procedures[1] to be carried out.

b. All witnesses are to be briefed by the President of the Service Inquiry in accordance with paragraph 4.22 of JSP 832.

c. If it is suspected that a Service offence has been committed, the Service Police should be informed immediately.

d. The report is to avoid the explicit attribution of blame, assertion of negligence, or legal liability to any witness.

e. If at any time the President is unable to perform the role, OC PMS should be informed immediately.

11. The proceedings are to be reported in accordance with JSP 832. The President should communicate his initial findings to the Convening Authority within 96 hours of this SI being convened and provide a Progress Report every 30 days thereafter.

12. The completed Inquiry should be forwarded through OC PMS RAF High Wycombe to SO2 Cswrk 2, HQ Air Cmd, for staffing without delay, prior to submission to the Convening Authority, and bearing any security grading which is considered appropriate.

[redacted]

M G Lloyd
AVM
AOC No 22 (Trg) Gp

Annex:

A. Terms of Reference for a Service Inquiry to investigate the Deaths of Sqn Ldr R Than (5209108X) and Flt Lt F L Capps (2659709G) on 14 Feb 13, that occurred during the RAF Mountaineering Association Monthly Meet at the Cairngorm Range, Scotland.

[1] OC PMS is to inform SO2 2, APC and confirm CoC have been informed and appropriate support in place.

ANNEX A to
AIR/37006/12/01/13/APC
Dated 20 Feb 13

AIR/37006/12/01/13/APC

20 Feb 13

Wg Cdr [redacted]

TERMS OF REFERENCE FOR A SERVICE INQUIRY CONVENED TO INVESTIGATE THE DEATHS OF SQN LDR R THAN (5209108X) AND FLT LT F L CAPPS (2659709G) ON 14 FEB 13 AT CAIRNGORM RANGE, SCOTLAND

1. You are appointed as the Investigating Officer of a Service Inquiry to be convened on 20 Feb 13 at 1400 hrs. The Inquiry is to investigate the deaths of Sqn Ldr R Than (5209108X) and Flt Lt F L Capps (2659709G) on 14 Feb 13, that occurred during the RAF Mountaineering Association Monthly Meet at the Cairngorm Range, Scotland.

2. Your Terms of Reference are to:

a. Establish the details of the incident (when, where, and what happened).

b. Set the context for the activity taking place in which the incident occurred.

c. Determine the cause of the incident and examine any contributory factors.

d. Investigate and comment on any fatigue implications of an individual's activities in the previous 3 days.

e. Ascertain whether Service personnel involved were acting in the course of their duties.

f. Determine state and serviceability of relevant equipment.

g. Establish the level of training, relevant competences and qualifications of the individuals involved in the incident.

h. Examine what orders and instructions were issued and whether they were complied with.

i. Assess Health and Safety at Work and Environmental Protection implications in line with JSP 375 and JSP 418.

j. Investigate the implementation of command responsibilities including obligations of 'Duty of Care.'

k. Identify if the levels of planning and preparation met the activity's objectives.

l. Review the levels of authority and supervision covering the activity in question.

m. Notify OC PMS of any person whose character may be affected by the findings of the Panel iaw The Armed Forces (Services Inquiries) 2008 Regulation 18.

n. Make appropriate recommendations in the President's Report. Additionally, the President is to ensure that all recommendations are inputted to Defence Lessons Identified Management System (DLIMS) with the support of SO2 Lessons Cell, HQ Air.

3. You are to conduct the Inquiry iaw JSP 832. In particular you are to note that no attribution of blame or assertion of negligence or legal liability is to be apportioned to any witness during the Inquiry.

I have read and understood these Terms of Reference.

[redacted]

[redacted]
Wg Cdr
SI President

Exhibit/ Witness No.

SECTION 2 – INTRODUCTION

1. On 14 Feb 13, 6 members of the RAF Mountaineering Association (RAFMA) were involved in an avalanche in the Cairngorms National Park, in a narrow gully known as the Chalamain Gap. A group of 6 civilian climbers from the nearby Glenmore Lodge Outdoor Centre was also climbing in the Chalamain Gap, close to the RAFMA party, when the avalanche occurred. The avalanche was large and rapidly engulfed several of the climbers, resulting in the deaths of Sqn Ldr Rimon Than (5209108X) and Flt Lt Frances Capps (2659709G) from the RAFMA group, and Mr William Currie from the Glenmore Lodge party. A Service Inquiry (SI) was convened on 20 Feb 13.

2. The Panel examined the environmental conditions that led to the avalanche, as well as the RAFMA group's decision making processes. The Panel also explored the wider governance, regulation and safety management of RAF Sports Associations, as a context within which to assess RAFMA's governance and safety management processes. In assessing the various factors involved in the avalanche, and making its recommendations, the Panel focussed on those changes to regulation, training, procedures and equipment that might best serve to reduce the likelihood of similar incidents in the future.

3. The factors that led up to, or contributed to, the incident are identified as either causal or contributory factors. For the purposes of this Report, a causal factor is defined as a factor which, if it had not been present, would have prevented the incident (and specifically the fatalities) from occurring. A contributory factor is defined as a factor which made, or could have made, the incident (and specifically the fatalities) more likely to occur. Where the evidence is not conclusive, but the Panel judged that a factor could have been contributory, it is listed as a potential contributory factor.

4. This Report makes a number of Recommendations and Observations. The Recommendations are those actions which relate directly to the incident or to the conduct of similar future activities. The Observations highlight those areas where the Panel noted inconsistencies, or areas for improvement, which are not directly related to the incident.

5. The Report satisfies the Terms of Reference at Section 1. During the course of the Inquiry, the Panel regularly reviewed the possible requirement for notification under Regulation 18 and, on each occasion, concluded that there were no potentially affected persons.

SECTION 3 – NARRATIVE OF EVENTS

6. **Introduction**. The RAFMA group was taking part in RAFMA's annual Winter Meet, which was one of 16 'on-duty' meets authorised by the RAF Sports Board for the 2012-13 season. The Winter Meet was based at Pine Cottage in Newtonmore, near Aviemore, from 9-16 Feb 13. Initial plans for the Meet included a climbing foundation course, which was to have been organised and conducted by the RAFMA Training and Development Officer (TDO), Sqn Ldr Than. However, due to Sqn Ldr Than's limited availability, the course was cancelled prior to the start of the Meet. A total of 13 RAFMA members attended the Winter Meet at some point during the week, including the RAFMA Chairman, 2 previous chairmen, the TDO and 9 other personnel of varying climbing experience and ability, ranging from experienced to novice in the winter environment. On 14 Feb 13, the day of the incident, a total of 10 RAFMA members (8 serving members and 2 ex-Service civilians) were taking part in the Winter Meet. E20 E1 W1 W1, E21-23 E22, E23

7. **Sun 10 Feb 13**. The majority of the Meet participants arrived on the afternoon and evening of 10 Feb 13. All Service personnel used Service vehicles, while the 2 civilian members travelled by private car. The participants moved into their allocated accommodation and commenced a discussion over their evening meal to plan their activities for the next day. E22, 23 W1-8

8. **Mon 11 Feb 13**. The party split into 3 groups, in order to conduct a variety of mountaineering activities in the Craig Meagaidh area. The activities were completed as planned. W1-8

9. **Tue 12 Feb 13**. Worsening weather conditions limited the opportunities for climbing. The party again split, with 2 experienced mountaineers electing to traverse the Fiacall Ridge, while the second group went winter walking in the Mamores. Sqn Ldr Than arrived to join the Meet on the evening of 12 Feb 13. W1-8 E22

10. **Wed 13 Feb 13**. The weather conditions had further deteriorated and the Cairngorms were experiencing 100 mph gusts of wind. The group carried out some training on low ground close to the Lodge accommodation. Two of the more experienced members returned to their parent units, while 2 others arrived to join the Meet. W1-8 E22

11. **Thu 14 Feb 13**. The Meet again decided to split into 2 groups. A group of 4 of the more experienced mountaineers headed south to work in the Meall Nan Tarmachan area, and ended up walking the Tarmachan Ridge, which they completed without incident. The 4 less experienced climbers (Flt Lt Capps, Flt Lt [redacted] Sgt [redacted] and Mr [redacted]) planned to practice winter skills in the northern Cairngorms, under the supervision of Sqn Ldr Than and Wg Cdr [redacted], and this group of 6 was subsequently involved in the avalanche incident. The movements for this group, together with approximate timings, are as follows: W1-8

0830. The incident group departed the accommodation by car.

1000. The group found that the road to their intended area, adjacent to the ski lift, had been closed due to ice, and that the conditions at their intended destination appeared to be unsuitable. The group decided to proceed to the Chalamain Gap instead, where snow conditions were expected to be more suitable.

1115. The group arrived at the Chalamain Gap and split into 2 teams, with the intention of practicing some basic winter techniques on the snow covered north-west facing slope, which was on the left side of the Gap as they approached it. Sqn Ldr Than would work with Flt Lts [redacted] and Capps, while Wg Cdr [redacted] would

work with Sgt [redacted] and Mr [redacted]	
1125. A group from the Glenmore Lodge, led by Mr [redacted] arrived at the Gap. After a short conversation with the RAFMA group to establish each other's intentions, the Glenmore Lodge group moved past the RAFMA party and set up to climb on the south-east facing slope (i.e. on the right hand side of the Gap). The RAFMA group subsequently commenced climbing activities on the left hand side of the Gap.	W1, W13
1245. The snow on the left hand slope avalanched, completely burying Sqn Ldr Than, Flt Lt Capps and a member of the Glenmore Lodge group, Mr Currie, and partially burying Sgt [redacted] and Mr [redacted] The Glenmore Lodge group made an initial emergency call by mobile telephone to the Police, while the remainder of the 2 groups commenced efforts to locate and rescue the trapped individuals.	W13 W1-8, W13
1315. Assistance from the Cairngorms Mountain Rescue Team (MRT) and Glenmore Lodge MRT, supported by 2 RAF Search and Rescue helicopters, started to arrive at the scene to assist with the rescue.	E24-26
1445. Sqn Ldr Than was dug out and was given immediate First Aid. He was then evacuated by helicopter to Aberdeen Royal Infirmary and was subsequently pronounced dead.	W1
1510. Flt Lt Capps was dug out. She was pronounced dead at the scene.	E24-26
1520. Mr Currie was dug out and was given immediate First Aid. He was then evacuated by helicopter to Aberdeen Royal Infirmary and was subsequently pronounced dead.	E24-26
1525. The remainder of the RAFMA and the Glenmore Lodge groups were escorted from the site by the Cairngorm MRT.	W1, E24-26
1615. The RAFMA party arrived at Aviemore Police Station, to commence Police interviews.	W1-4
1730. The Joint Casualty and Compassionate Centre (JCCC) was informed of the incident.	W1
1845. Wg Cdr [redacted] was driven to Aberdeen Royal Infirmary to identify the bodies of the 2 RAFMA casualties.	W1
2015. Flt Lt [redacted] Sgt [redacted] and Mr [redacted] were released from Aviemore Police Station and subsequently returned to their accommodation at Pine Cottage.	W2-4
Fri 15 Feb 13 0030. Wg Cdr [redacted] returned to Pine Cottage.	W1
12. **The Incident Site**. Maps of the area and photographs of the incident site are at Annexes A and B.	Annex A, B

SECTION 4 – FINDINGS

RAFMA WINTER MEET

13. **Authorisation and Duty Status.** The Panel found that the RAFMA Winter Meet was properly authorised by the RAFSB, in a letter which detailed the RAFMA Meets Programme for 2012-13. The Panel observed that this RAFSB letter authorised 16 specific events and included 2 'spare' lines without any further details, implying prior authorisation for additional (unspecified) activities, which appeared to be inconsistent with the principle of specific event authorisation. The Panel established that none of the Service personnel on the Winter Meet had submitted leave applications, and thus all personnel were deemed to be on duty for the duration of their attendance at the Winter Meet. E1 E27

14. **The Aims of the Winter Meet**. The RAFMA Winter Meet was intended to provide winter mountain experience for all of the attendees, and in addition it was intended that Sqn Ldr Than would deliver a Winter Climbing Foundation (WCF) course during the week, within his remit as RAFMA's TDO. Sqn Ldr Than was due to complete his Mountain Instructor Certificate (MIC) assessment shortly after the Winter Meet, so this course would also have provided useful instructional practice for him in advance of his assessment. However, Sqn Ldr Than was not available for the full week, only joining the group on the Tue (12 Feb 13) evening, and in the absence of another suitably qualified and available instructor, the WCF course could not be delivered as planned. E20 W1 W5 W1, E23

15. **Accommodation**. The RAFMA party was staying in the Cairngorms at Pine Cottage in Newtonmore, a Service facility administered by the Royal Navy and which RAFMA had booked for the week of the Winter Meet. The Panel noted that the Cottage had no internet provision, with the RAFMA party relying on personal smart phones for internet access, including weather and avalanche hazard forecasts. E20 W1

WEATHER AND SNOW CONDITIONS

16. **Snow Conditions**. Snow conditions, which are a major determinant of avalanche risk, are heavily influenced by the local weather conditions. The Highlands of Scotland are exposed to a predominantly maritime airflow, with moist, relatively warm and changeable conditions which can produce highly challenging mountaineering conditions during the Scottish winter. In the days leading up to the incident, the Cairngorms experienced wide variations of temperature, plus heavy snowfalls and strong winds. The wind direction had also varied widely, with strong winds from the south and east. The snowfall and winds resulted in significant snow drifts, while the temperature variations created weak layers within the snow pack. This combination of factors resulted in a significant avalanche risk. The Panel found that much of the 2012/13 season was characterised by an elevated risk of avalanches, with a number of incidents occurring throughout the season. Over the previous 30 years in Scotland, there was an average of 5 avalanche incidents per year, resulting in an average of 2 avalanche fatalities per season. In the 2012/13 season, there were 18 human-triggered avalanches, resulting in 8 fatalities. The Panel assessed that the weather conditions, which produced an increased avalanche hazard during the 2012/13 winter season, were a contributory factor in the incident. E28, E39 W10, E28 E29 E29-31 E32 E33

17. **Avalanche Hazards**. Daily avalanche hazard forecasts for Scotland are available online through the Sport Scotland Avalanche Information Service. For each of 5 areas in Scotland (Creag Meagaidh, Glencoe, Lochaber, Northern Cairngorms and Southern Cairngorms), this service provides daily reports which are graded on a 5-point scale: E30

Hazard Level	Avalanche Probability
Very High	Widespread Natural and Human triggered avalanches will occur.
High	Natural and Human triggered avalanches will occur.
Considerable	Natural Avalanches possible. Human triggered avalanches are likely.
Moderate	Natural Avalanches unlikely. Human triggered avalanches possible.
Low	Natural Avalanches very unlikely. Human triggered avalanches not likely.

E30

The Panel found that during the week of the incident, the avalanche hazard for the Northern Cairngorms area was forecast to be either Considerable or High, and predominantly affected slopes with a northerly aspect. The height band for these warnings was 850 m and above at the beginning of the week, dropping to 600 m and above for 13 and 14 Feb 13. The Chalamain Gap is at an elevation of 700 m, with the incident slope facing north-west. Thus the avalanche hazard forecast for the incident slope, for 13 and 14 Feb 13, was Considerable. E30 Annex A

14 FEB 13– PLANNING AND EXECUTION

18. **Online Forecasts**. The RAFMA members were using personal smart phones to access on-line weather and avalanche hazard forecasts. The Panel was concerned that reading detailed forecasts on a relatively small screen invited the risk of mis-reading key figures, such as the height of the avalanche forecast. After a comparison of large-screen and smart phone formats, the Panel was satisfied that accessing the forecasts by phone did not significantly increase the risk of misreading key forecast data, and that the reliance on smart phones for planning information was not a contributory factor in the incident. W1, W2, W6

19. **Local Knowledge**. The Panel found no evidence that the RAFMA group had sought local advice on weather and snow conditions at the start of the Winter Meet. Within the local area, RAFMA could consult civilian organisations, including Glenmore Lodge, and local Service expertise at the Force Development Training Centre at Grantown-on-Spey (FDTC(G)). Given the significant quantities of snow in the region, the presence of an elevated avalanche hazard, and the proximity of these local sources of expertise, the Panel assessed that seeking this advice would have been a simple and sensible precaution. For example, the Glenmore Lodge group at the incident site had been aware of a weak layer in the snow pack, and the Panel assessed this as useful information that would have been of value to RAFMA at the start of the Meet. The Panel recommended that RAFMA consults local knowledge, including other local UK military groups, as a planning consideration at the start of each period of winter activities. The Panel further recommended that all Sports Associations, adventurous training (AT) groups and expedition groups seek advice (where appropriate) from local sources and other local UK military groups, in order to establish whether local conditions may affect the safe conduct of military activities. The Panel noted that by 14 Feb 13 the RAFMA group had acquired several days of experience in the local conditions and judged that the failure to seek local knowledge at the start of the Meet was not a contributory factor in the incident. W13

20. **Implications of the Avalanche Forecast**. The Panel heard that on 14 Feb 13, one of the other RAFMA groups had planned their walking route specifically to avoid any north-facing slopes, on the basis of the 'Considerable' avalanche hazard forecast, while the staff at FDTC(G) had discussed and dismissed the Chalamain Gap, again based on the avalanche forecast. The Panel noted that an avalanche hazard forecast of 'Considerable' does not preclude all activity in the area, but does highlight the need for extra caution. As W5, W8 E34 E35

a result, once the RAFMA group had decided to proceed into the incident area, they would be expected to take additional precautions in planning their routes and working areas, and in assessing the snow conditions throughout the day.

21. **Plan for 14 Feb 13.** The RAFMA group's aim for 14 Feb 13 was to practice winter techniques for ascending steep snow-covered and rocky slopes. The group's initial plan on the Wednesday night was to work on a crag above the Coire Na Ciste car park, which would provide the required steep slopes of both snow and rock, while the Chalamain Gap was mentioned during the planning discussions as a possible alternative if conditions were unsuitable at the primary location. The group initially comprised Sqn Ldr Than with the 4 relatively inexperienced climbers, with Wg Cdr [redacted] subsequently invited to join the group to provide additional supervision for the less experienced members. The activity was not declared as formal training, but was effectively a teaching and practice session for the 4 inexperienced climbers. The group included a winter-qualified instructor (Sqn Ldr Than), plus a senior and experienced supervisor (Wg Cdr [redacted]), supervising 4 'students', which is in line with the Joint Services' Adventurous Training (JSAT) minimum ratio for conducting this type of training. While RAFMA was not required to follow the JSAT regulations, the Panel viewed them as a useful guide to best practice, and assessed that the group's composition was not a factor in the incident. W1-4 | W1, W5 | E71 | E11a

22. **Departure on 14 Feb 13.** On 14 Feb 13, the group initially proceeded as planned. The Panel found no evidence of a group discussion of the day's plan, or an update for the group on the weather and snow conditions: the group simply set off to execute the previous evening's plan. The Panel noted that RAFMA procedures required each group to sign out on departure from the accommodation, with details of intended working areas and a planned return time, to enable overdue action if the group was late in returning. On the day of the avalanche, the incident group failed to sign out, and the Panel recommended that RAFMA introduces a more robust system to log group activity. W1-4 | W1, E36 | E36

23. **Choice of the Chalamain Gap.** En route to the start point for their day's activities, the group discovered that the road was closed short of their intended parking area. However, the group was close enough to see the crag that they had intended to work on, which looked bare of snow and largely unsuitable for the planned climbing activities on both snow and rock. Sqn Ldr Than and Wg Cdr [redacted] discussed alternative options, with the remainder of the group listening in, and chose to go to the Chalamain Gap, which was regarded as a technically less challenging, benign and relatively sheltered area with easy access by foot. W1-4 | W1, W4, W13

24. **Approach to the Gap.** During the walk in to the Chalamain Gap, the group discussed the snow conditions, including the fact the snow had been building up at some points, and one of the group (Wg Cdr [redacted]) recalled probing the snow to test its consistency. On arrival at the Gap, the group was presented with a relatively narrow and steep-sided gully, with a footpath running along the bottom. On the left (north-west facing) side, the slope was heavily laden with snow, with protruding outcrops of rocks. On the right (south-east facing) side, the slope was steep and rocky with little or no snow evident. Thus for the mixed work that the group had planned, the left side, facing north west, was the only realistic option. Shortly after arriving at the Gap, the RAFMA party were joined by the Glenmore Lodge party. After a brief discussion to establish each other's intentions, the RAFMA group proceeded with their initial plan to work on the left side of the Gap, while the Glenmore Lodge group conducted their planned climbing activities on the right side of the Gap. W1-4 | W1 | Annex A, E37 | W1-4, W13

25. **Snow Conditions in the Gap.** The Panel assessed that at this point, the RAFMA group had encountered several significant indicators of a potential avalanche hazard. The slope was forecast as having a 'Considerable' avalanche hazard and, even without this E30

forecast, the strong southerly winds in the previous days would have been likely to 'load' slopes with a northerly aspect. The Glenmore Lodge group reported 'obvious convexity' on the slope, indicating a significant build up of snow on a slope that was angled at approximately 30 degrees to the horizontal – within the optimum range for avalanches. While the RAFMA group may not have had the local knowledge to know that the underlying slope was largely flat, and that the convex slope indicated heavy wind-blown deposits, there were additional visual clues in the vicinity. The Panel viewed the area 7 days later, at which time there had been no significant snow fall since 14 Feb 13, with the footprints of the rescue teams still visible in the snow. The previous week's deep snow deposits were evident on slopes with a northerly aspect, including cornicing and overhanging snow banks, indicating that significant snow build up had been present at the time of the incident. E31 W13 E38-40 E41

26. **Decision to Climb in the Gap**. Despite the above indicators of a potential avalanche hazard, the Panel found no evidence that any member of the RAFMA party raised concerns over a possible avalanche hazard, or that any specific assessments or checks were carried out on the avalanche slope. The RAFMA group decided to climb the north-west facing slope in the Chalamain Gap, which subsequently avalanched on them. The Panel found that the decision to work on this slope was a causal factor in the incident. The Panel spent a considerable period of time in trying to understand the process that had led to this decision.

WHY DID THEY CLIMB THE SLOPE?

27. **Avalanche Assessment Skills**. While the group did not have a nominated leader, the most accomplished member of the group was Sqn Ldr Than, the RAFMA TDO, who was an extremely experienced and qualified climber. The Panel assessed that, while the group discussed their decisions during the day, Sqn Ldr Than's status within the group meant that his decisions were likely to go largely (and perhaps wholly) unchallenged. In reviewing Sqn Ldr Than's experience and qualifications, the Panel noted that he had twice failed to achieve the qualification of Mountaineering Instructor Certificate. After a first attempt in 2008, he undertook a re-evaluation in 2009, which he was unable to complete due to external factors. While his technical climbing was assessed very highly, the Panel noted that his decision making, environmental knowledge and his ability to explain avalanche hazards were all highlighted as areas for improvement. The Panel noted that Wg Cdr [redacted] had not received any formal avalanche training for the past 10 years, while in the remainder of the group, only Flt Lt [redacted] had received recent avalanche training. The Panel judged that additional avalanche assessment training would have been likely to increase the group's avalanche awareness and assessment abilities, and that the limited amount of recent formal avalanche training within the group was a potential contributory factor in the incident. The Panel recommended that RAFMA members undertaking winter mountaineering activities should, where practicable, have undertaken recent avalanche assessment training. W5 W10, E71 E42 W1, W10 E42 W1 W2-4

28. **The Decision to Climb**. The Panel was unable to establish exactly why the group, and in particular Sqn Ldr Than, had chosen to climb the incident slope despite the significant avalanche hazard indicators mentioned above. The Panel therefore sought to understand the decision-making factors involved, in order to identify potential risk-reduction measures for the future.

29. **Heuristic Traps**. The Panel reviewed the 'heuristic traps' that may have been present on the day of the incident. Heuristics are aids to decision making, based on experience – in other words, mental shortcuts, like rules of thumb. Heuristic traps are those circumstances where these learned shortcuts lead to systemic errors. The Panel reviewed a detailed study, published in 2004, which assessed the decision-making E2

involved in 715 avalanche incident groups, and which concluded that many avalanche victims fall prey to one or more heuristic traps. The heuristic traps are placed in 6 categories, which the study identified as likely reasons for decisions that lead to groups being avalanched. The Panel reviewed these 6 categories in the context of the RAFMA incident:

a. **Familiarity** – behaving the way we usually do, when in familiar situations. In this case, the Chalamain Gap would qualify as a benign and 'familiar' location, a fact that was reinforced by witness evidence. W1, W4, W13

b. **Consistency** – maintaining consistency with an initial decision or assessment, rather than re-evaluating it repeatedly. As discussed above, once the Chalamain Gap had been nominated as a suitable alternative, the Panel found no evidence that any member of the group subsequently queried the decision.

c. **Acceptance** – behaviour that will enhance the group's acceptance of an individual. The Panel speculated that the group would be expecting the leader(s) to deliver some mountaineering activity despite the adverse conditions, although the Panel found no clear evidence that this factor was present. W8

d. **The Expert Halo** – the group is unlikely to challenge the decisions of the recognised expert within the group. As discussed above, Sqn Ldr Than was the recognised 'expert' in this situation. W1

e. **Social Facilitation** – the presence of other people. In this case, the presence of the Glenmore Lodge party, a professionally-led group from a local centre with an excellent reputation for safety (the Lodge had not had a fatal accident for 40 years), would add considerable confidence to the assessment that this was a 'safe' area. W1, W6, W8 W10, E43

f. **Scarcity** – the quality and value of an opportunity increases with its scarcity. The weather had prevented significant activity for the group on 13 Feb 13 and the Chalamain Gap appeared to be the most accessible option for the RAFMA group on 14 Feb 13, once they had decided to forgo their initially planned location. The Panel judged that this could have been an additional factor in the decision making process. W1-8

In reviewing the 6 heuristic traps above, the Panel concluded that some were clearly present and almost all of them could have been a factor in the group's decision-making process. Worryingly, the report on heuristic traps also found in that in almost half of the 700+ groups studied, at least one person in the group (often the leader) had formal avalanche training, and knew how to recognise and avoid avalanche hazards. The Panel assessed and supported the paper's conclusion that avalanche hazard training, by itself, is not enough to mitigate the risk of decision-making traps such as those above, and that additional risk management tools and processes were required. The Panel's review of RAFMA's regulatory and risk management processes, below, was conducted in this context. E2

THE AVALANCHE AND AFTERMATH

30. **Initial Climbing Activity**. Once the RAFMA group had committed to working on the incident slope, the group split into 2 sections of 3. Sqn Ldr Than took Flt Lt [redacted] and Flt Lt Capps onto the slope, between 2 rock outcroppings, to practice some basic winter climbing skills on the snow. Wg Cdr [redacted] took Sgt [redacted] and Mr [redacted] onto the slope to the left of Sqn Ldr Than's group, under one of the rock outcrops, to conduct some preparatory refresher work, after which they intended to commence a similar climb to Sqn Ldr Than's group. W1

31. **Locations of RAFMA Personnel.** Sqn Ldr Than's party commenced a climbing technique (known as 'lead climbing') that involved one of the group (Flt Lt Capps) anchoring herself into the snow at the base of the climb, while the other climber (Flt Lt [redacted] was roped to Flt Lt Capps, using her as an anchor point while he proceeded to climb the slope. Sqn Ldr Than free-climbed the slope alongside the pair, providing advice and instruction as required. Flt Lt [redacted] had proceeded some way up the slope and was in the process of digging a belay stance, or anchor point, when the avalanche occurred. The Panel was unable to determine the exact locations of the RAFMA members at the point when the avalanche occurred. Witness evidence indicated that Flt Lt [redacted] was well up the slope, probably close to (and possibly on) the avalanche fracture line, Flt Lt Capps was at her belay point near the foot of the slope, and Sqn Ldr Than was transiting between the 2 climbers. The Panel reviewed the location and activity of each witness, and judged that the Glenmore Lodge instructor, Mr [redacted] was best placed to give an accurate assessment of the locations. Mr [redacted] was confident in his statement that Flt Lt [redacted] was digging on the fracture line when the avalanche started. The Panel accepted that Flt Lt [redacted] was most probably on, or very close to, the fracture line. W1-4 W1-4 E44 W13

32. **The Second Group**. When the avalanche occurred, Wg Cdr [redacted] group had completed their initial work under the rock outcrop, and were in the process of moving across to work on the slope alongside Sqn Ldr Than's group. The Panel assessed that, had Wg Cdr [redacted] group started this move any earlier, they would probably have been fully engulfed in the avalanche, with a significant likelihood of additional loss of life. In this respect, the Panel assessed that Wg Cdr [redacted] group was extremely fortunate. W1, W3

33. **The Avalanche Trigger**. The Panel found that the avalanche was a causal factor in the incident, but that it was not possible conclusively to establish the cause, or causes, of the avalanche. Expert analysis of the incident site stated that the avalanche was likely to have been triggered by the additional load of a climber, or climbers, on the slope. It appeared that the trigger occurred in a thinner area of snow pack and that, when it failed at this point, the fracture line propagated between the two weakest points on the slope, at either end of the crown wall (the fracture line). The Panel reviewed the estimated positions of the RAFMA members at the moment that the avalanche was triggered, and assessed that their actions could have provided this trigger. The Panel further noted that, on average, around 90% of avalanches involving people are triggered by those involved. As a result, the Panel accepted the assessment that the avalanche was probably triggered by a climber, or climbers, from the RAFMA group. However, the Panel remained clear that the cause could not be positively determined: this was a probable cause, not a definite conclusion. E38 E44 E40

34. **Avalanche Size**. The avalanche itself was simply massive. An estimated volume of 9000 cubic m of snow, with an estimated mass of 3150 tonnes, was involved in an avalanche measuring approximately 400 m across. The effect of this very large avalanche was exacerbated by the 'terrain trap' nature of the Chalamain Gap (a terrain trap is a geographical feature, such as a gully or depression, in which avalanche debris can collect). This produced a debris field of 3-5 m in depth, so that those caught up in the avalanche were buried unusually deeply. E38, E46 E40

35. **Avalanche Casualties**. On detecting the avalanche, Wg Cdr [redacted] group immediately ran towards the other side of the gully, while Sqn Ldr Than's group was already caught up in the moving snow. Sqn Ldr Than and Flt Lt Capps were engulfed by the avalanche and buried completely. Mr Currie, from the Glenmore Lodge group, had been anchored at the base of the slope on the other side of the Gap and was also engulfed by the huge quantity of snow debris. Mr [redacted] was buried up to his chest and W1-3, W13

Sgt [redacted] was buried up to her knees. Wg Cdr [redacted] reached the far side of the gully and escaped the avalanche, while Flt Lt [redacted] was carried down the slope by the avalanche, ending up on top of the snow debris on the far side of the gully. W4

36. **Initial Rescue Operations**. Rescue activities began immediately. The Glenmore Lodge and RAFMA groups compared estimated positions of the 3 buried personnel and commenced digging for them, with Wg Cdr [redacted] directing efforts to find the RAFMA members, while the Glenmore Lodge instructor led the digging for Mr Currie. Meanwhile, Sgt [redacted] was able to free herself and she then focussed on digging Mr [redacted] out of the snow debris. A member of the Glenmore Lodge group put out an initial distress call, by mobile phone, shortly after the avalanche. All of the Glenmore Lodge group's belongings (rucksacks, phones, etc) had been left in a pile near the base of the slope they had been climbing and all of it was buried. It was fortuitous that one of the group had recently used his phone and had not yet replaced it in his rucksack, which enabled him immediately to summon help. The RAFMA party's rucksacks were not buried, but could easily have been so if placed in a different location, leaving the group without any form of external communications. The Panel recommended that RAFMA members carry mobile phones and radios on the person, where practicable, to increase the rapid access to communications in an emergency. The Panel assessed that other sports and adventurous training activities may also require rapid access to communications in an emergency, and recommended that the RAF Sports Board and HQ 22 (Trg) Gp review the accessibility of emergency communications for those sports and training activities that may require them. W1-4, W13 W13 W1

37. **Subsequent Emergency Response**. The emergency call was logged at 1245 hrs, with Cairngorms Search and Rescue immediately taking control and calling for helicopter assistance. The first helicopter (an RAF Sea King) arrived at Glenmore Lodge at 1320 hrs to collect a rescue team, which was dropped off at the Chalamain Gap at 1330 hrs. This rescue team included Ms [redacted], a member of the Mountaineering Council of Scotland, who brought a trained search and rescue dog with her. However, due to the depth of burial of the casualties, the dog was of limited use. Ms [redacted] took control of the rescue operations, organised an effective 'probe line' (using avalanche probes to establish the precise locations of the casualties) and directed the subsequent digging efforts accordingly. All 3 casualties were reached by the rescue teams between 1420 and 1430 hrs. At this point, there was a total of 51 personnel (including 3 doctors) involved in rescue operations on site, supported by 2 RAF Sea Kings and one civilian helicopter. Further digging was required to extricate the casualties, which took up to 30 minutes. Flt Lt Capps was pronounced dead at the scene, while Sqn Ldr Than and Mr Currie were airlifted to Aberdeen Royal Infirmary at 1540 hrs. The Infirmary was unable to revive either Sqn Ldr Than or Mr Currie, both of whom were subsequently pronounced dead. E24 W9 E26 W11 E24, W9 E26 W9

38. **Conduct of the Rescue Operation.** The Panel reviewed the search and rescue efforts and found that the whole operation had been run professionally and efficiently, with effective command and control throughout. The Panel judged that, in the circumstances, nothing more could have been done to save the 3 casualties. W9, W11 E47

39. **Reporting Procedures**. News of the incident rapidly broke in the local media. The other RAFMA group was made aware of the incident, and the RAFMA involvement, as they completed their day's activities. All RAFMA personnel were aware of the need to control information release, and particularly to protect the identity of the casualties, until the notification processes had been completed. Wg Cdr [redacted] contacted the Joint Services' Casualty and Compassionate Centre, confirming that they were already aware of the incident, and subsequently checked that they were receiving the correct flow of information from the Police. Overall, the Panel assessed that the reporting process was conducted correctly and effectively. W1-8 W1

REGULATION AND SAFETY MANAGEMENT

40. **Regulation of Association Sport**. Combined Services policy on the governance of sport states that 'Sports Associations administer [...] their sport in accordance with the directives of their sport's National Governing Body (NGB) and Service instructions'. This policy (which dates from 2003) is currently being updated with a new policy paper, which includes a more specific requirement that 'Sports Associations are to administer their sport in accordance with the directives of their sport's NGB and Defence, Joint and single Service publications and instructions'. The Panel noted that the ToRs for the Chairmen of RAF Sports Associations, including RAFMA, required them to conduct activities 'in accordance with NGB rules and with due regard to Service Sports Policy and Defence Rules and Regulations'. However, this Combined Services requirement for sports governance does not appear to be reflected in the RAF Sports Board's policy documents or publications. The Panel recommended that RAF Sports Board policy incorporates the Combined Services policy to administer Association sport in accordance with the directives of the sport's NGB and Defence regulations. E3 E4 E48 E8, E13

41. **Applicability of Health and Safety Legislation**. The MOD has a Duty of Care with respect to Service organisations conducting authorised sporting activities, such as the RAFMA Winter Meet. Furthermore, these authorised activities are undertaken 'on duty' by the Service personnel involved and, as such, they are subject to the requirements of the Health and Safety at Work Act (HSAWA) 1974, which places specific requirements on how the Service's duty of care is to be discharged. The Health and Safety requirements for Defence activities are contained in JSP 815 (the Defence Environment and Safety Manual, which has been updated and reissued since the incident) and its subordinate documents (principally JSP 375, the MOD Health and Safety Handbook, which details risk assessments processes). The Panel used these JSP requirements, rather than the original HSAWA legislation, to assess the safety management of Sports Associations. While the latest version of JSP 815 was not in force at the time of the incident, the Panel used the updated JSP requirement[1] as the basis for making recommendations (below) for the future. E5, E6 E7 E6

42. **Off-Duty Activities**. The Panel found that the existence of the MOD's Duty of Care with regard to off-duty activities was less certain, particularly when an activity is 'in connection' with a Service Sports Association, such as an Association activity conducted in addition to its authorised events. Had this incident occurred when the individuals were 'off-duty', a further degree of complexity would have ensued, and this appears to be an issue for all 3 Services. The Panel recommended that more work be done to establish the legal position for Sports Association activities conducted where individuals are 'in connection' with a Sports Association, but are off duty.

43. **RAF Sports Board Safety Management**. The RAF Sports Board has responsibility for the control and conduct of all sport undertaken under the aegis of the RAF Sports Associations. Under the requirements of JSP 815, activities outside the normal chain of command (such as Association sport) require a safety system which includes the planning, implementation, monitoring and audit of safety management. Under the current arrangements detailed in AP 3415, RAF Sports Associations are effectively self-regulated, and the RAF Sports Board has no formal mechanism to ensure that Associations are conducting their activities safely, and in accordance with both NGB and Defence rules. The Panel recommended that the RAF Sports Board adopts a formal safety management system, which meets the requirements of JSPs 815 and 375, to manage the safe conduct of Association sport. The Panel further recommended that the Combined Services Sports Board, as the regulatory body for Service sport, reviews the safety management systems E13 E6 E8 E6, E7

[1] With the agreement of the Air Command Environment and Safety Officer

at the Combined and single-Service levels against the Defence requirements outlined in the JSP 815. E7

44. **Duty Holders**. Defence policy requires clear ownership of risk, with safety management delivered through a system of 'Duty Holders (DHs)'. JSP 815 outlines this system and recommends the employment of 3 levels of DH, the Senior DH (for the RAF, this role is undertaken by CAS), who should appoint an Operational DH (ODH – typically at 2* level), who will in turn appoint Delivery DHs (DDHs, also known as 'Commanding Officer' DHs) for specific activities. In reviewing the applicability of this system to Sports Associations, the Panel was very conscious that RAF sports management is undertaken on a voluntary basis and that the imposition of additional responsibilities (particularly with the label of 'Health and Safety') could discourage personnel from volunteering to serve on Association committees. In particular, the additional responsibility of being a DH for the sport's safety management could prove unattractive. However, as part of the MOD's Duty of Care, Association Chairmen already effectively hold the responsibility for safety management, while the Chairman of the RAF Sports Board holds the overall responsibility for the safe conduct of RAF Association sport. In other words, they already have the implicit responsibilities of Duty Holders, but these existing responsibilities are not documented and, as such, have not been properly articulated to the individuals concerned. The Panel recommended that an ODH (likely to be the Chairman of the RAF Sports Board) is appointed for RAF Sports Association activities, and that the ODH in turn appoints DDHs (likely to be the Association Chairmen) and clearly outlines their responsibilities for the safe conduct of Association sports. E6

45. **Safety Management of RAF Sports Associations**. The Panel briefly reviewed how RAF Sports Associations conducted safety management under NGB and Defence rules, concentrating on those sports which the Panel subjectively felt were relatively 'high risk', i.e. with the presence of a significant physical hazard to participants. Some sports (such as flying, parachuting, skiing, rugby and boxing) are extensively regulated by their NGBs, which provide the basis of effective safety management systems. At the other end of the scale, some sports (such as the ice sliding sports) have very limited NGB governance and safety management guidance available to them. In general, for those sports where NGB guidelines do not appear to meet the Defence safety management requirements, the Associations employed additional governance and safety management protocols. In other words, they operated to 'NGB+' guidelines and regulations. The Panel judged that this approach met the intent of the Combined Services' policy to administer Association sport in accordance with both NGB and Defence requirements, and assessed this as a 'best practice' model for the regulation of Association sport within the Services. E49

46. **RAFMA Regulation**. The Panel examined the NGB regulations under which RAFMA was operating at the time of the incident. For mountaineering, the recognised NGB is the British Mountaineering Council (BMC) and hence it is the BMC regulatory framework that RAFMA was principally required to follow. The Panel reviewed the RAFMA Constitution and Management documents, which reflected the principles of the BMC guidelines, and assessed that RAFMA generally met the requirement to apply NGB regulations. However, the Panel assessed that RAFMA's approach, based on the BMC guidelines, did not meet the additional requirements of Defence safety management, as discussed below. E50

47. **BMC Safety Management**. The BMC approach to safety management is based around the BMC Participation Statement: E51

> *'The BMC recognises that climbing, hill walking and mountaineering are activities with a danger of personal injury or death. Participants in these activities should be aware of and accept these risks and be responsible for their own actions and*

involvement.'

This approach to safety is expanded in the BMC's guidelines on Risk, Responsibility and Duty of Care. In essence, the BMC construct does not equate to a formal safety management system, focussing instead on the personal responsibility of each individual. In this respect, the NGB rules for mountaineering are insufficient to meet Defence rules on safety management, and additional safety management procedures are required. E9

48. **Supervision of RAFMA Activities**. The Panel heard evidence that the Association was operated along the lines of a university climbing club, with a 'rigorous but informal' supervisory system. However, when challenged, the witnesses were unable to provide evidence of the claimed rigour. While RAFMA witnesses stated that inexperienced mountaineers would not be allowed to proceed with courses of action that more senior and experienced RAFMA members judged to be unwise, the Panel heard evidence of exactly this situation occurring. During the New Year meet, a small RAFMA group proceeded to undertake climbing activity against the advice of experienced RAFMA members, subsequently finding conditions sufficiently challenging that they lost part of their climbing equipment. The Panel assessed that this situation could easily occur again under the current RAFMA rules. Overall, the Panel assessed that the RAFMA approach, which was based on the BMC guidelines, was more advisory than supervisory and that the RAFMA executive had an over-optimistic view of the effectiveness of their 'informal' supervisory system. The Panel therefore reviewed the options available to RAFMA for a more formal system of supervision and safety management. W1, W2, W5, W6 W1, W8 W6

49. **Status of Mountaineering as a Service Sport**. The Panel reviewed the status of mountaineering as a sport within the Services and noted that it is separated into indoor climbing and outdoor meets, both disciplines being 'Recognised' sports. The Panel noted that outdoor mountaineering has no competitive element and hence does not meet the Combined Services Sports Board requirement for a Recognised sport to develop competitiveness. The great majority of RAFMA activity is outdoor meets, for which the status as a Recognised sporting activity appears to be a legacy qualification. In light of this legacy status, the Panel considered the alternative option to conduct mountaineering under the JSAT rules, which are fully compliant with Defence safety requirements, and which in the Panel's opinion would represent a 'gold standard' for regulation. E10 E10 E1 E11

50. **JSAT Regulation**. The Panel assessed the viability of conducting the full range of RAFMA activities under JSAT regulations, noting that this option had been discussed by a previous Inquiry (into a RAFMA climbing incident in 2007), but not accepted. Since the incident in Feb 13, RAFMA activities had been conducted under an interim set of supervisory measures, which are in line with JSAT regulations. These interim measures have been independently audited and assessed to be a 'safe system of working' However, the Panel noted that full JSAT compliance would be difficult for RAFMA to sustain, due to instructor/supervisor availability. The Panel noted that the vision for RAF sport is actively to encourage participation in sport as a core contribution to the Service's operational effectiveness. The Panel also noted the JSP requirement that risk should be 'as low as reasonably practicable'. The Panel assessed that conducting all RAFMA activity under JSAT regulations would place a significant additional burden on RAFMA, with the requirement for a large number of trained leaders and instructors. This requirement would also carry a significant risk of reducing the attractiveness of RAFMA activities for the Association's more experienced members (who would be required to lead/instruct all activities) and would be likely to reduce access for inexperienced members (as a result of the limited number of qualified leaders/instructors). The Panel also noted that RAFMA conducts a range of 'lower risk' activities, such as summer hill walking, where the conduct of activities in line with JSAT regulations appeared to be unnecessary. In summary, conducting the full range of RAFMA activities under JSAT regulations would be likely to E11 E52 E12 W14 E13 E6

represent a high regulation/low participation solution, which the Panel judged was unlikely to meet the vision for RAF sport and did not appear to meet the requirement to be 'reasonably practicable'.

51. **'NGB+' Regulation**. The Panel then assessed the option of 'NGB+' regulation, which is consistent with the approach taken by other 'high risk' Service sporting associations, and is in line with the Combined Services policy discussed above. The Panel felt strongly that, in light of 2 incidents in 6 years in the winter mountaineering environment, the more demanding of RAFMA's activities should be conducted at a level of safety in line with the JSAT regulations. Specifically, for 'high risk' environments such as rock climbing and winter mountaineering, a comprehensive safety management system should be employed. This should include suitably qualified and experienced personnel (SQEP) nominated as group leaders, with a minimum ratio of SQEP supervisors to oversee inexperienced members. For less demanding environments (such as summer hill walking), the Panel was content that an appropriately reduced level of regulation would suffice. The Panel judged that this approach met the 'reasonably practicable' test, by enabling compliance with Defence safety management requirements while helping to protect the strategic aim of maximising participation rates. Therefore, the Panel recommended that RAFMA introduces a safety management system for its activities, which for demanding environments (such as rock climbing and winter mountaineering) provides a level of safety management in line with JSAT regulations, with appropriately reduced requirements for more benign activities, and nominated SQEP to supervise the safe execution of activities at all RAFMA meets. The Panel noted that in this incident, the RAFMA group supervision was already at this level, and went on to examine the use of risk assessments in supporting RAFMA's safety management.

52. **The Use of Risk Assessments**. Defence policy requires the completion of risk assessments for all activities, using the Health and Safety Executive's 5-step process (identify the hazards, identify who might be harmed, evaluate the risks, record the findings, reassess as required). Of note is step 4, 'record the findings', which is a clear requirement to document the process. Risk assessments may be generic assessments (a general written assessment for common tasks with largely constant influencing factors), specific formal assessments (a written process for specific events and conditions – e.g. a daily risk assessment for climbing activities) or dynamic assessments (a mental process to assess changing situations, which is conducted during an activity). For mountaineering, the BMC recommends the use of the same levels of generic, formal and dynamic risk assessment, following the same 5-step process. The Panel observed that the BMC risk assessment guide was very difficult to locate, requiring a word-specific search of the BMC website, and did not appear to be linked to the safety areas of the BMC website. E6, E7 E7 E53

53. **RAFMA's Risk Assessment Policy**. Within the RAFMA documentation, the policy on risk assessments was inconsistent. The RAFMA Management Document required daily risk assessments to be undertaken by expeditions, but not for other events, despite the same hazards potentially being present. The RAFMA Constitution described daily risk assessments as 'good practice', but gave no further guidance on their usage, while the TDO's Terms of Reference (ToRs) specified the use of risk assessments as one of his training tasks. For the Winter Meet, the Panel found no evidence of a formal risk assessment system being employed during the planning phase of each day's activities. Specifically, RAFMA did not employ generic or written daily risk assessments and the Panel found that, in this respect, they were not compliant with BMC guidelines or Defence regulations. In the view of RAFMA witnesses, there was little or no value to be gained by filling out a daily risk assessment, since all subsequent decisions are influenced by the actual conditions on the ground, as part of a dynamic risk assessment process. This attitude was contradicted by evidence from the FDTC(G) staff, who highlighted the value of the written assessment process as a planning tool. As Winston Churchill succinctly put it, E14 E54 E14 W1, W5, W8 E34

'Plans are of little consequence, but planning is everything'. The Panel judged that in dismissing the use of written risk assessments, RAFMA had not fully understand this concept. The Panel recommended that RAFMA routinely employs generic and daily risk assessments for its activities, and updates RAFMA policy documents to ensure a consistent approach to risk assessments.

54. **Risk Assessment on the Winter Meet**. The Panel reviewed RAFMA's lack of a formal daily risk assessment process on 14 Feb 13. The Panel noted that Wg Cdr [redacted] had joined the incident group late in the previous evening, after most of the planning discussions had been completed. Wg Cdr [redacted] stated that, as a result, he believed that the 'Considerable' avalanche risk started at 800 m (which was the forecast for the Creag Meagaidh area, where he had previously been planning to work) rather than at 600 m, as forecast for the Northern Cairngorms where the incident group was due to work. The Panel judged that if a written daily risk assessment had been completed and discussed within the group, this confusion may have been resolved, and that the decision to climb a slope within the forecast avalanche hazard area may have been influenced and perhaps reversed. In addition, a written daily risk assessment would have been independently checked and signed by another experienced RAFMA member, increasing the chances that the avalanche forecast would be highlighted, thus making the group more aware of the hazard. The Panel found that the lack of a daily risk assessment, and the lack of discussion of the key safety factors for the day's activities, were potential contributory factors in the incident. The Panel recommended that each RAFMA group's daily risk assessment is discussed with all members of the group, in order to highlight the key factors which could influence the safety of the day's activities. W1 E55 E30

55. **Risk Assessments and Liability**. The Panel heard that one of RAFMA's reasons for avoiding daily risk assessments was the uncertainty over who should check and sign it, and what safety responsibility that individual would be assuming as a result. One witness cited a previous avalanche incident (during Ex SNOW EAGLE 2010), which resulted in the Chief Instructor going to Court Martial, as a reason that no-one wanted to sign daily risk assessments. This attitude indicated a fundamental lack of understanding on behalf of the RAFMA executive with regard to risk assessments and responsibility, which is outlined in JSPs 815 and 375. Signing a risk assessment reflects the signatory's view that, in their judgement, the assessment process had been properly undertaken. It does not imply any additional legal responsibility for the group's safety thereafter. The Panel recommended that the RAF Sports Board disseminates this information across all Sports Associations that employ risk assessments, to ensure that these responsibilities are understood by all those involved in the process. W1. W5, W8 E5, E6

RAFMA ORGANISATION

56. **RAFMA's Purpose**. The Panel heard evidence that RAFMA's declared purpose was to provide opportunities for its members to gain experience, rather than to act as a training provider, an approach that was reflected in the RAFMA Constitution. However, this purpose is slightly at odds with the TDO's ToRs, which outline specific training courses that the TDO should aim to deliver. The Panel observed that the RAFMA's stated purpose was not entirely consistent with the Association's activities and in particular with the TDO's role. The Panel judged that this inconsistency had not materially affected RAFMA's approach to supervision and safety management, and was not a factor in the incident. W1, W5 E15

57. **Record of Qualifications**. The RAFMA Management Document states that RAFMA seeks to develop 'a core of people who are experienced, trained and qualified to promote best practice and to lead expeditions'. As discussed above, the RAFMA TDO is expected to deliver training courses for RAFMA members, which require the assistance of qualified instructors. In order to assist with the planning of suitable supervision for RAFMA events, E14

and the allocation of suitably qualified instructors to deliver RAFMA courses, the Panel recommended that RAFMA compiles and maintains a formal record of its members' qualifications. The Panel observed that the records of qualifications held by the Joint Services' Mountaineering Training Centre were not accurate, in that they recorded Sqn Ldr Than as 'MIC', a qualification that he did not hold. E71

58. **Appointment of an Officer in Charge (OIC).** RAFMA did not appoint an OIC for the Winter Meet. While the Panel heard evidence that the 'senior officer present' would be the *de facto* OIC, this led to the possibility of ambiguity (for the RAFMA Winter Meet, for example, there were 3 wg cdrs taking part). The Panel was unable to find any Service regulation that required a nominated OIC to be appointed for authorised Service activities being conducted by groups of Service personnel on duty. For groups of personnel from several different units conducting on-duty activities 'outside the wire', such as the RAFMA Winter Meet, this raised the potential for ambiguities in command and legal responsibility. The Panel felt that this level of uncertainty over the core military concept of command and control was highly undesirable. The Panel recommended that RAF Sports Associations appoint OICs for authorised events, and observed that current Service regulations do not require the appointment of a nominated OIC for military activities. The Panel noted that RAFMA had not produced a nominal roll for the Meet and recommended that RAF Sports Associations produce nominal rolls for authorised events, in order to identify the personnel for whom the OIC is responsible. E20, W1

59. **JPA Move-and-Track.** JPA move-and-track action is an individual responsibility for all Service personnel absent from their parent unit for longer than 24 hrs. However, for organised events, move-and-track may also be done for a group as part of the event organisation process. The Panel found that for the RAFMA Winter Meet, 'move and track' action had only been undertaken by one of those attending the Meet, with the result that (with one exception) none of the parent units, including those of both casualties, had a record of the location of their personnel. The Panel assessed that move-and-track action for RAFMA groups would be assisted by a nominal roll (recommended above), together with explicit direction in the event Admin Order on the responsibility for undertaking move-and-track action. The Panel recommended that the RAF Sports Board highlights to all Associations the requirement for JPA move-and-track, which should be clearly outlined in event Admin Orders. E56 E57

60. **Maximum Numbers for Authorised Events.** For each sport within the Combined Services sports environment, there is a maximum number of participants authorised to travel to an event at public expense, listed by sport under the heading of 'team size'. However, outdoor Mountaineering does not fully meet the minimum requirements to be a sport, in that it has no competitive element and hence no 'team' as such. As a result, the team size is listed as 'not applicable' for Mountaineering. The Army Mountaineering Association has additional regulations which limits the number of personnel able to travel at public expense, but the Panel was unable to find any equivalent RAF restriction. The Panel observed that, as a result, there is effectively no limit to the number of personnel who may travel at public expense to attend authorised RAFMA meets. This appears to be inconsistent with the imposition of a numbers cap on almost every Combined Services sporting discipline (microlight flying and horse racing are the only other sports that have no numbers limits). E10 E10 E16

61. **BMC Insurance.** All personnel attending the Winter Meet were paid-up members of RAFMA. RAFMA is affiliated to the BMC and all members are automatically BMC Club Members, which includes BMC liability insurance cover. In addition, for 'on duty' activities, Service personnel receive third party protection from the MOD. However, this has led to a degree of uncertainty over the protection available to on-duty Service personnel, as the BMC has stated that the protection afforded by the MOD *may* remove the cover provided E58 E59 E17 E20, W1

by the BMC. The Panel viewed this uncertainty over insurance arrangements as unsatisfactory and recommended that RAFMA establishes a clear position with the BMC in regard to third party insurance.

62. **Insurance Requirements for Sports Association Activities**. The Panel noted that for overseas visits, the Combined Service Sports Board strongly encourages the use of personal and third party liability insurance, while the RAF Sports Board requires all personnel to have personal insurance cover for off-duty activities. However, neither Board specifies any insurance requirements for UK-based meets and events. The Panel could see no material difference between a meet held in Scotland (for example) and one held overseas, in terms of off-duty risks and the associated insurance requirements. The Panel observed that the advice from the Combined Services and RAF Sports Boards on insurance appeared to be inconsistent in this regard. E60 E61

EQUIPMENT

63. **Rescue Equipment**. The Panel reviewed the equipment carried by the RAFMA group. The group was conducting activities in an area where an avalanche hazard was forecast, but had elected not to carry any of the rescue equipment that RAFMA had provided for the Winter Meet. The Glenmore Lodge group was not carrying any rescue equipment either, which meant that there was no rescue equipment available at the incident site until the rescue services arrived, some 45 min after the avalanche. The Panel reviewed the impact of the lack of rescue equipment: E30 W1-4 W13

a. **Location Aids**. None of the climbers were carrying avalanche transceivers (which transmit the position of a buried casualty) and neither group had avalanche probes (long thin metal rods, use to probe down into the snow to locate buried personnel). As a result, the initial digging for the buried casualties could only be conducted on estimated positions. Mr Currie's position was known fairly accurately, as he had been securely tied to a rock belay, but the locations of Sqn Ldr Than and Flt Lt Capps could not be determined, leaving the group uncertain of where to dig for the buried RAFMA members. W1, W13 W13 W1, W10

b. **Snow Shovels**. Neither party was carrying snow shovels, so the digging was conducted with ice axes, in snow debris which was reported to be hard and compacted. The Panel assessed that the lack of shovels severely limited the group's ability to dig for the 3 casualties, based on the simple analogy of digging a deep hole in the ground, or moving a large quantity of material such as coal or sand: these tasks would be rapidly undertaken by a team wielding shovels, while they would prove to be extremely difficult for a team equipped with ice axes. W1-4

The Panel assessed that the lack of equipment had significantly hampered the rescue activities during the initial 45 min period. It was not possible to determine what effect this had on the overall rescue time for the casualties, but the Panel assessed that it could have been significant, and found that the lack of avalanche rescue equipment was a potential contributory factor in the incident. The Panel also assessed that in other situations, where the depth of snow debris was significantly less, the use of transceivers, avalanche probes and shovels would almost certainly have made a major difference to the overall rescue effort. The Panel recommended that RAFMA groups carry suitable rescue equipment, and undertake appropriate training in its use, for all winter mountaineering activities where there is a risk of avalanche.

64. **Use of Climbing Helmets**. All of the RAFMA group were wearing helmets at the time of the incident. The Panel noted that the BMC runs a 'helmet awareness' campaign, but does not explicitly recommend their use. RAFMA regulations reflected the BMC W1 E62

approach and did not require RAFMA members to wear helmets. In light of the MOD's Duty of Care to its personnel, and the requirement to meet JSP regulations for safety management, the Panel judged that the RAFMA/BMC position on helmets did not meet the Service requirement in climbing conditions where there is a risk of head injury. The Panel judged that AT regulations, which mandate the use of helmets for climbing activities, represented best practice in this respect. The Panel recommended that RAFMA requires its members to wear helmets for all climbing activities and for any other activities where there is a significant risk of head injury. E63

65. **Equipment Logs**. The BMC recommends that records of equipment age, use and inspections should be kept for all 'pooled' equipment. The Panel noted that RAFMA did not maintain equipment logs or servicing records, and recommended that RAFMA maintains equipment records in line with the BMC guidelines. E64 E65

MEDICAL AND PHYSICAL ASPECTS

66. **Cause of Death**. The cause of death for Sqn Ldr Than was given as [redacted] and 'engulfed by avalanche'. The cause of death for Flt Lt Capps was given as [redacted] and 'engulfed by avalanche'. The Panel noted that there were 3 doctors on site during the rescue, with 3 helicopters standing by to provide immediate airlift to Aberdeen Royal Infirmary, which is a recognised centre for the specialist treatment of winter casualties. The Panel judged that the casualties were given the best available support in the attempts to resuscitate them. E66 E24-26 E67

67. **RAFMA Injuries**. Mr [redacted] was the only one of the 4 surviving RAFMA members to sustain significant injury. [redacted] some of which appeared to have been caused by the attempts to dig him out with an ice axe. The Panel assessed that the availability of snow shovels, previously discussed, would have been likely to speed his rescue while minimising any further injuries. The injuries continued to cause Mr [redacted] problems on the day after the incident and particularly on the long drive home that afternoon. [redacted] W3

68. **Fatigue**. The Panel reviewed the activities and rest patterns of all those present on the Winter Meet. As a result of the very poor weather, mountaineering activities were significantly curtailed in the days immediately prior to the incident. Witness statements indicate that all personnel had ample opportunities for rest and sleep, while little or no alcohol was consumed during the evenings. The Panel assessed that the RAFMA group appeared to have been well rested and that fatigue was not a factor in the incident. E29, E30, W1-8

69. **Fitness to Participate in Mountaineering**. The Panel noted that while mountaineering under JSAT regulations required all participants to have a minimum level of physical fitness (the relevant single-Service Fitness Test), RAFMA had no minimum fitness standards for its members. The Panel assessed a lack of physical fitness had the potential to increase the risk of physical incapacitation in the mountaineering environment. Physical incapacitation in a challenging and potentially remote location would present a hazard both to the individual concerned and to the rest of the group, who would be faced with a casualty rescue situation. The Panel compared this approach with other physically demanding sports where the physical incapacitation of an individual could present a hazard to one or more participants. The Panel assessed that a system of medical self-declaration (such as that used by parachuting), which includes the requirement for a doctor's assessment in specific circumstances, offered a simple mechanism for checking physical fitness, and provided a balance between minimising incapacitation hazards and E68 E69

enabling maximum participation in the sport. The Panel recommended that RAFMA considers introducing a minimum level of physical and medical fitness for demanding activities in remote locations. The Panel further recommended that the RAF Sports Board reviews the minimum levels of physical and medical fitness required for other physically demanding sports where incapacity may present a hazard.

70. **TRiM.** The Panel noted that the Service's Trauma Risk Management (TRiM) process appeared to work as intended, with all 4 survivors from the incident group being offered TRiM interventions. Three of the 4 took up this offer (the fourth was unavailable) and all commented positively on the process and its benefits. W1-4

ENVIRONMENT

71. **Land Clearance.** The Panel reviewed extant environmental regulations and noted that military training activities on private land, including mountaineering, require the issue of Land Clearance. The JSP clearance requirement is for all forms of military training, including AT activities, but does not mention sport. The Panel sought further clarification from the Defence Infrastructure Organisation (DIO) Scotland, which manages Land Clearance for the incident area. DIO Scotland confirmed that their intent is to track all military activity, including sporting activities such as RAFMA meets. The Panel observed that the JSP requirements do not include Land Clearance for military sporting (rather than training) activities and that, in this respect, the regulations do not appear fully to meet the DIO intent. The Panel noted that obtaining Land Clearance should be an easy requirement to fulfil, utilising existing Land Clearances for AT mountaineering activities. E18, E19 E70 E18, E19

SECTION 5 – CAUSES AND CONTRIBUTORY FACTORS

72. **Causal Factors**. The Panel found that the incident which resulted in the deaths of Sqn Ldr Rimon Than (5209108X) and Flt Lt Frances Capps (2659709G) had the following causal factors:

a.	The decision by the RAFMA group to work on the incident slope.	Para 26
b.	The occurrence of an avalanche while the group was working on the slope.	Para 33

73. **Contributory Factors**. The Panel identified the following contributory factor:

a.	The weather conditions, which produced an increased avalanche hazard during the 2012/13 winter season.	Para 16

74. **Potential Contributory Factors**. The Panel identified the following potential contributory factors:

a.	The limited amount of recent formal avalanche training within the group.	Para 27
b.	The lack of a daily risk assessment.	Para 54
c.	The lack of discussion of the key safety factors for the day's activities.	Para 54
d.	The lack of avalanche rescue equipment.	Para 63

SECTION 6 – RECOMMENDATIONS AND OBSERVATIONS

75. The Panel made the following Recommendations:

a. RAFMA seeks advice from local sources, including other local UK military groups, as a planning consideration at the start of each period of winter activities.	Para 19
b. All Service Sports Associations, AT and expedition groups seek advice (where appropriate) from local sources and other local UK military groups, in order to establish whether local conditions may affect the safe conduct of military activities.	Para 19
c. RAFMA introduces a more robust system to log group activity.	Para 22
d. RAFMA members undertaking winter mountaineering activities should, where practicable, have undertaken recent avalanche assessment training.	Para 27
e. RAFMA members carry mobile phones and radios on the person, where practicable, to increase the rapid access to communications in an emergency.	Para 36
f. The RAF Sports Board and HQ 22 (Trg) Gp review the accessibility of emergency communications for those sports and training activities that may require them.	Para 36
g. RAF Sports Board policy incorporates the Combined Services policy to administer Association sport in accordance with the directives of the sport's NGB and Defence regulations	Para 40
h. More work be done to establish the legal position for Sports Association activities conducted off duty.	Para 42
i. The RAF Sports Board adopts a formal safety management system, which meets the requirements of JSP 815 and JSP 375, to manage the safe conduct of Association sport.	Para 43
j. The Combined Services Sports Board, as the regulatory body for Service sport, reviews the safety management systems at the Combined and single-Service levels against the Defence requirements in JSP 815.	Para 43
k. An ODH (likely to be the Chairman of the RAF Sports Board) is appointed for RAF Sports Association activities, and that the ODH in turn appoints DDHs (likely to be the Association Chairmen) and clearly outlines their responsibilities for the safe conduct of Association sports.	Para 44
l. RAFMA introduces a safety management system for its activities, which for demanding environments (such as rock climbing and winter mountaineering) provides a level of safety management in line with JSAT regulations, with appropriately reduced requirements for more benign activities, and nominated SQEP to supervise the safe execution of activities at all RAFMA meets.	Para 51
m. RAFMA routinely employs generic and daily risk assessments for its activities, and updates RAFMA policy documents to ensure a consistent approach to risk assessments.	Para 53
n. Each RAFMA group's daily risk assessment is discussed with all members of the group, in order to highlight the key factors which could influence the safety of the day's activities.	Para 54

o. The RAF Sports Board ensures that all Sports Associations that employ risk assessments understand the responsibilities for those involved in the process.	Para 55
p. RAFMA compiles and maintains a formal record of its members' qualifications.	Para 57
q. RAF Sports Associations appoint OICs for authorised events.	Para 58
r. RAF Sports Associations produce nominal rolls for authorised events, in order to identify the personnel for whom the OIC is responsible.	Para 58
s. The RAF Sports Board highlights to all RAF Sports Associations the requirement for JPA move-and-track, which should be clearly outlined in event Admin Orders.	Para 59
t. RAFMA establishes a clear position with the BMC in regard to third party insurance.	Para 61
u. RAFMA groups carry suitable rescue equipment, and undertake appropriate training in its use, for all winter mountaineering activities where there is a risk of avalanche.	Para 63
v. RAFMA requires its members to wear helmets for all climbing activities and for any other activities where there is a significant risk of head injury.	Para 64
w. RAFMA maintains equipment records in line with the BMC guidelines.	Para 65
x. RAFMA considers introducing a minimum level of physical and medical fitness for demanding activities in remote locations.	Para 69
y. The RAF Sports Board reviews the minimum levels of physical and medical fitness required for other physically demanding sports where incapacity may present a hazard.	Para 69

76. The Panel made the following Observations:

a. The RAF Sports Board authorisation for the RAFMA 2012/13 programme listed 16 specific events and included 2 'spare' event lines without any further details, implying prior authorisation for additional (unspecified) activities, which appeared to be inconsistent with the principle of specific event authorisation.	Para 13
b. The BMC risk assessment guide was very difficult to locate, requiring a word-specific search of the BMC website, and did not appear to be linked to the safety areas of the BMC website.	Para 52
c. RAFMA's stated purpose was not entirely consistent with the Association's activities and in particular with the TDO's role.	Para 56
d. The records of qualifications held by the Joint Services' Mountaineering Training Centre were not accurate, in that they recorded Sqn Ldr Than as 'MIC', a qualification that he did not hold.	Para 57
e. Current Service regulations do not require the appointment of an OIC for military activities.	Para 58
f. There is effectively no limit to the number of personnel who may travel at public expense to attend authorised RAFMA meets.	Para 60

g. The advice from the Combined Services and RAF Sports Boards appeared to be inconsistent in requiring insurance for off-duty activities overseas but not for off-duty activities at UK event locations. Para 62

h. JSP requirements do not include Land Clearance for military sporting (rather than training) activities and, in this respect, the regulations do not appear fully to meet the DIO intent. Para 71

c

[redacted]	[redacted]	[redacted]
Wg Cdr	Sqn Ldr	Sqn Ldr
SI President	SI Specialist Member	SI Member

20131220-Covening Authority Comments

20 Dec 13

Air-COSPers-Pol APCswrk2a SO3

Convening Authority Comments

1. The SI Panel has conducted an effective Inquiry and considered a wide range of factors surrounding this tragic accident. The Report is well-argued and presented, with appropriate supporting evidence where required, and it comprehensively meets the Inquiry's Terms of Reference. Having reviewed this Report, I agree with the Findings and Recommendations. I further agree with the President's judgement that no individuals are required to be notified under Regulation 18. While there is no equivalent notification process for organisations, I support the President's decision to give both RAFMA and the RAF Sports Board the opportunity to see and comment upon the Provisional Report. Both organisations supported the accuracy and balance of the Report's Findings.

2. The Inquiry's Initial Report (25 Feb 13) recommended a robust set of interim supervisory measures for RAF mountaineering, while the Inquiry was conducted. These interim measures were introduced quickly and effectively by RAFMA. At the invitation of the RAF Sports Board, one of my specialist staff subsequently conducted an external observation visit at one of RAFMA's major events (11/12 May 13), in order to assess these interim measures. The subsequent feedback indicated that the measures had clearly outlined an effective safety management system, which in turn had produced a safe system of working. This is the key aim of the Inquiry's Initial Report and it clearly achieved the desired short-term effect in this case.

3. This accident followed an avalanche in 2010, in which a Serviceman was fatally injured while conducting ski-touring as part of an AT exercise. At my direction, the President has reviewed the Recommendations from the 2010 accident, in light of the Cairngorms avalanche. The 2 accidents were very different in nature, with the 2 Service groups conducting significantly different activities with different aims. As a result, the Inquiry has confirmed that the Recommendations of the 2010 Inquiry had no material bearing on the conduct of RAFMA's activities in the Cairngorms.

4. Avalanches are a normal part of the winter mountain environment, and the associated risks need to be addressed and managed accordingly. However, the 2013/13 season was a particularly challenging one, with abnormal weather conditions producing an unusually high number of avalanche incidents and some exceptional hazards. The avalanche in the Chalamain Gap on 14 Feb 13 was one of these exceptional hazards. An estimated 9000 cubic metres of avalanche debris, spanning 400 metres of the snow-covered slope, broke away and rapidly piled up in the bottom of this natural terrain trap. An avalanche of this scale and in this location was unprecedented and, tragically, resulted in 3 fatalities. The response to this major incident was a rapid and well-resourced rescue effort, involving a total of over 50 personnel, supported by 3 helicopters. I agree with the Report's conclusion that nothing more could have been done in the attempts to rescue the 3 casualties. All of the organisations involved in the rescue activities are to be commended for their efforts.

5. The RAFMA group chose to work on the incident slope, despite the presence of several avalanche hazard indicators. Following an exhaustive investigation of the available evidence, the reason for this decision remains unclear. I have discussed this in detail with the Inquiry President and, as a result, I am satisfied that it has not been possible to identify a single reason, or a simple chain of events, that led up to this incident. I endorse the Report's analysis that this incident was the result of a number of complex factors, with no obvious 'quick fixes'. The Report presents a detailed review of these complex factors, and identifies a comprehensive range of mitigation measures, which are reflected within the Report's Recommendations. These measures span the whole range of safety management activity, from detailed actions on the ground through to high-level supervisory processes, and the Inquiry deserves credit for its thorough end-to-end assessment of Sports Association safety management.

6. The Report highlights the Service's duty of care in common law for personnel undertaking on-duty sports activities, as well as the statutory duties under the Health and Safety at Work Act, which have recently been updated with the re-issue of JSP 815. The changes in the JSP are part of a long-term series of changes in Defence's approach to safety management, a process which has included the evolution of the Military Aviation Authority and the introduction of risk ownership by nominated individuals or 'Duty Holders'. This Duty Holder construct was introduced for aviation safety management and now, with the re-issue of JSP 815, it has been extended to all areas of Defence safety management. These changes have implications for the conduct of all Sports Association activities, across all 3 Services. I am pleased that the Inquiry has recognised this and has worked closely with the RAF Sports Board throughout the Inquiry, using the ongoing dialogue to refine the Report's Recommendations where appropriate.

7. The Inquiry has shown the necessary degree of courage in tackling head-on the implications of Health and Safety at Work, and the resultant effects on the governance of Service sports. However, our Sports Associations are organised and run by volunteers, and the introduction of 'Health and Safety', together with formal concepts of risk ownership and personal liability, will require careful handling and presentation. This is a challenge that the Services must embrace, as the Report succinctly outlines, and the Recommendations provide some useful first steps for implementation.

8. The Report's examination of heuristic traps, and their potential effect in this incident, is a compelling argument for the wider consideration of human factors in any new safety system. In addition to education on avalanche risks, there is a need for a cultural change in some areas of our risk management activities. The Recommendations highlight the need for appropriate levels of supervision in 'high risk' sporting activities, supported by an improved understanding of risk management for Association sports. There is also a need to promote a better understanding of how and when risk assessments should be undertaken, how they should be conducted, who owns the identified risks and who is responsible for managing them.

9. Finally, in assessing the Report's Recommendations, and the associated work to implement an improved safety management system, we must not lose sight of the value that our people and our Services derive from Sports Association activities. By supporting the wide range of sports that the Services can offer, we promote physical fitness, courage, skill and self discipline. The benefits are directly reflected in our operational capability, through the team building, leadership and morale that sports activities deliver. It is very much in the Service interest to recognise and action the Findings and Recommendations of this Inquiry, so that we may continue to offer the widest possible range of challenging and high-quality development opportunities, delivered to the highest practicable safety standards.

[redacted]

M G LLOYD
AVM
AOC 22 (Trg) Gp

2 Dec 13

Reviewing Authority Comments on SI Report:

1. Before commencing my duty as Reviewing Authority, I wish to express my condolences to all of the bereaved noting with poignancy that one of the victims belonged to a party unconnected with the RAF Mountaineering Association (RAFMA) personnel. My task is to draw together the key lessons from the Service Inquiry Report, and the Convening Officer's comments, and to highlight the most vital areas to prevent recurrence. In this I start where the Convening Officer finished in his task; sport and adventurous training are of measurable benefit to the operational output of the RAF in the manner exactly as he describes and it is essential that neither tragedies such as this, nor measures put in place to reduce their recurrence, discourage participation. All sports bear risk, especially in the challenging winter conditions of Scotland as was so obviously demonstrated by this accident; it is the Service's job to mitigate them.

2. The purpose of a Service Inquiry is to find out the relevant facts and, through determining the cause, and causal factors, make recommendations to prevent occurrence. I echo the Convening Officer's commendation of the sterling efforts of the President and his Panel whose detailed analysis, backed up by specialist sports and legal advice, has already inspired reforms across the RAF's myriad of Sports Associations and which, when developed further, will be of enduring and substantial value. Rarely can one simple cause be identified for any accident as they are commonly brought about by a number of disparate events and inputs which come together in a particular sequence and penetrate the extant preventative and mitigating defences. In this accident the Service's system to produce defences and mitigation was, by way of supervision, preconditions, specific acts and organizational influence, inadequate. There were individual omissions and sub optimal decisions which, most probably, contributed to the heightening of risk (choice of slope, actions on the snow surface, preparedness for responding to an emergency) and the heuristic traps which have been well identified are convincing.

3. However, all of these must be set within the context of the out of date safety management construct existing for this Association and, as identified by the President, in other more dangerous and higher risk to life category activities. On this occasion the RAF climbers were on duty; the activities were being undertaken in the course of their employment and hence, in law, the Service was required to take all reasonable steps to ensure their safety. Those measures should be proportionate to the type of activity and in relation to winter mountaineering, in its Joint Service Adventurous Training Regulations, the RAF has already a carefully considered, drafted and proven template for managing risk in order to fulfil the Crown's duty of care. The RAFMA rules, which utilised the sport's National Governing Body safety systems, were understandable however, the British Mountaineering Club guidelines are designed for individual volunteers who come together for a pastime and not for those carrying out the activity in the course of their employment and at public expense. The Service Inquiry Panel makes pointed and authoritative recommendations in relation to the appropriate safety management systems, some of which have already been applied following the interim report, and I have consequently directed that the final report's recommendations are implemented and that the risk management systems, applied in those RAFMA activities which pose significant physical hazard, are appropriately overhauled. I am disappointed and surprised that basic service principles need to be restated in the recommendations; it is neither coherent with good safety or with service principles that authorised events have been taking place without an appointed leader.

4. Mountaineering is not the only sports association activity that carries a high level of risk to life; I have directed that the Sports Board, and the relevant Association Heads, study and implement, *mutatis mutandis,* the recommendations from this Inquiry in respect of their own activities. Irrespective of legal considerations, it is our moral duty as senior leaders to reward the enthusiasm, courage and initiative of those who benefit the Service by their participation in such challenging activities with the right structures and organisation to keep them as safe as is reasonably practicable.

[redacted]

B M North
Air Mshl
DCom Cap

24 Jan 14