



**STATE CORONER'S COURT
OF NEW SOUTH WALES**

Inquest: Inquest into the death of Michael Wilson

Hearing dates: 21 July-25 July, 4 August- 6 August 2014

Date of findings: 16 September 2014

Place of findings: State Coroners Court, Glebe

Findings of: Deputy State Coroner C. Forbes

Catchwords: Coronial Law-Cause and manner of death-Emergency rescue -
Rescue co-ordination and control

File number: 2011/414012

Representation: Mr M Cahill, Counsel Assisting instructed by Mr C. McGorey
and Mr A Mykkeltvedt, Crown Solicitors Office

Mr M Fordham SC representing Mr Wilson's family

Mr M Windsor SC representing the NSW Ambulance Service

Mr R Reitano representing Mr T Thisleton

Ms L Mc Dade representing Australian Maritime Safety Authority

Mr P Axelrod representing Canadian Helicopter Corporation,
Australia

Mr D Jordan representing NSW Police Force

Mr D Lloyd representing Mr A Jones and Mr A Ling

Mr P Hornby representing Australian Transport Safety Bureau

Findings:

I find that Michael Gordon Wilson, a member of the Special Casualty Access Team (SCAT) died on 24 December 2011 at Bridal Veil Falls located, in the Budderoo National Park, Robertson, NSW. He died as a consequence of extensive blunt trauma injuries he sustained during the course of rescuing an injured canyoner.

Recommendations:

Recommendation:

- 1. To: The Minister for Infrastructure and Regional Development (Cth); The Chief Executive Officer, Australian Maritime Safety Authority (AMSA); The Minister for Police and Emergency Services (NSW); and The Commissioner of the NSW Police Force.**

I recommend to the Minister for Infrastructure and Regional Development (Cth), the Chief Executive Officer of Australian Maritime Safety Authority (AMSA), the Minister for Police and Emergency Services (NSW) and the Commissioner of Police, NSW Police Force, that:

- (a) The Australian Maritime Safety Authority in conjunction with the NSW Police Force develop a paper in relation the early transfer of co-ordination of LandSAR operations from AMSA to the NSW Police Force to be taken to the next meeting of the National Search and Rescue Council.
- (b) The Australian Maritime Safety Authority in conjunction with the NSW Police Force review their joint arrangements in relation to the prompt exchange of data relevant to search and rescue incidents.

- 2. To: The Minister of Police and Emergency Services, the Chairman of the State Rescue Board of New South Wales and the Commissioner of the New South Wales Police Force.**

I recommend to the Minister for Police and Emergency Services, the Chairman of the State Rescue Board of New South Wales and the Commissioner of the NSW Police Force that a review be conducted of the status of emergency services helicopter winching operations for the purpose of clarifying whether the conduct of such operations constitutes “rescue” within the meaning of the *State Emergency and Rescue Management Act*, 1989 (NSW).

- 3. To: The Minister of Police and Emergency Services, the Minister for Health, the Director General of the Ministry of Health, the Commissioner of the NSW Police Force, and The Chief Executive of NSW Ambulance Service.**

I recommend to the Minister of Police and Emergency Services, the Minister for Health, the Commissioner of the NSW Police Force and the Chief executive of NSW Ambulance Service that:

- (a) The review of the operation of the Memorandum of Understanding signed 21 October 2013 between the Commissioner of Police and the Commissioner of New South Wales Ambulance be completed. The review should include consideration of arrangements with respect to inter-agency communications regarding the tasking and conduct of missions performed

under the MOU.

4. To: The Minister of Health and the Chief Executive of New South Wales Ambulance Service:

I recommend to the Minister of Health and the Chief Executive of New South Wales Ambulance Service that:

- (a) The roll out of the NSW Ambulance Aeromedical Integrated Risk Management Framework be completed;
- (b) The helicopter winch simulator, including the introduction of mission simulation, be completed as soon as reasonably practicable;
- (c) The Enhanced Helicopter Paramedic Helmet System project and that the trial of the proto-type enhanced paramedic helmet be completed as soon as practicable;
- (d) A review of the position of SOT/SCAT Activation Officer, including consideration of the following matters, be undertaken:
 - incorporation of the position of SOT/SCAT Activation Officer into the Aeromedical Operations Control Centre;
 - training of the SOT/SCAT Activation Officer in SCAT land-based operations and the operational role of helicopter paramedics; and
 - the provision of protocols and training to SOT/SCAT Activation Officers in relation to

the planning and conduct of helicopter beacon response and helicopter rescue operations.

- (e) The revision of the SCAT paramedic training materials be completed;
- (f) Regular, on-going SCAT paramedic training be scheduled.

5. To: The Minister of Health, the Chief Executive Officer of New South Wales Ambulance Service and the Chief Executive, Lloyd Helicopters Pty Ltd ACN: 007 916 912 trading as CHC Helicopters (Australia):

I recommend to the Minister of Health, the Commissioner of New South Wales Ambulance and the Managing Director, Lloyd Helicopters Pty Ltd ACN: 007 916 912 trading as CHC Helicopters (Australia):

- (i) Training in relation to changes in NSW Ambulance Control & Command procedures relevant to the conduct of NSW Ambulance Service Aeromedical helicopter operations be provided to all NSW Ambulance paramedics, medical crew, aircrew and pilots engaged in the provision of NSW Ambulance Service Aeromedical helicopter services.
- (ii) CHC and NSW Ambulance reinstate the Combined situational and/or scenario based training for SCAT and Air Crew to the annual basis originally envisaged.

6. To the Managing Director, Lloyd Helicopters Pty Ltd trading as CHC Australia

I recommend to the Managing Director Lloyd Helicopters Pty Ltd trading CHC Australia [CHC]

- (a) CHC conduct a review of the Hi Line Procedure set out the CHC Operations Manual with a view to developing a comprehensive standard operating procedure governing the use of the Hi Line Procedure in the course of winching operations conducted overland.
- (b) CHC review current rescue helicopter crew training schedules including but not limited to the re-introduction of annual integrated, holistic, scenario-based crew training.
- (c) CHC conduct a review of cabin staff training documentation for the purpose of ensuring that the cabin staff training documentation accurately reflects the information, instructions and procedures contained in CHC's current Operations Manual, including current Flight Staff Instructions.
- (d) CHC conduct a review of the company's policy in relation to video footage captured on the winching cameras as installed and to be installed on CHC rescue helicopters with a view to ensuring that the video obtained in the course of winching operations is available to be used and is used in on-going, rescue training.

REASONS FOR DECISION

INTRODUCTION

1. On the evening of 24 December 2011, Michael Wilson, a highly respected and experienced member of the Special Casualty Access Team (SCAT) died in the course of a rescue operation in a remote location in the Budderoo National Park, NSW. At the time of his death he was in the process of rescuing an injured canyoner.
2. The canyoner, Matthew Shewchuck, had fallen about 10 metres after his rope failed whilst he was abseiling adjacent to the Bridal Veil Falls. The Bridal Veil Falls are located about sixteen kilometres west-south-west of Woollongong. Shortly after Mr Shewchuck's fall, his friend Mr Hall activated an emergency distress beacon or PLB.
3. A document setting out the facts of this case has been prepared by Counsel Assisting and was tendered by consent as an aid memoire¹. It is a very detailed account of all of the circumstances surrounding this accident.

BACKGROUND AND FACTS IN OUTLINE

4. Mr Wilson was born on 7 October 1969 and was aged 42 when he died. He was a beloved husband and father, a respected colleague and highly valued employee of the Ambulance Service New South Wales (ASNSW). The respect and regard in which Mr Wilson was clearly held was reflected by the daily attendance of his family,

¹ Exhibit 6

colleagues and employers during the course of this inquest and the evidence they each gave.

5. He was employed with the ASNSW in 1994 and trained as a specialist paramedic with SCAT in 2006.
6. A SCAT paramedic is trained to provide paramedic support to patients located in difficult and remote locations.
7. Mr Wilson was part of the ASNSW's Emergency Medical Service (EMS) helicopter capability.
8. ASNSW contracted Canadian Helicopter (CHC) for the provision of ambulance services, including the provision of "aeromedical emergency services" and both "search" and "rescue", using helicopters – in particular, helicopters equipped with a hoist or winch.
9. In the course of both aeromedical emergency services and search and rescue missions helicopters equipped with a hoist or winch routinely place SCAT paramedics and their equipment and extract both SCAT paramedics and persons in distress, by winch.
10. CHC Helicopters provided the helicopter, a pilot and winch operator.
11. SCAT paramedics such as Mr Wilson were trained as rescue crewman, both by the Ambulance Service and by CHC and assigned by the Ambulance Service to helicopter operations.

12. In relation to the conduct of winching operations, SCAT paramedics were trained by CHC in relevant CHC Standard Winching Operating Procedures using a CHC produced syllabi.
13. CHC's winching procedures were developed to reflect the design and functional limitations of both the aircraft and the hoists to which they applied
14. Typically an aeromedical operation, including an emergency medical flight or a search and rescue mission would involve a helicopter, manned by a CHC employed pilot and a CHC winch operator along with a medical crewman and one or more Ambulance Service NSW SCAT paramedics. It thereby involves an interagency operation, with highly specialised professionals carrying out rescue operations within the highly regimented civil aviation environment.

Beacon alert

15. The acronym PLB stands for a "personal locator beacon" and the use of the acronym serves to distinguish PLB's from other distress beacons which are used off-shore and in aviation.
16. Soon after Mr Hall activated his PLB, the Rescue Coordination Centre [RCC], also known as AusSAR, was alerted of a distress signal that had been activated.
17. The Rescue Co-ordination Centre (RCC), which is based in Canberra, is part of the Commonwealth Australian Maritime Safety Authority (AMSA).

18. In accordance with both National Search and Rescue protocols and the Rescue Co-ordination Centre's standard operating procedures, on receiving notification of the activation of Mr Hall's Personal Locator Beacon, the Rescue Co-ordination Centre declared a "distress phase".
19. In the search and rescue context, declaring a "distress phase" constitutes a recognition that the search and rescue authorities recognise that there is a reasonable degree of certainty that a person or persons are in grave and imminent danger and that the person or persons require immediate assistance.
20. The RCC acted as the overall co-ordinator of this response up until responsibility for co-ordination was transferred to the New South Wales Police Force at about 9:21 pm, some 40 minutes after the incident in which Mr Wilson sustained the injuries which ultimately caused his death.
21. After declaring a "distress phase" in response to the activation of Mr Hall's PLB, the RCC contacted both the registered contact person for the PLB, Ms Yoko Hall, the wife of Scott Hall; and the ASNSW Aeromedical Operations Centre (the AOC).
22. Ms Hall informed the RCC that Mr Hall and his friend, Matt Shewchuck had gone on a 3 hour canyoning trip and was overdue. Ms Hall also told the RCC that Mr Hall and Mr Shewchuck were in the Bungonia Gorge, near Goulburn.
23. Unfortunately, Ms Hall was wrong about their location, as was evident from the satellite fix which identified the location of Mr Hall's PLB in the Buderoo National Park, near Robertson.

24. More significantly, a failure to cross-check the satellite fix with the location provided by Ms Hall resulted in the mis-information regarding the location of the canyoner's being carried forward in the planning and conduct of the response which followed.
25. On contacting the NSW Ambulance Service Aeromedical Operations Centre, the RCC spoke with the Aeromedical Rapid Launch Trauma Co-ordinator (the RLTC) and requested that a "homer-capable" rescue helicopter be tasked to respond to the beacon. A homer capable rescue helicopter is fitted with equipment that enables the helicopter to electronically track and then, home in on the electronic distress signal from an activated beacon.
26. Initially, the RCC requested Rescue 23 attend as it had been identified by the RCC as the closest available rescue helicopter. But, Rescue 23 had already been tasked to attend at another incident. Accordingly, Rescue 24, an Agusta Westland A139 helicopter operated by CHC and based at the CHC base at Bankstown Airport was tasked to respond.
27. Rescue 24 was crewed by Andrew Jones (CHC pilot), Andrew Ling (CHC Aircrewman/hoist operator); Dr Roland Passier (Medical Registrar) and Michael Wilson (down the wire – Rescue crewman).
28. On being informed of the nature of the task (responding to the activation of a distress beacon by a canyoner) Mr Wilson asked the Support SCAT paramedic on duty at Bankstown, Mr Thistleton to ride along on the mission to provide support.
29. The NSW Ambulance Service SCAT Training documentation emphasises the potential complexity of missions calling for a SCAT response to a canyoning

incident, the need for careful planning, and the need for back-up. Module 9 states that when tasked to respond to a canyoning incident not to be afraid to request the tasking of back-up resources and alternate response or extraction plans, to “ask early and ask big”

30. Against this background, it is significant to note that Mr Wilson not only invited Mr Thistleton, the Support SCAT Paramedic, to ride along on the helicopter as back-up but he also requested ground base back up in the course of the initial tasking call between the Rescue Co-ordination Centre, the Ambulance Service Aeromedical Rapid Launch Trauma Co-ordinator and the CHC base at Bankstown.
31. Rescue 24 departed Bankstown base about 5:16 pm as the primary response and commenced homing in on the beacon.
32. Shortly after Rescue 24 was tasked, arrangements were also made for an ASNSW Duty Manager to attend the scene to assist.
33. However, for the reasons noted earlier concerning mis-information about the location of the canyoners, the Duty Manager, Mr Cutler, was tasked to rendezvous with the helicopter at the Ranger’s Hut at Bungonia Gorge.
34. NSW Police were also notified about the beacon alert. Discussions were had during the evening concerning the deployment of ground-based rescue assets to provide back up to Rescue 24, including “vertical rescue” crews (i.e. Police Rescue and local SES rescue crews) and general duty managers to the scene.

35. No ground rescue assets were actually activated to Bridal Veil Falls until after Rescue 24's attempted winch extraction had actually failed.
36. Rescue 24 arrived overhead at Bridal Veil Falls at about 5:35 pm.
37. Bridal Veil Falls consists of two adjoining waterfalls. The cliffs either side concave around and out into the gorge or canyon.
38. The vertical drop from the top of falls to the base is about 70 to 80 metres.
39. Shortly after arriving in the vicinity of the falls, the crew of Rescue 24 observed a walker, Mr Hall, at the top of the falls and a person prone on a ledge about 10 to 15 metres above the base of the falls, Mr Shewchuck.
40. After inspecting the falls, in particular the height of the falls and an overhang above the ledge on which Mr Shewchuck was located – the crew Rescue 24 concluded that:
 - it was not possible to winch in from the helicopter to the area in which Mr Shewchuck was located; and
 - it was not possible to winch directly out of the area in which Mr Shewchuck was located.

Planning phase

41. After the initial fly over, Rescue 24 landed in a paddock a short distance to the west of the Falls.

42. A series of planning meetings took place – initially between Mr Wilson and Mr Thistleton and then, between Mr Wilson and Mr Thistleton and the balance of the crew.

43. In short, as a result of those planning meetings or briefings, the crew of Rescue 24 agreed that:

- the two SCAT paramedics would be placed at the top of the falls;
- Mr Wilson would then abseil to the ledge with the injured canyoner taking with him an end of Rescue 24's tag line, the attachment end was to stay at the top of the Falls in the keeping of Mr Thistleton;
- Then, when Mr Wilson was ready to be winched out with the injured canyoner, Rescue 24 would return overhead of the Falls and winch the rescue hook to Mr Thistleton at the top of the Falls;
- On receiving the rescue hook from Rescue 24, Mr Thistleton would attach "his" end of the tag line to the hook;
- Once Mr Thistleton had attached "his" end of the tag line to the rescue hook, Mr Thistleton would guide the hook out past the top edge of the Falls as Rescue 24 backed out over the gorge to a point where it could descend into the gorge to a suitable height and location from which to winch Mr Wilson and the injured canyoner off the ledge and up to the helicopter;

- As Rescue 24 descended into the gorge, Mr Wilson was to use the end of the tag line which he had taken down with to ledge to “haul in” and retrieve the rescue hook.
44. The Goodrich hoist attached to Rescue 24 had a 15 degree operational limitation when loading the winch or rescue hook.²
 45. The standard winching procedures and the training syllabi caution against “excessive angles” when winching and warn about risks associated with the development or occurrence of “pendulum swing” during rescue winching.³
 46. The winching plan developed by the crew of Rescue 24 envisaged that the helicopter would be located in a hoisting position above and “off-set” to the ledge from which Mr Wilson and the injured canyoner were to be extracted.
 47. Because of the off-set of the helicopter, Mr Wilson planned to use a belay, or stabilising line, to “plumb” himself and the injured canyoner on the rescue hook out under the helicopter. The belay was to be connected to the winch hook and used by Mr Wilson to control any horizontal swing as he and the injured canyoner moved out from ledge to a point directly under the helicopter.
 48. Mr Wilson took overnight gear with him. If the winching operation didn’t go as planned, then Mr Wilson would remain in location with the injured canyoner overnight.

² Goodrich Hoist Supplement (approved by CASA). Exhibit 2, Volume 3, Tab 12, Appendix 16

³ CHC Operations Manuel, Winching Operations s.4a.8 and CHC “ASNSW Augusta Westland 139 Cabin Staff Syllabi and Training Notes” Exhibit 2, Volume 4, Tab 13 and 19

49. Counsel Assisting submitted that on all of the evidence:
- a. Winching is an inherently dangerous operation at the best of times.
 - b. The plan devised by the crew was technically very challenging and involved significant risk.
 - c. Mr Ling, the Air crewman, was only very recently qualified on the AW139. He completed his training on 15 December 2011 and commenced operational work at Bankstown base on 16 December 2011. This was Mr Ling's first rescue operation with this crew, and this was to be Mr Ling's first operational rescue winch on the AW139;
 - d. Mr Wilson's recency in relation to the Hi Line procedure, the procedure which the crew were allegedly "adapting" for use in the proposed extraction, had expired. CHC's standard operating procedures did not permit Mr Wilson to undertake the operation without an operational extension/permission from CHC's Chief Pilot or his delegate. The absence of such permission was a reason without more for the pilot to terminate the procedure.
 - e. The plan went beyond the rescue winching procedures specifically provided for in CHC Standard Operating Procedures and/or contravened those procedures.

- f. The plan involved the use of roping techniques, in particular the proposed self-belay line attached to the rescue hook, which were both inappropriate and unapproved for use in a helicopter winching operation.
- g. None of the crew had trained in performing this type of operation before.
- h. Some key aspects of the operation were not canvassed during the planning stage, in particular: the nature of the belay system that was to be used, including the use, if any, of a friction device to assist in weight bearing; the nature of the anchor system, that was to be established; what controls were to be put in place to deal with failure of the belay and/or the hoisting cable; what controls were to be put in place to deal with any failure of the helicopter and/or any emergency involving sudden movement or withdrawal of the helicopter.

50. No evidence was led to the contrary and Counsel Assisting's submissions as set out above were not challenged. I accept each of those submissions.

51. Mr Thistleton and Mr Jones discussed aspects of the plan with others who were remote from the scene including:

- the SCAT coordinator, Mr Dane Goodwin;
- another CHC pilot, Mr Lachlan Slatyer, and other SCAT paramedics including Mr Bryan Jordan and Mr David Zids, who were back at the CHC base at Bankstown following the mission via an electronic tracking system.

- the RCC.

52. No one stopped the plan from being implemented. But it should be noted that:

- CHC pilot, Mr Slatyer and other SCAT paramedics including Mr Jordan and Mr Zids, gave evidence that in their opinion the crew of Rescue 24 were in the best position to assess whether they should proceed with the mission and in any event it formed no part of their task to intervene in the conduct of the mission.
- The RCC did not consider it any part of its role or that of its officers to assess the plan prepared by the crew of Rescue 24; nor was it any part of its task on the evening to provide any form of supervision or oversight of the planning process undertaken by the crew of Rescue 24, the plan developed by the crew of Rescue 24, or the implementation of that plan.

Carrying out of the operation

53. Rescue 24 placed Mr Wilson and Mr Thistleton on the top of the falls about 6:45 pm. Mr Wilson managed to abseil into the Gorge at about 7:30 pm.

54. Mr Wilson examined Mr Shewchuck. Mr Shewchuck reported leg and back pain. He later underwent surgery for a compression fracture of his L3 vertebrae that was caused by his earlier fall. Mr Shewchuck's injuries were neither life threatening, nor time critical.

55. By contrast, any attempt by Rescue 24 to extract Mr Wilson and Mr Shewchuck was time critical:
- One of the limiting factors that were discussed during the crew briefings at Rescue 24's staging post was "last light", or the end of civil twilight. Mr Jones indicated in various crew briefings that Rescue 24 could not descend into the gorge after "last light".
 - On 24 December 2011, last light at the latitude and longitude for Bridal Veil Falls was timed for 8.40 pm (i.e. 2040 hours Eastern Summer Time).
56. The timing of last light is based on an "ideal horizon" and does not take account of local geographic features or prevailing weather conditions. In the present context that meant the timing of last light for Bridal Veils Falls on 24 December 2011 had no regard for the fact that the crew of Rescue 24 were proposing to attempt a rescue winch some 40 to 50 metres below the top edge of a cliff – a cliff which on the evidence cast the base of the Falls into deep shadow for much of the day.
57. Rescue 24 headed to Wollongong Airport to refuel at about 8 pm and then returned to the scene by about 8:20 pm. Despite Mr Jones observations during various earlier crew briefings concerning last light, on route back from Wollongong, the helicopter was configured for night flying.
58. As Rescue 24 made its approach back to the Falls, Mr Wilson contacted the helicopter by radio and advised that he was ready for "*...accompanied hypo-strop winch at the same location as discussed*".

59. The hypo-strop combination is designed to maintain the patient in a sitting position across the front of the paramedic whilst the patient and the paramedic are being winched, together, into the helicopter.
60. Mr Thistleton was not in radio contact with either Mr Wilson or the helicopter.
61. Rescue 24 moved into position over the head of the Falls and the rescue hook was lowered by Mr Ling to Mr Thistleton on top of the cliff.
62. Mr Thistleton attached his end of the tag line to the hook.
63. In attaching the tag line to the rescue hook, Mr Thistleton by-passed the weak link on the tag line. The weak link on the tag line is a loop of cord with a karabiner attached that is used to link the tag line to the rescue hook. The tag line has a breaking strain exceeding 500 kilograms; by contrast, the weak link has a breaking strain of 136 kilograms. This provides protection to a person using the tag line should some emergency arise during a winching procedure by providing a weak link that will break under a comparatively low strain or force. Nonetheless a breaking strain of 136 kilograms still represents a significant force.
64. Once Mr Thistleton had connected the tag line to the rescue hook, Rescue 24 backed out over the gorge and, then, commenced its descent.
65. Rescue 24 was unable to restore radio contact with Mr Wilson as it descended into the Gorge. As Rescue 24 descended into an already darkened gorge, what was left of the day light faded into darkness.

66. Mr Jones relied on Mr Ling, positioned towards the rear of the helicopter with the door open, to “con” or direct him into a position lower in the gorge than originally intended because Mr Jones was unable, in the darkened gorge, to obtain a reliable hover reference point.
67. Whilst it is impossible to define the exact position of Rescue 24 when Mr Jones announced that he was able to establish a stable hover reference, estimates were given by persons at the scene – Mr Ling, Mr Jones, Mr Thistleton and Mr Shewchuck.
68. Mr Ling, in his recorded interview⁴ estimated that Rescue 24 established a hover:
- a. Forward of the location of Mr Wilson (on horizontal axis);
 - b. About 80 feet (22.3 metres) above the ledge;
 - c. About 25 to 30 metres out from the cliff;
 - d. The helicopter was positioned at an angle of about 45 degrees from Mr Wilson on the ledge.
69. After achieving its hover position, Mr Ling lowered the hook to Mr Wilson who was using the other end of the tag line to pull it in.
70. Mr Wilson then attached Mr Shewchuck and himself to the hook.
71. Mr Wilson and Mr Shewchuck came off the ledge.

⁴ Exhibit 2, Volume 3, Tab 2

72. After they left the ledge, Mr Wilson and Mr Shewchuck fell a short distance onto another ledge and then swung like a pendulum until they struck boulders approximately 30 metres out from base of the cliff where they came to rest.
73. A short time later and after radio communication could not be re-established the winch cable was cut and Rescue 24 withdrew from the gorge and returned to the nearby paddock.
74. Mr Jones called in the incident, and SCAT, ambulance and police assets were deployed to the scene.
75. Despite everyone's best and in some cases heroic efforts, such as those of Mr Thistleton and Mr Zids who abseiled down the waterfall in the dark, Mr Wilson died in situ as a consequence of extensive blunt trauma injuries. The nature and extent of the blunt injuries sustained by Mr Wilson, including extensive pelvic fractures associated with significant haemorrhage into his abdomen, provides evidence of the force associated with the fall.⁵
76. Mr Thistleton abseiled into the Gorge and provided assistance and comfort to Mr Wilson prior to his passing. Other SCAT members and rescuers succeeded in reaching the bottom of the Gorge shortly after midnight. Mr Shewchuck and others were winched out the next morning, from a position further out from the cliff edge.

SUBSEQUENT INVESTIGATIONS

⁵ Autopsy Report for the Coroner dated 2 April, 2012 prepared by Dr I G Brouwer

77. A detailed investigation was conducted by the Officer in Charge of this investigation, Sergeant Chetcuti⁶. Three further detailed investigation reports were also prepared:

- First, the Australian Transport Safety Bureau Transport Safety Report dated 16 May, 2013 entitled “Helicopter Winching Accident involving an Agusta-Westland AW139 Helicopter, VH-SYZ (16 km WSW of Wollongong Airport, NSW – 24 December, 2011)”⁷
- Secondly, the Accident Investigation Report #12-00509 Occurrence Report No. 11-12911 entitled “Investigation into Winching Accident at KT’s Bowl, NSW, on 24 December, 2011 involving Augusta-Westland AW139. VH-SYZ” dated February 2012 prepared for CHC Helicopter Australia by Peter Howe, the Senior Check & Training Captain employed by CHC Helicopter Australia;⁸ and
- Thirdly, the Report of the Corporate Review of the circumstances leading to the death of SCAT Paramedic Michael Wilson on 24 December, 2011 dated August 2012 prepared on behalf of NSW Ambulance⁹

THE ISSUES

78. The purpose of an inquest, as set out in s.81 of the *Coroner’s Act 2009* (“the Act”) is to make findings as to:

- (a) the identity of the deceased;

⁶ Exhibit 2, Volume 1, Tabs 8 and 8A

⁷ Exhibit 2, Volume 15 Tab 1

⁸ Exhibit 2, Volume 3, Tab 12

⁹ Exhibit 2, Volume 10, Tab 1

- (b) the date and place of the person's death;
- (c) the physical or medical cause of death; and
- (d) the manner of death, in other words, the circumstances surrounding the death.

Section 82 of the *Act* also permits a Coroner to make recommendations that are considered necessary or desirable in relation to any matter connected with a death that relates to issues of public health and safety. In this Inquest the focus has primarily been on Section 82 and whether there are changes that should be made that would prevent a similar death in the future.

79. The principal issue this case raised is the manner in which Mr Wilson died.

80. Counsel Assisting, Mr Cahill, in his opening statement outlined a number of questions that go to this issue. They were as follows;

- (i) What were the arrangements for coordination and control of the land search and rescue initiated on 24 December 2011?
- (ii) Did the arrangements for coordination and control of the beacon response and, more particularly, the attempted rescue accord with:
 - a. the National Search and Rescue Response arrangements in force as at that date?
 - b. the safe operating procedures of ambulance and/or the CHC?
- (iii) What was planned by the helicopter crew prior to commencing the rescue operation?

- (iv) Whether that rescue plan accorded with:
- a. The requirements of the CHC Operations Manual in relation to the conduct of Winching Operations?
 - b. The requirements of the CHC ASNSW AW139 Cabin Staff Syllabi and Training Notes? and
 - c. The requirements of the ASNSW in relation to the conduct of such Winching Operations?
- (v) Whether that plan was reasonable having regard to known circumstances and conditions at the time and prevailing operational requirements?
- (vi) Did the execution of the rescue operation deviate from that which had been planned?

And, if so:

- a. what happened?
- b. did the plan as varied accord with:
 - the requirements of the CHC Operations Manual in relation to the conduct of Winching Operations?
 - the requirements of the CHC ASNSW AW139 Cabin Staff Syllabi and Training Notes?
 - the requirements of the ASNSW in relation to the conduct of Winching Operations; and

were the actions of the crew reasonable in the circumstances?

(vii) How did Mr Wilson come to be injured?

81. I have broken these issues into three categories:

- Co-ordination of the rescue,
- The plan,
- How did Mr Wilson come off the ledge?

CO-ORDINATION OF THE RESCUE

82. The Search and Rescue policies and procedures set out in the National Search and Rescue Manual¹⁰ and the National Land Search Operations Manual¹¹ are clearly designed to promote a rapid and safe search and rescue response where persons are presumed to be in circumstances of grave and imminent danger, such as a distress beacon or PLB activation.

83. The planning and conduct of a search and rescue response calls for cooperation and coordination between both Commonwealth and State authorities. The government authorities also contract commercial assets such as helicopter Rescue 24 that was used in this operation.

¹⁰ Exhibit 2, Volume 16, Tab 2

¹¹ Exhibit 2, Volume 16, Tab 1

84. The Manual notes that helicopters are the most common form of rescue platform and that rescue winching operations form part of the usual work undertaken by rescue helicopter crews.¹²
85. It is clearly accepted and acknowledged in the relevant operations manuals that helicopter winching is inherently dangerous. These operations call for careful planning, the identification and provision of relevant backup together with the maintenance of proper command and control.
86. On 24 December 2011 Rescue 24 was the sole response by a rescue trained and equipped asset deployed to the Bridal Veil Falls despite the fact that the operation up to the time of the subject incident had extended over a period exceeding 3 ½ hours.
87. Mr Cutler, the Duty Operations Manager, assigned by the Ambulance Service to provide supervision in the field was sent to the Ranger's Hut at Bungonia Gorge, near Goulburn.
88. The police response, prior to the incident, consisted of a local patrol vehicle and Highway Patrol car, which were stationed at Victoria Falls to maintain a watching brief. No field command post was established: nor were any communications established between the police vehicles "on scene" and Rescue 24.
89. Mr Thistleton gave evidence that even after they had arrived at the location and he spoke directly to Mr Goodwin, the SOT Activation officer, about the need for

¹² Exhibit 2, Volume 16, Tab 1, p 134

land-based back up, Mr Thistleton was uncertain whether any such back-up would be forthcoming.

90. In the absence of alternatives and in the absence of effective command and control, it is possible that the crew of Rescue 24 perceived a need to “innovate”, despite both the stringent regulatory framework and CHC’s procedural controls.

91. RCC was the Search and Rescue authority which was responsible for overall co-ordination of the beacon activation response. It maintained that control until it handed-over the role of overall co-ordination to Sergeant Harrison, the NSW Police RCO at Warilla VKG, at 9.21pm after Mr Wilson had fallen.

92. The evidence indicates that the RCC’s role was:

- Making the initial request to ASNSW to task an ASNSW EMS Rescue helicopter to undertake a beacon activation response – that is to fly to the identified co-ordinates; determine the nature of the distress; and if in the opinion of the crew it was necessary and within their capacity to conduct a rescue;
- Notify NSW police that an EMS helicopter had been tasked to perform a beacon response; and
- Seek or receive updates on the progress of the beacon response mission.

93. RCC saw its role as co-ordinating the air asset that had been tasked. Ground-based SCAT response was a matter for the NSWAS. The development of a

landSAR back-up plan and the activation of relevant resources was a matter for the NSW Police.

94. The evidence of the two RCC officers who undertook the role of Search and Rescue Mission Co-ordination, Mr Allen and Mr Constable, was that NSW Police had been put on notice that a ground response to the beacon activation was required and that Sergeant Harrison, the RCO at Warilla, in advising the RCC that two police units, had been deployed was indicating that Sgt Harrison had acknowledged the request, determined what ground based assets should be deployed by NSW Police in response, and activated that response. It seems it was not a part of their task to assess that response and ensure its adequacy.
95. By contrast, based on his understanding of the request he received from Mr Allen and his experience in responding to requests for police back-up to helicopter tasked as the primary response to beacon activation, Sergeant Harrison deployed two general duties vehicles to be on hand to assist in the establishment helicopter landing site.
96. In the absence of a request for the activation of land-based SAR assets, Sgt Harrison made inquiries regarding the availability of vertical rescue assets and other land based rescue assets to attend Carrington Falls area as back-up and was awaiting specific instruction from the ASNSW/RS24 or the RCC to deploy those assets. It was Sgt Harrison's evidence that he expected the RCC, as overall coordinator, to make such a request if deployment of land-based assets was required.

97. Clearly there was a lack of effective communication between the RCC and the ASNSW, the RCC and NSW Police and between the NSW Police and the NSW Ambulance Service.
98. It is possible that had other rescue specialists been on the ground, be they other SCAT paramedics or police activated rescue assets , at the time the crew of RS24 developed or implemented the plan, that plan would have been different.
99. Early activation of a Duty Operations Manager, such as Officer Cribbs, to the correct location would have introduced a level of external command and control. Officer Cribbs was an officer with 22½ years SCAT paramedic experience. He was also with Wayne Cannon who was SCAT paramedic with 11 years experience.
100. Mr Cannon gave evidence about his thwarted attempts to obtain accurate instructions about the incident location, instructions regarding the location of the command post and the helicopter. In fact he and Officer Cribbs were stood down when Rescue 24 was still conducting the subject winching operation on the basis that the operation had been completed.
101. The availability of additional rescue trained personnel may well have brought independent minds to bear on the assessment of what was being proposed; the availability of additional personnel would also have provided possible alternatives at the base of the falls, for example, a tag line attendant to assist Mr Wilson or the

option of moving Mr Shewchuck to more open ground at the base of the falls from which he could be directly winched in accordance with usual winching practice.

102. With the benefit of hindsight, it is possible that early transfer of co-ordination from the RCC to NSW Police may have resulted in:

- in NSW Police and NSW Ambulance – both at control centre level and in the field – developing effective communications on the night
- the development of a combined NSW Police and ASNSW landSAR plan, including the activation of vertical rescue and ground-based rescue assets available to both NSW Police and ASNSW in a more timely and effective fashion

103. Against this background, and as agreed by RCC and NSW Police, I propose to make a recommendation regarding the early hand-over by the RCC of co-ordination of PLB activation responses to the NSW Police following initial investigations by the RCC of a PLB activation indicating that a land-based event of a similar kind has occurred in NSW.

104. After this incident a Memorandum of Understanding¹³ was developed to establish inter-agency communication and co-ordination protocols to govern the tasking by NSW Police of ASNSW rescue helicopters to conduct beacon activation response missions and to otherwise participate in rescue operations under the co-ordination

¹³ Exhibit 2, Volume 12, Tab 2.

of NSW Police in accordance with the State Emergency and Rescue Management Act. That memorandum is due for review and I recommend that the review be completed and include considerations of arrangements with respect to inter-agency communications regarding the conduct of missions performed under the Memorandum of Understanding.

105. The breakdown of effective communications on the night and the lack of effective co-ordination and mission command or control were not limited to an inter-agency problem.
106. The initial error in identifying the geographic location as Bungonia resulted in the AS misdirecting its land based resources effectively up to the time of the subject incident. The AS first ground response - Officer Cutler – a Duty Operations Manager – was sent to the Rangers Hut at Bungonia to rendezvous with Rescue 24.
107. Despite the fact that Module 9 of the SCAT Training materials directed SCAT officers planning a canyon response to seek back up resources to ensure flexibility in planning and to provide for flexibility in the field and to ask early and ask big, Mr Wilson’s initial request for ground based SCAT back up was not acceded to.
108. The evidence indicates that Mr Goodwin, the SOT officer, was satisfied a helicopter with two SCAT paramedics was a sufficient response subject to receiving a SITREP once the helicopter was on location.

109. There is no evidence that Mr Goodwin's requirement for a sitrep was ever communicated to Rescue 24.
110. When he spoke with Mr Thistleton after Rescue 24 arrived at the location, Mr Goodwin made attempts to activate a ground based SCAT response.
111. Those attempts resulted in Officer Cribbs and Mr Cannon being deployed. Mr Thistleton testified that he wasn't sure, at the end of his call with Mr Goodwin, whether SCAT ground based support would be deployed. As it was, Rescue 24 proceeded with the mission it planned
112. At 6.23 Mr Goodwin asked SCC (Mr Rod Dee) to confirm that vertical police rescue assets were deployed. There is no evidence that this was ever done.
113. The crew of Rescue 24 had no knowledge that Officer Cannon and Officer Cribbs were attempting to find them and had no reason to expect that land-based back up of any kind was on its way.
114. The NSWAS has provided lengthy material which has been included in the brief and sets out the many steps it has taken in response to the findings of the ATSB report and to the AS's own Corporate Investigation Report.¹⁴ This material includes the steps the AS has taken to address the command, control and

¹⁴ Dr Manning, the Executive Director, Health Emergency & Aeromedical Services Exhibit 2, Volume 11 & 12

communications issues including the introduction of detailed new command and control procedures and detailed mission communication and reporting procedures. I do not propose to set out all of the steps here. A summary of the changes that have been introduced was prepared for the court by AS and is attached to these findings and marked "Annexure A". I commend them on the measures they have taken.

115. In particular I note and commend the fact that the AS now mandates an immediate ground based response where AS rescue helicopters are tasked to undertake beacon activation response and rescue missions in circumstances that are liable to involve difficult helicopter access, such as a canyon response.
116. Mr Goodwin had not been trained, nor did he have experience in the tasks performed by SCAT paramedics attached to the AS Aeromedical emergency helicopter. This may have contributed to his initial decision that back up was not required and to the lack of certainty with which he made later arrangements. He was also of the understanding that the role of SCAT paramedics performing the role of a down-the-wire rescue crewman assigned to a rescue helicopter did not include "rescue".
117. I note these factors are not addressed in the AS response to this incident.
118. In those circumstances I propose to make recommendations for a review of training of SOT Activation Officers and a review of the definition of "rescue"

within the meaning of the State Emergency and Rescue Management Act 1989 (NSW).

THE PLAN

119. The evidence suggests that the crew planned a form of modified hi-line transfer. The CHC SOPs provided that Hi Line applied to overland operations. However, the only relevant training of crew was for Hi Line procedures in marine transfers.
120. Notwithstanding the strict requirements, there had been incidents in the past when crew had adapted procedures in the field in order to complete a rescue.
121. The most significant departures from the Hi Line procedure in the plan involved an adapted use of the tag line to provide a means of hauling in the hook to the base of the falls and the proposed use of a self-belay system anchored in some unspecified way to the cliff adjacent to the ledge from which it was proposed to winch both Michael and the canyoner in an accompanied hypo-strop winch manoeuvre.
122. It is clear that the following matters were not discussed
- there was no discussion that the retrieval of Mr Shewchuk, that day, by winching was contingent on Mr Wilson's assessment of Mr Shewchuk's condition being critical, life threatening and/or requiring immediate hospital care.

- there was no discussion of the type or location of anchor that Mr Wilson was to establish;
- there was no discussion and no clear plan as to the rope or roping system that was to be used by Mr Wilson as the belay or stabilising line;
- there was no discussion of the fleet angle of the hoisting cable,
- there was no discussion of the expected distance the helicopter's hover position might be relative to Mr Wilson and the patient's position at the point Mr Wilson attached to the hoist cable; and
- there was no discussion as to when and/or how much weight was to be taken on the hoist cable verses that to be taken by the stabilising rope.

123. The Civil Aviation Regulations¹⁵ require compliance with the operations manual by each member of an aircrew and all operations personnel are also required to comply with all instructions contained in the operations manual so far as they relate to his or her duties.

124. It is the duty of the pilot in command to ensure that, where applicable, the operations manual is complied with. In the context of winching, the Pilot in command bears an obligation to ensure that all operating crew are properly briefed prior to the commencement of a winching operation and that adequate precautions are taken to ensure the safety of all persons in the helicopter, on the ground, or in any way involved in the operation.

¹⁵ Clause 215, Civil Aviation Regulations 1988

125. In this context, it is also significant to note that any winching operation has to be conducted in a manner that complied with any operational limits, information and instructions set out in the applicable Rotorcraft Flight Manual including the winch or hoist supplement. I note and it is significant that the Goodrich hoist attached to Rescue 24 had a 15 degree operational limit.

126. Against the background of the strict procedural requirements of the civil aviation regulatory framework:

- The winch plan initially developed by Mr Wilson and Mr Thistleton and then, adopted by the whole crew of Rescue 24 involved a significant departure from the winching procedures set out in the CHC Operations Manual.
- The plan was not consistent with the safe operating procedures for the conduct of a Hi-Line transfer principally because in the absence of a hi-line attendant the plan called for Mr Wilson to create an anchor, via the use of a belay line. An anchor on the cliff face or ledge would create a potential hard point of attachment or fouled hook scenario¹⁶. The operating procedures for the conduct of winching operations, including the use of a Hi-line and a Tag line, make no provision for a self-belay system; nor do they permit the creation of a point of attachment between a hi line and a “hard point” on a vessel or on land.

127. Certainly with the benefits that come with hindsight – it was a plan that should never have been attempted – even in day light.
128. Having regard to the changes which have been introduced by the AS and CHC in the aftermath of the incident, it is apparent that this is a view they both share.

HOW DID MR WILSON COME OFF THE LEDGE?

129. The primary means of communication between the helicopter and Mr Wilson on the ground was a VHF radio designated COM 3. The helicopter was also equipped with COM 4, an ultra-high frequency radio that was available as an alternate and an on-board telephone.
130. Mr Wilson had a portable radio that should have enabled him to communicate via COM 3 or COM 4. Mr Wilson also had a mobile phone but left it with Mr Thisleton at the top of the falls.
131. Mr Thisleton had a satellite telephone that should have enabled him to communicate via COM 3 and a mobile phone. Mr Thisleton's satellite phone fell in water and stopped working. There was no reception for the mobile telephones.
132. Once Mr Wilson descended to the ledge he was out of sight and out of contact with Mr Thisleton.
133. Mr Schewchuck said that when Mr Wilson arrived on the ledge that Mr Wilson:
- examined him and administered pain relief,

- informed him that they needed to move quickly as light was fading,
- moved him out to a more open spot on the ledge, out of the trees,
- placed him in a rescue strop and fitted protective equipment including goggles and earplugs.

134. The last radio communication Mr Wilson had with the crew of the helicopter was at 20:20 when the helicopter was approaching the falls and Mr Wilson said

“ready for an accompanied stre...ah, accompanied hypo strop lift with equipment”.¹⁷

135. Mr Wilson’s ability to hear and communicate on the portable radio after the arrival of the helicopter overhead would have been adversely affected by the noise of the waterfall and the helicopter.

136. Communication on the radio, at this point, was further hampered by the fact that the ACM (Mr Ling) attempted to contact Mr Wilson on the wrong frequency. He had tried to contact Mr Wilson because he wanted to ascertain what Mr Wilson was doing on the ledge. He said that the lights that were mounted on the winch illuminated the area directly below the helicopter but, did not provide enough light to Mr Wilson’s position.

137. The fading light and the failure of communications between the helicopter and Mr Wilson on the ground resulted in no reliable clear and cogent evidence as to what happened on the ledge and why Mr Wilson came off the ledge and fell, striking the

¹⁷ ATSB report Exhibit 2, Volume 15, p 16

rocks below. The injuries sustained by Mr Wilson when he struck the rocks caused his death.

138. As Rescue 24 was descending into the gorge, the ACM was winching in the cable so as to keep the rescue hook reaching from Mr Wilson before Rescue 24 was in position.¹⁸
139. Sunset had passed (i.e.2011 hours); the end of civil twilight was approaching (i.e. last light at 2040); and the light degraded as Rescue 24 descended into the gorge.
140. As the helicopter was descending and with the fading light, the pilot (Mr Jones) commented to the ACM that he did not have a good visual reference. The pilot was looking at sheer cliff.¹⁹
141. In his CHC record of interview, the pilot stated he attempted to use the cliff face for a hover reference but, sparse detail was causing a loss of depth perception. He did not want to use the Nightsun as he was concerned that the configuration of the switches may have resulted in it being inadvertently extinguished. The pilot requested the ACM to “con” the pilot lower into the gorge.²⁰ The pilot, by reference to a tree about a rotor disc away established and maintained a hover reference.
142. In his ERISP interview the ACM stated that there was a significant change in light as Rescue 24 descended.

¹⁸ Exhibit 2, Volume 3, tab 2, p139

¹⁹ Exhibit2, Volume 3, Tab 2, p139

²⁰ Exhibit 2, Volume 3, Tab 1, p 6

143. The ACM used the hand-held searchlight at his hoisting location to attempt to light the area in which Mr Wilson and the injured person was located.
144. The pilot gave the ACM the “clear to winch”²¹.
145. The ACM winched out the hook to Mr Wilson.²²
146. Mr Wilson retrieved the hook and connected himself and Mr Schewchuck to the rescue hook.²³
147. Mr Schewchuck confirmed that Mr Wilson connected them to the winch hook however; he was unable to provide detail as to what happened next. He was not aware whether Mr Wilson set up a belay system. His vision was impaired by goggles which were covered with spray from the waterfall and he could not hear well as a result of the earplugs and noise of the waterfall and the helicopter.
148. Mr Schewchuck said that after they were hooked up, there was a period of time of about one minute and he was wondering what was taking so long.²⁴ He said that the rocks they were on were very slick²⁵ but he couldn’t say how close to the edge of the ledge they were.²⁶
149. He said that there was a slow pull, which accelerated until they were pulled off the ledge , briefly landing on a lower ledge and then continued to free fall and swing and

²¹ Exhibit 2, Volume 3, Tab 1, p 72

²² Exhibit 2, Volume 3, Tab 2, p 148 and Tab 12, p301

²³ Exhibit 2, Volume 3 Tab p 183

²⁴ Exhibit 2, Volume 1, Tab 10, p 161

²⁵ Exhibit 2, Volume 1, Tab10A, p 162A

²⁶ Exhibit 2, Volume 1, Tab 10, p 161

then come to a stop.²⁷ He said that he wasn't sure what caused the movement, whether it was the winching or the weight of the winch cable or something else²⁸.

150. The following factors that would have played a significant role in working out what occurred will unfortunately always remain uncertain:

- the exact departure point from the ledge;
- the exact location of the helicopter;
- the length of the winch cable which had been released from the cable drum and extent of the winching in of that cable;
- the arc of the swing from the ledge across to the point of impact.

151. A number of different hypothesis arise on the available evidence as to how Mr Wilson and Mr Schewchuck came off the ledge, including:

- a. they were pulled from the ledge by the winch;
- b. they were pulled from the ledge by the weight of the winch cable;
- c. Mr Wilson accidently stepped or slipped off the edge of the slippery ledge as he was backing away from the cliff face;

²⁷ Exhibit 2, Volume 1, Tab 9, p 84

²⁸ Exhibit 2, Volume 1, Tab 10A, p 162A

- d. Mr Wilson was dragged by the winch cable across the slippery ledge (appearing from the helicopters perspective to move under control) until they fell from the ledge;
- e. Mr Wilson commenced belaying off the ledge only for the belay to fail and/or
- f. a combination of some of the aforementioned.

152. No evidence was found of a belay system being established on the ledge. After the incident, there was no rope that had been used for a belay found on the ledge and no anchor point was found on the ledge rock face. The red belay rope that Mr Wilson took with him was folded and in a bag. It is possible that Mr Wilson looped the yellow tag line over a rock to use as a belay to control his swing and that the line came off the rock. The tag line was in fact found down in the water with Mr Wilson.

153. After the incident the pilot stated he didn't see Mr Wilson after the helicopter established a hover position for the winching operation and that he could not estimate the angle of the winch cable to and from Mr Wilson.

154. After the incident the ACM described his ability to see what happened as hampered by the fading light, the dark shadows that Mr Wilson was sometimes in, the backwash spray of the waterfall. He said that:

- he used a handheld searchlight in an attempt to light the area in which Mr Wilson and the injured person were located;

- he saw Mr Wilson retrieving and handling the rescue hook, attaching first the injured person and then, himself;
- he saw Mr Wilson then managing the tag line bunching it up and getting it out of the way;
- he said Mr Wilson then spent some time on other preparations but the ACM "...couldn't see very well what he was doing";
- as best as he could recollect the patient was between Mr Wilson and the cliff at about this point in time;
- Mr Wilson gave him the "thumbs up";
- after giving the "thumbs up" signal, Mr Wilson turned back and faced the cliff face. Mr Schewchuck was sitting facing him in a double hypo lift ;
- he maintained a "bow" in the cable. He said he winched in, slowly, to bring the slack out of the cable but a slight bow remained in the cable so that the cable was not taut;
- Mr Wilson backed towards the edge of the ledge paying out rope;
- Mr Wilson eased himself off the ledge;
- the ACM sighted about 2 metres of red rope running out to the cliff and back to Mr Wilson again (a red rope was not found after the incident. It could

possibly have been the tag line however that was yellow and the ACM said he saw Mr Wilson bunch that the yellow tagline and put it away);

- “they” (Mr Wilson and the patient) were slightly below the edge of the ledge and about two metres out;
- “...initially, as they went over the edge...they didn’t drop immediately. They were, there was tension on their high line going down on an angle...”;
- the rope then payed out rapidly;
- Mr Wilson and the injured person dropped in height and impacted with an outcrop of rock below them ;
- the pendulum effect resulting in them swinging all the way to the ground and they made contact with the surface on the lower edge . They came to rest in a ravine that had water in it;
- he was aware that the fleet angle exceeded the operational limits of the hoist;
- his intention, following planning, was to take the weight of Mr Wilson and the patient after receiving a signal from Mr Wilson to commence winching;
- the aircraft position was such that this was not possible due to the angle of the cable;
- he expected the weight to be transferred to the cable as the angle was reduced;

- he was operating the hoist (i.e. winching in the slack cable) so as to avoid taking the full weight of Mr Wilson and the injured person on the cable whilst the fleet angle exceeded the operational limits of the hoist ; and
- he intended to lift Mr Wilson and the injured person when then came within the operational limits of the hoist .

155. In paragraph 150 I set out the factors on which I am unable to make conclusive findings and they remain matters for speculation. Due to the number of unknown circumstances, the inability of the witnesses to give reliable and clear evidence and the number of possible explanations as to why Mr Wilson came off the ledge, I am not able to make a finding in that regard.

156. The AS has included in its response to this incident the measures it has taken to address the issues that arose during the attempted rescue. Once again I do not propose to set them out as they are in the brief and summarised in Annexure "A". I note however that:

- The roll out of the NSW Ambulance Aeromedical Integrated Risk Management Framework is yet to be completed.
- The helicopter winch simulator is not up and running.
- The Enhanced Helicopter Paramedic Helmet System project is not completed.
- The revision of the SCAT paramedic training materials is not completed.

- The regular and ongoing SCAT paramedic training is not scheduled.
- That CHC and AS have not planned for the combined scenario based training for SCAT and air crewmen on an annual basis.
- That there needs to be training in relation to the changes in AS Control and Command.

157. Accordingly, I intend to make recommendations in relation to those matters.

158. CHC have also provided evidence of its response to the incident²⁹. I commend the fact that the use of combined roping techniques have been banned and that the helicopter's radios, telephones and lighting have been upgraded. In particular I commend the implementation of pause point methodology. There were many times during the operation of this plan when it would have been appropriate to pause and consider calling it "off", particularly when the ACM lost the ability to clearly see what Mr Wilson was doing and lost the ability to communicate with Mr Wilson by radio. I note the following matters are outstanding and I propose to make recommendations that:

- The CHC Operations Manual should include a comprehensive procedure governing Hi Line Procedures overland,
- CHC plan for the combined scenario based training for SCAT and air crewmen on an annual basis,

²⁹ Exhibit 2, Volume 3, Tab 7, Tab 7A and Tab 12.

- CHC ensure that cabin staff training documentation reflects staff instructions,
- CHC consider using video footage captured during winching operations in training.

FINDINGS:

I find that Michael Gordon Wilson, a member of the Special Casualty Access Team (SCAT), died on 24 December 2011 at Bridal Veil Falls located in the Budderoo National Park, Robertson, NSW. He died as a consequence of extensive blunt trauma injuries he sustained during the course of rescuing an injured canyoner.

RECOMMENDATIONS:

1. To: The Minister for Infrastructure and Regional Development (Cth); The Chief Executive Officer, Australian Maritime Safety Authority (AMSA); The Minister for Police and Emergency Services (NSW); and The Commissioner of the NSW Police Force.

I recommend to the Minister for Infrastructure and Regional Development (Cth), the Chief Executive Officer of Australian Maritime Safety Authority (AMSA), the Minister for Police and Emergency Services (NSW) and the Commissioner of Police, NSW Police Force, that:

- (a) The Australian Maritime Safety Authority in conjunction with the NSW Police Force develop a paper in relation the early transfer of co-ordination of LandSAR operations from AMSA to the NSW Police Force to be taken to the next meeting of the National Search and Rescue Council.
- (b) The Australian Maritime Safety Authority in conjunction with the NSW Police Force review their joint arrangements in relation to the prompt exchange of data relevant to search and rescue incidents.

2. To: The Minister of Police and Emergency Services, the Chairman of the State Rescue Board of New South Wales and the Commissioner of the New South Wales Police Force.

I recommend to the Minister for Police and Emergency Services, the Chairman of the State Rescue Board of New South Wales and the Commissioner of the NSW Police Force that a review be conducted of the status of emergency services helicopter winching operations for the purpose of clarifying whether the conduct of such operations constitutes “rescue” within the meaning of the *State Emergency and Rescue Management Act, 1989 (NSW)*.

3. To: The Minister of Police and Emergency Services, the Minister for Health, the Director General of the Ministry of Health, the Commissioner of the NSW Police Force, and The Chief Executive of NSW Ambulance Service.

I recommend to the Minister of Police and Emergency Services, the Minister for Health, the Commissioner of the NSW Police Force and the Chief executive of NSW Ambulance Service that:

- (a) The review of the operation of the Memorandum of Understanding signed 21 October 2013 between the Commissioner of Police and the Commissioner of New South Wales Ambulance is completed. The review should include consideration of arrangements with respect to inter-agency communications regarding the tasking and conduct of missions performed under the Memorandum Of Understanding.

4. To: The Minister of Health and the Chief Executive of New South Wales Ambulance Service:

I recommend to the Minister of Health and the Chief Executive of New South Wales Ambulance Service that:

- (a) The roll out of the NSW Ambulance Aeromedical Integrated Risk Management Framework be completed;
- (b) The helicopter winch simulator, including the introduction of mission simulation, be completed as soon as reasonably practicable;

- (c) The Enhanced Helicopter Paramedic Helmet System project and that the trial of the proto-type enhanced paramedic helmet be completed as soon as practicable;
- (d) A review of the position of SOT/SCAT Activation Officer, including consideration of the following matters, be undertaken:
 - incorporation of the position of SOT/SCAT Activation Officer into the Aeromedical Operations Control Centre;
 - training of the SOT/SCAT Activation Officer in SCAT land-based operations and the operational role of helicopter paramedics; and
 - the provision of protocols and training to SOT/SCAT Activation Officers in relation to the planning and conduct of helicopter beacon response and helicopter rescue operations.
- (e) The revision of the SCAT paramedic training materials be completed;
- (f) Regular, on-going SCAT paramedic training be scheduled;

5. To: The Minister of Health, the Chief Executive Officer of New South Wales Ambulance Service and the Chief Executive, Lloyd Helicopters Pty Ltd ACN: 007 916 912 trading as CHC Helicopters (Australia):

I recommend to the Minister of Health, the Commissioner of New South Wales Ambulance and the Managing Director, Lloyd Helicopters Pty Ltd ACN: 007 916 912 trading as CHC Helicopters (Australia):

- (a) Training in relation to changes in NSW Ambulance Control & Command procedures relevant to the conduct of NSW Ambulance Service Aeromedical helicopter operations be provided to all NSW Ambulance paramedics, medical crew, aircrew and pilots engaged in the provision of NSW Ambulance Service Aeromedical helicopter services.
- (b) CHC and NSW Ambulance reinstate the Combined situational and/or scenario based training for SCAT and Air Crew to the annual basis originally envisaged.

6. To the Managing Director, Lloyd Helicopters Pty Ltd trading as CHC Australia

I recommend to the Managing Director Lloyd Helicopters Pty Ltd trading CHC Australia [CHC]

- (a) CHC conduct a review of the Hi Line Procedure set out the CHC Operations Manual with a view to developing a comprehensive standard operating procedure governing the use of the Hi Line Procedure in the course of winching operations conducted overland.
- (b) CHC review current rescue helicopter crew training schedules including but not limited to the re-introduction of annual integrated, holistic, scenario-based crew training.
- (c) CHC conduct a review of cabin staff training documentation for the purpose of ensuring that the cabin staff training documentation accurately reflects the information, instructions and procedures contained in CHC's current Operations Manual, including current Flight Staff Instructions.
- (d) CHC conduct a review of the company's policy in relation to video footage captured on the winching cameras as installed and to be installed on CHC rescue helicopters with a view to ensuring that the video obtained in the course of winching operations is available to be used and is used in on-going, rescue training.

"ANNEXURE A"

INQUEST INTO THE DEATH OF MICHAEL WILSON

OUTLINE SUBMISSIONS – NEW SOUTH WALES AMBULANCE

1. NSW Ambulance acknowledges that it had a significant role in the events that gave rise to this inquest. NSW Ambulance recognises that there were deficiencies in its performance including in responding to requests for assistance made after the Personal Locator Beacon ("PLB") was activated in the Budderoo National Park at 4.33pm, 24 December 2011.
2. NSW Ambulance unreservedly apologises to the Wilson family for the hurt caused to them because of NSW Ambulance failures.

Recommendations & Changes

3. On 25 July 2014 Your Honour requested that NSW Ambulance prepare a document setting out changes instituted by NSW Ambulance in response to the death of Michael Wilson.
4. A primary purpose of these submissions is to outline the work undertaken as part of NSW Ambulance's response to Michael Wilson's death and to otherwise implement recommendations. For the purpose of these submissions NSW Ambulance will identify **RCA Final Report & Corporate Investigation Report** Recommendations and thereafter summarise changes which have been or are to be introduced. To the extent that these two reports make recommendations which have a symmetry or connection with other recommendations these submissions will seek to identify those associations in footnotes.

Recommendations - Final RCA Report¹

5. **RCA 1 (Operational Risk Management)** recommended strengthening the risk management process by incorporating the joint activities of the corporate aviation contractor and NSW Ambulance.
6. NSW Ambulance has implemented the following changes –
 - (a) AeroSafe Risk Management was engaged in November 2012 to conduct an independent audit and to work with the Aeromedical Division to better understand the aeromedical risk and safety

¹ Vol. 11, pp. 217-218

management environment and build an integrated risk and safety management framework.

- (b) The Integrated Risk and Safety Management System (**IRSMS**) was launched on 8 August 2013. The aim is to lift the risk management within NSW Ambulance aeromedical services across NSW. NSW Ambulance has adopted a safety management system as if it were a public transport provider. A specific person, answerable to Dr Manning has been appointed to manage safety of aeromedical services and an ambulance Safety Advisory Council has been developed.
- (c) 82 Strategic risk profiles and Operational Risk Profiles have been developed and are being validated across all NSW Ambulance aeromedical bases with the assistance of AeroSafe and in conjunction with the aviation contractors. These reports consider the risks, funding and structure of the work and comprehensively identify the content of each job and a control strategy for each job.

Documents evidencing those changes are contained in *viva voce* evidence of **Dr Manning** as well as in his statement dated 9.7.14: **Exhibit 5, TAB RCA 1, Folder A1: IRSMS Enhancement Strategy; IRSMS Implementation Plan; Strategy Launch; Staff Fact Sheet; Assurance Plan; Operational Risk Profiles; IRSMS Policy; ORM Policy; ORM Guidelines; Helicopter Paramedic Risk Assessment.**

7. RCA 2 (Training).² The recommendation was that NSW Ambulance Aeromedical personnel, medical retrieval and aviation crew currency training must be interfaced with an emphasis on scenario-based training. Training is to include the use of a winch simulator and include Crew Resource Management.

8. NSW Ambulance has implemented the following changes –

- a. Scenario based training for induction and line checks are in place in Sydney, Orange, Wollongong and Newcastle.
- b. Scenario based training for induction and line checks are in place in Sydney, Orange, Wollongong and Newcastle.
- c. Previously NSW Ambulance and CHC conducted training separately from the other. Training is now undertaken holistically including training relating to mission planning, preparation for operations, winching and patient treatment. Training is conducted bi-annually in conjunction with CHC and every other year CHC conducts training on line-checks, winching and other procedures.

² Associated with Corporate Investigation Report C29.

- d. Crew Resource Management (CRM) training is complete for all paramedics. CRM training for doctors is currently being rolled out.
 - e. A winch simulator is currently being built and will shortly (later in 2014) be in operation. (The operation of that simulator had been postponed to enable its specifications to be altered so that it was compatible with the A139 platform.) Further allocations are to be sought in order to provide additional features for the simulation equipment.
 - f. A SCAT training co-ordinator has been appointed. This person's work is a dedicated resource for SCAT and as part of that role aims to re-establish SCAT identity.
 - g. Night currency training is undertaken.
9. Evidence of these changes is contained in the *viva voce* evidence of **Mr Wayne Cannon, Dr Manning & Mr. Howe** as well as documents contained in **Vol. 12, TAB RCA 2, pp.835-871**: Northern Region SLSA Helicopter Rescue Service Pty Limited; Line Checks - Current Line Check Program; Orientation flight over the Blue Mountains; Training DEPT - Flight Test Report - Crewman Line Check (Helicopter); Helicopter Retrieval Service Paramedic Check Flight; HELI.TRG.01 - Aeromedical Competency Based Assessment; HELI.TRG.02 - Paramedic Down-The-Wire Rescue Crewman - Post Training Period; HELI.TRG.04 - Helicopter Currency Requirements (Medical Crew); Aeromedical - Holistic Clinical and Operational Winch Line Checks; EMS Helicopter Orientation - New Crew; EMS Helicopter Orientation - New Crew; Flight Test Report - Crewman Line Check (Helicopter).
10. **RCA 3 (Operational Risk Management)**.³ The recommendation was that the Director State-wide Services form a working party for the purposes of producing a series of skill sheets for uncommon and high risk missions, similar to those already undertaken for clinical operations and an Ambulance Aeromedical Operations Manual Local Staff Instructions (LSI) and Helicopter Operating Procedures (HOPS) would form the basis for the development of this manual. The manual would also be necessary advice for all parties in the contract aviation tender process.
11. NSW Ambulance has implemented changes in that –
- a. Operational Risk Profiles have been developed.
 - b. A risk assessment has been completed regarding the training requirements of helicopter paramedics as part of the Aeromedical Reform Plan.

³ Also associated Corporate Investigation Report C2 & C4.

- c. The requirement for a full helicopter training curriculum, including skills sheets has been incorporated into the current helicopter tender.

Evidence of these changes is contained in **Ex. 5, TAB RCA 3, Folder A1** in support of **Dr R Manning's** letter to the Coroner dated 9 July 2014: Helicopter Paramedic Risk Assessment.

12. **RCA 4 (SOT and SCAT Governance)**. The recommendation was that a review be undertaken of the Standard Operations Procedure (SOP) defining the requirements for appropriate resources to support aircraft missions, SCAT and SOT operations. The SOP should detail the requirements for appropriate consultation with a SCAT consultant where Special Casualty Access is involved.
13. This recommendation has been addressed through the Command and Control Policy, and relevant training. Additional work has been undertaken reviewing the scope of practice for Rescue, SOT, SCAT and helicopter paramedics: SOP2013_010 Command & Control Policy - **Brief of Evidence, Volume 12, TAB 2, Annexure B, pp. 891-908** to Supplementary Statement from **Dr R Manning**.
14. **RCA 5 (Communications Equipment)**.⁴ This recommendation was to conduct a review of technical equipment requirements and communication procedures is undertaken. The review to be presented to the General Manager Operations for action. The review to include: down the wire radios (DTW) and other radio communications equipment; and mobile and satellite phones and multi-purpose helmets with hands free communications.
15. The review has been completed and new equipment identified and purchased. CHC aircraft phones have been replaced. All paramedics have been provided with mobile phones and the phones are connected to an NSW Ambulance database. The new communications equipment provided to officers is directed to avoiding the impediments to communication which occurred on 24 December including inability to communicate because of the geographical location of the incident and the difficulty of using equipment once it had been immersed in water. The GRN portable radios are more robust than radios previously made available: *viva voce* evidence of **Dr Manning & Mr. Howe**.
16. Further, Your Honour has heard evidence regarding the ongoing assessments of alternative helmets for use by officers when operating from helicopters: *viva voce* evidence of **Dr Manning**.
17. **RCA 6 (Command & Control)**.⁵ The recommendation was that a review of communication procedures and systems covering the requirements to provide

⁴ Also associated with Corporate Investigation Report C31, C32 & C34.

⁵ Also associated RCA 6 & RCA 8.

SITREPS be undertaken in relation to Ambulance aviation missions. The review to be provided to the General Manager Operations for action.

18. The Control & Command Standard Operating Procedures and various other procedures relating to command and control have been implemented.
19. Evidence of those changes is found in SOP2013_010 Command & Control Policy - **Brief of Evidence, Vol. 12, TAB 2, Annexure B, pp. 891-908** to Supplementary Statement from **Dr R Manning**; **Brief of evidence, Vol. 12, TAB RCA 6 pp. 509-540**: AOC OPS 13 - Aeromedical Code 1 - Aircraft Accident Overdue, Uncontactable or Concern for Crew; AOC OPS 14 - Aircraft Mission Governance; Standard Operating Policy; Procedure - DISP 4.05 - Dispatching - Activation of Helicopter Resources; Procedure - DISP 4.07 - Dispatching - Sarwatch Incidents; Procedure - SUP 5.01 - Supervisor - Notification and Escalation; HELI.OPS.01 - Aeromedical Radio Communication Principles; Procedure - SUP 8.03 - Supervisor - Aircraft Sarwatch Incidents.
20. **RCA 7 (Command & Control)**. This recommendation was that a review is undertaken of the command and control arrangements relating to primary response helicopter missions to difficult or remote locations when requested by another agency.
21. Changes implemented by NSW Ambulance have been an Updated Command & Control procedure and a Memorandum of Understanding has been established with NSW Police which aims to clarify the role of NSW Ambulance helicopters tasked to winch rescue operations.
22. Evidence of these changes can be gleaned from the *viva voce* evidence of **Mr Stafford & Dr R Manning** as well as the **Memorandum of Understanding** - **Brief of Evidence, Vol. 12, TAB 2, Attachment E, pages 925-932** to **Supplementary Statement from Dr R Manning**; **Brief of Evidence, Vol. 12, TAB RCA 7, pp 541-576**: AOC HELI 4 - AMSA Beacon search; **Brief of Evidence, Vol. 12, TAB RCA 7, pp. 541-576**: AOC HELI 4 - AMSA Beacon search; AOC OPS 13 - Aeromedical Code 1 - Aircraft Accident, Overdue, Uncontactable or Concern for Crew; AOC OPS 14 - Aircraft Mission Governance; Standard Operating Policy; Procedure - DISP 4.05 - Dispatching - Activation of Helicopter Resources; Procedure - DISP 4.07 - Dispatching - Sarwatch Incidents; Procedure - SUP 5.01 - Supervisor - Notification and Escalation; Procedure - SUP 8.03 - Supervisor - Aircraft Sarwatch Incidents; HELI.HRS.02 - Helicopter Duty Supervisor; HELI.OPS.01 - Aeromedical Radio Communication Principles; HELI.OPS.20 - Police Communications and Notifications. Other, more recent documents evidencing the changes: **Ex. 5, TAB RCA 7, Folder A1** in support of **Dr R Manning's** letter to the Coroner dated 9 July 2014: AOC.OPS.14v3 Aeromedical Mission Monitoring; Updated Control Centre Procedure Disp 4.05; HELI.OPS.39 RCO Winching Approval; Updated HELI.OPS.05 Aeromedical Mission Planning; HELI.OPS.34 Mission Overnight; Commanders Incident Assessment and Pocket Guide; AOC OPS 13 - Aeromedical

Code 1 - Aircraft Accident, Overdue, Uncontactable or Concern for Crew; AOC OPS 14 - Aircraft Mission Governance; Standard Operating Policy; Procedure - DISP 4.05 - Dispatching - Activation of Helicopter Resources; Procedure - DISP 4.07 - Dispatching - Sarwatch Incidents; Procedure - SUP 5.01 - Supervisor - Notification and Escalation; Procedure - SUP 8.03 - Supervisor - Aircraft Sarwatch Incidents; HELI.HRS.02 - Helicopter Duty Supervisor; HELI.OPS.01 - Aeromedical Radio Communication Principles; HELI.OPS.20 - Police Communications and Notifications.

23. **RCA 8 (Command & Control).**⁶ The recommendation was that a review of the Standard Operations Procedures (SOP) and guidelines relating to control for aeromedical missions when back up resources are required for remote or difficult locations are undertaken.
24. NSW Ambulance has updated its Command & Control procedure including checklists for commanders and the requirement to provide incident reports: Brief of Evidence, Vol. 12, TAB RCA 8, pp. 577-612: AOC HELI 4 - AMSA Beacon search; AOC OPS 13 - Aeromedical Code 1 - Aircraft Accident, Overdue, Uncontactable or Concern for Crew; AOC OPS 14 - Aircraft Mission Governance; Standard Operating Policy; Procedure - DISP 4.05 - Dispatching - Activation of Helicopter Resources; Procedure - DISP 4.07 - Dispatching - Sarwatch Incidents; Procedure - SUP 5.01 - Supervisor - Notification and Escalation; Procedure - SUP 8.03 - Supervisor - Aircraft Sarwatch⁷ Incidents; HELI.HRS.02 - Helicopter Duty Supervisor; HELI.OPS.01 - Aeromedical Radio Communication Principles; HELI.OPS.20 - Police Communications and Notifications. TAB RCA 8, Folder A1 in support of Dr R Manning's letter to the Coroner dated 9 July 2014: Exhibit 5, Commanders Incident Assessment and Pocket Guide; Updated HELI.OPS.05 Aeromedical Mission Planning.
25. **RCA 9 (Operational Risk Management).** The recommendation was that the requirement for two SCAT paramedics to be present with a patient prior to the extraction where there is a combination of SCAT and hoisting operations be included in Standard Operations Procedures (SOP).
26. This recommendation was not supported as Flight Staff Instruction (CHC FSI 2012-003) had been implemented immediately after the incident: Brief of Evidence, Vol. 11, TAB 1.2c, pp.69-70: Flight Staff Instruction – Confined Area/Advanced Rescue Winch Operations.
27. **RCA 10 (Aeromedical Operations)** recommended that a pool of non-aviation certified SCAT paramedics be hoist trained and certified in order to be winched into remote locations when required.

⁶ Also associated RCA 6 & RCA 7.

⁷ Generic name given to search and rescue procedures relating to aircraft.

28. A pool of non-aeromedical personnel has been trained: Brief of Evidence, **Vol. 11, RCA 10, pp.681-682.**
29. **RCA 11 (Aeromedical Operations)**⁸ provided that processes are included in future aviation contracts that detail the joint response arrangements between the contractor and NSW Ambulance to a critical incident covering information sharing and management processes.
30. An updated Critical Incident Plan has already been completed: **Ex. 5, TAB RCA 8, Folder A1** in support of **Dr R Manning's** letter to the Coroner dated 9 July 2014: HEAS AS.03 Aeromedical Critical Incident Plan.

Recommendations - Corporate Investigation Report⁹

31. **Recommendation C1 (Aeromedical Operations)** recommended that the Bankstown Base and the helicopter hanger be integrated and the Ambulance and helicopter crews co-located.
32. This facility has been built and is in use: Brief of Evidence, **Volume 12, TAB C1, pp. 686-689**; HELI.OPS.22 Bankstown Base Response Procedure; Greater Sydney LOP OPS.15 - Sydney Base Landline (Batphone)¹⁰.
33. **Recommendation C2 (Operational Risk Management)** recommended that a training needs analysis be conducted in respect to all operational ambulance positions associated with rotary wing services. In this respect, consideration was to be given to developing a specialised rotary wing training module to ensure skills exist to carry out high level complex rescues involving aircraft.
34. Changes have been implemented in accordance with the recommendation¹¹ –
 - (a) Operational Risk Profiles developed by AeroSafe. The training curriculum for the environmental components of the scope of operations for helicopter paramedics training is currently under development for roll out later in 2014.
 - (b) The requirement for a full helicopter training curriculum including skills sheets has been incorporated into the current helicopter tender.

Evidence of these changes is contained in the *viva voce* evidence of **Superintendent Williams & Dr R Manning** as well as the Brief of Evidence, **Vol.**

⁸ Associated with Corporate Investigation Report C30.

⁹ Vol. 11, p.219.

¹⁰ The Local Operating Procedure is aimed to support responses to missions from the Bankstown base.

¹¹ Also associated RCA 3.

12, **TAB C2**, pp. 256-424: CHC Ambulance Service of New South Wales AS Augusta Westland 139 cabin staff syllabi and training notes; **Ex. 5, TAB C 2, Folder A1** in support of **Dr R Manning's** letter to the Coroner dated 9 July 2014: Risk Assessment of Helicopter Paramedic.

35. **Recommendation C3 (Operational Risk Management)**¹² was that operational procedures for all ambulance rotary wing services be standardised and that a joint forum be established to ensure standardised operational procedures across rotary wing services including both Ambulance and CHC representatives.
36. Pursuant to the recommendation the Aeromedical Reform Plan and the Helicopter Tender is currently in progress. A fundamental principle of these two processes is to standardise helicopter operation with no more than 2 helicopter operators and no more than 2 helicopter types. Further, to the extent possible, the operating procedures introduced during the Aeromedical Reform Plan implementation in Newcastle were modelled on those in operation in Sydney, Orange and Wollongong. These same procedures will be used for the implementation of the Reform Plan in Lismore in August 2014 and Tamworth in January 2015. In this way, to the extent possible with different aircraft types and operators procedures will be standardised throughout the State until new helicopter contracts are executed: **Ex. 5, TAB C 3, Folder A1** in support of **Dr R Manning's** letter to the Coroner dated 9 July 2014: Northern Zone Standard Operating Procedures.
37. **Recommendation C4 (Operational Risk Management)**¹³ provided that a joint training committee be established involving helicopter operations, including CHC, and Ambulance with the aim of developing an agreed curriculum which integrates and formalises the interrelationship between SCAT methods and procedures and aircraft operations. Especially, that crewmen receive formalised training periods on the equipment that is utilised in New South Wales and the Sydney Basin. Training must be conducted with a focus on realistic operational scenarios.
38. The changes implemented have been –
- a. Operational Risk Profiles are complete and the Operational Risk Management Policy is in the process of being implemented. Additional training requirements will be identified and actioned as part of this process.
 - b. The current helicopter tender includes a requirement for a full helicopter training curriculum, including skills sheets.

¹² Also associated RCA 3.

¹³ Also associated RCA 3.

Brief of Evidence, Vol. 12, TAB C4, pp. 425-439: Orientation flight over the Blue Mountains; HELI.TRG.01 - Aeromedical Competency Based Assessment; HELI.TRG.02 - Paramedic Down-the-Wire Rescue Crewman - Post Training Period; HELI.TRG.04 - Helicopter Currency Requirements (Medical Crew); Ambulance Service of New South Wales - Aeromedical - Holistic Clinical and Operational Winch Line Check; Ambulance Service of New South Wales - Line Check. Ex. 5, TAB C 4, Folder A1 in support of Dr R Manning's letter to the Coroner dated 9 July 2014; HEAS.AS.06 Operational Risk Management Guideline and Policy.

39. **Recommendation C5 (Aeromedical Operations)** provided that the interim procedures restricting use of the hi-line procedures be immediately referred to the joint training committee identified in C 4. This recommendation was not carried through as there was no restriction on the hi-line procedure, only a clarification for the authorised procedure, the role of equipment and that SCAT techniques should not be interfaced: Brief of Evidence, Vol. 11, TAB 2.3(a), pp. 94-96: CHC Flight Staff Instruction 2012-001 and 2012-003.
40. **Recommendation C6 (Aeromedical Operations)¹⁴** provided that tag lines not be used as substitute for highline equipment. That equipment not be used for purposes other than its designed purpose. If equipment is adapted then it must be submitted for approval, prior to uses, to the joint training committee proposed in Corporate Investigation Report recommendation 4.
41. In response to the recommendation a flight staff instruction was issued directing the use of equipment for intended purpose only. It requires that crews do not vary operating procedures unless authorised in the operations manual: Brief of Evidence, Vol. 12, TAB C6, pp. 692 - 706: CHC Flight Staff Instruction 2012-001 and 2012-003; HELI.EQU.08 New Equipment Medication Implementation; HELI.EQU.10 Changes to Equipment; HELI.OPS.04 Approved procedures and equipment.
42. **Recommendation C7 (Training)** was that no crewman or Ambulance Aeromedical paramedic be permitted to commence operational roles without first serving a suitable period, minimum of two weeks, in a supervised paired role before.
43. NSW Ambulance has -
 - a. Identified locations and operations (cliffs, canyons etc) requiring specific orientation and training objectives developed
 - b. introduced familiarisation flights for new aircrew, pilots and paramedics and mandatory 'ride-alongs' have been introduced for new crew.

¹⁴ Associated with Corporate Investigation Report C5.

44. NSW Ambulance recognised that this recommendation will be difficult to implement at bases without permanent rostered clinical crews, but should be facilitated as part of the Aeromedical Reform Plan.
45. Evidence of the work done in response to the recommendation is contained at Brief of Evidence, **Vol. 12, TAB C7, pp. 872-875**: CHC Flight Crew Orientation Flight; HELI.TRG.02 - ASNSW Rescue Crewman - Post Training Period; Holistic Operational and Clinical Winch Training Flight - Line checks.
46. **Recommendation C8 (Aeromedical Operations)** provided that the existing position of Safety and Training Manager be filled permanently. Further, that this position not be permitted to undertake duties unrelated to safety and training and should integrate with mainstream ambulance workplace safety and training units and provide an interface between the Service and CHC for routine and specialist training needs.
47. In response to this recommendation NSW Ambulance has
- a. restructured Aeromedical Services including separate training and safety management positions in place
 - b. the Operational Risk Management process forms the basis by which the safety management structures and activities of aviation operators interact with Ambulance
 - c. a new training structure including integration with training provided by the helicopter operator has been implemented with the roll out of the Aeromedical Reform Plan. Further, new helicopter paramedic positions have been made available in Newcastle.
48. Evidential support for these changes is contained in Brief of Evidence, **Vol. 12, TAB C8, p.707**: Proposed Management Structure Helicopter Retrieval Services; **Ex. 5, Tab C 8, Folder A1** in support of **Dr R Manning's** letter to the Coroner dated 9 July 2014: Position Descriptions for Training Manager and Deputy Director Safety Systems.
49. **Recommendation C9 (Training)** provided that Aeromedical paramedics attend (concurrently with CHC crews) all relevant CASA mandated training programs. This recommendation has not been implemented as there are no relevant CASA mandated training courses other than Crew Resource Management.
50. **Recommendation C10 (SOT and SCAT Governance)** provided that the respective roles and training requirements of SOT and SCAT staff are thoroughly examined with a view to standardisation, integration and delineation. To this end, a senior officer be appointed to be responsible for the administration and operation of the SCAT/SOT program reporting to the Director, State Wide Services. In this regard, we recommend that SCAT be preserved and enhanced as a valuable

capability of Ambulance and there be no diminution or reduction of the role of SCAT as an elite, independent and special unit of Ambulance.

51. The changes have been implemented. The roles and training requirements of SOT and SCAT staff have been reviewed. SCAT, SOT and Rescue now each have a separate coordinator who reports to the Superintendent of the Special Operations Unit.
52. **Recommendation C11 (Aeromedical Operations)** provided that Aeromedical Operations Centre should cross check any location information including latitude and longitude, which should be favoured, and resolve anomalies immediately. That "Sky Connect" is made available to all Ambulance Control Centres and that this be monitored in any operations involving aircraft.
53. NSW Ambulance has instituted procedures for cross checking of location information: Brief of Evidence, Vol. 12, TAB C11, pp. 710-711: AOC.HELL.03 Incident Location Identification; HELI.OPS. 30 - Incident Location Identification.
54. **Recommendation C12 (Aeromedical Operations)** provided that appropriate software be made available to the AOC and all Ambulance control centres which allow entry of latitude and longitude and the output of map references.
55. Ms R Samios gave evidence that this had been done and that she had been trained in the use of the technology for that purpose. Dr Manning gave further evidence of that training having been undertaken more generally within aeromedical.
56. **Recommendation C13 (Aeromedical Operations)** provided that "Sky Connect" is made available to all Ambulance Control Centres and that this be monitored in any operations involving aircraft.
57. This recommendation was not supported: Brief of Evidence, Vol. 12, TAB C13, pp 712-742: AOC OPS 13 - Aeromedical Code 1 - Aircraft Accident, Overdue, Uncontactable or Concern for Crew; AOC OPS 14 - Aircraft Mission Garnets; Standard Operating Policy; Procedure - DISP 4.05 - Dispatching - Activation of Helicopter Resources; Procedure - DISP 4.07 - Dispatching - Sarwatch Incidents; Procedure - SUP 5.01 - Supervisor - Notification and Escalation; Procedure - SUP 8.03 - Supervisor - Aircraft Sarwatch Incidents; HELIOPS.01 - Aeromedical Radio Communication Principles.
58. **Recommendation C14 (Aeromedical Operations)** provided that AOC staff training is benchmarked against a set of expected skills, including understanding the capabilities, and limitations, of the aircraft and the crews that they despatch.
59. AOC training material covering Scope of Operations for each base and aircraft has been reviewed and redrafted. Refresher training for all AOC Staff has been completed: Brief of Evidence, Vol. 12, TAB C14, pp. 744-765: Aeromedical

Operation Centre - Helicopter Tasking Assessment; Aeromedical Operation Centre - Helicopter Tasking.

60. **Recommendation C 15 (Command & Control)** provided that AOC be the definitive point of contact for all aircraft activities including obtaining updated information, following flights and conducting welfare checks including missing crew procedures.
61. This recommendation was not fully supported for NSW Command & Control Standard Operating Procedure is now in place and it includes Aeromedical Operations: Brief of Evidence, Vol. 12, TAB C15, pp. 613-680: AOC OPS 13 - Aeromedical Code 1 - Aircraft Accident, Overdue, Uncontactable or Concern for Crew; AOC OPS 14 - Aircraft Mission Governance; Standard Operating Policy; Procedure - DISP 4.05 - Dispatching - Activation of Helicopter Resources; Procedure - DISP 4.07 - Dispatching - Sarwatch Incidents; Procedure - SUP 5.01 - Supervisor - Notification and Escalation; Procedure - SUP 8.03 - Supervisor - Aircraft Sarwatch Incidents; AOC LOP 4.14; HELIOPS.01 - Aeromedical Radio Communication Principles.
62. **Recommendation C16 (Command & Control)** provided that Aeromedical crews keep AOC and Ambulance Control Centres informed of activities and that protocols be developed for check point notifications, for example at take-off, arrival at scene, when winching imminent, when winching complete and when returning to base.
63. In response to that recommendation procedures covering aircraft mission management and concern for welfare procedures have been implemented: SOP 2013_010; AOC.OPS.13 Aeromedical code 1; AOC.OPS.14 Aeromedical Mission Monitoring; HELI.OPS.01 Aircraft Radio Comms Principles; Control Centre Procedures Disp 405; Control Centre Procedure Disp. 407; Control Centre Procedure Sup 501; Control Centre Procedure 803.
64. **Recommendation C17 (Aeromedical Operations)** provided that AOC have access at all times to an appropriate officer preferably SCAT trained who can provide advice on, and risk assess, complex operations and be informed and updated on all plans devised by crews. In this regard we recommend all crews be required to consult and check the proposed risk assessment sheet provided to us by Gary Sinclair.
65. Following that recommendation risk assessments for aeromedical missions will come out of the implementation of the Operational Risk Profiles which include daily and mission briefs, mission debriefs and mission variance reporting processes and SCAT Mission governance is covered under the Ambulance Service wide SOP 2013_010: Brief of Evidence, Vol. 12, TAB C17, pp. 769-798: Standard Operating Policy; HELI.HRS.02 - Helicopter Duty Supervisor; HELI.OPS.05 - Aeromedical Mission Planning; HELI.OPS.07 - Operational Support

Paramedic Helicopter Activities; HELI.OPS.14 - Canyon Responses; NSW Aeromedical and Medical Retrieval Services - Helicopter Operating Procedure - Mission Oversight.

66. **Recommendation C19 (Aeromedical Operations)** provided that CHC update AOC on aircraft availability and capability in a timely and regular way, including any specific inadequacies or shortfalls.
67. Since that time weekly meetings are in place with agenda and record keeping.
68. **Recommendation C20 (Aeromedical Operations)** provided that helicopter crews have a system to reduce essential weight prior to take off on high probability winch tasks. This would enable extra SCAT equipment that may be required to be loaded onto the aircraft. The system should be developed by the forum which is the subject of recommendation 3.
69. Minimum equipment lists are now in place: Brief of Evidence, **Vol. 12, TAB C20, pp. 807-812**: Memorandum - Minimal Gear Pack; HELI.EQU.01 - Aircraft Winching Stretcher Accessory Pack; HELI.EQU.02 - Minimal Gear Pack (MGP); HELI.EQU.03 - Aeromedical SCAT Over Contents; HELI.EQU.04 - Standard Flight Suit Gear (Helicopter); HELI.EQU.09 - Helicopter Personal Pocket Survival Kit.
70. **Recommendation C 21 (Operational Risk Management)** provided that planning for operations be conducted in the presence of all members of crew.
71. The changes now require Mission Planning occurs in the presence of all crew members: Brief of Evidence, **Vol. 12, TAB C21, pp. 440-502**: Special Casualty Access Team (SCAT) - Field Operations Guide; HELI.OPS.05 - Aeromedical Mission Planning; HELI.OPS.14 - Canyon Responses.
72. **Recommendation C22 (Operational Risk Management)** provided that in circumstances where a plan is formulated for an operation that is to be subject to review prior to execution, a check be made by the flight crew with the paramedic to be winched to ensure updates to the plan can be communicated and understood by all crew. A standard formulation of words should be developed for the check.
73. This change now occurs: Brief of Evidence, **Vol. 12, TAB C22, pp. 503-508**: HELI.OPS.18 - Helicopter DTW Radio; HELI.OPS.24 - Winch Communications; HELI.OPS.33 - Winch Extraction Checks. In addition, **Mr Slatyer** of CHC gave evidence of the greater focus by both CHC and NSW Ambulance on risk mitigation.
74. **Recommendation C23 (SOT and SCAT Governance)** provided that any decision to refuse requests for additional resources or decisions to stand down additional resources to a responding crew should be conveyed and explained directly by

the decision maker to the requesting crew to ensure all information is taken into account.

75. Changes implemented require that any decision refusing a request for additional resources is conveyed by the decision maker as suggested above. This occurs and applies to all resources and responses as a general principle, and is covered by the Command and Control Policy and training: SOP2013_010 Command & Control Policy - Brief of Evidence, Vol. 12, TAB 2, Annexure B, pp. 891-908 to Supplementary Statement from Dr R Manning.
76. **Recommendation C24 (Aeromedical Operations)** provided that consideration should be given to the rotation of staff through the base at Bankstown allowing for periods of time "on-road".
77. NSW Ambulance considers this to be part of a longer term outlook. At present, rotation occurs to the extent possible with staff availability and training burdens required to keep a pool of trained and current staff.
78. **Recommendation C25 (Aeromedical Operations)** provided that NSW Ambulance consult with the NSW State Rescue Board in respect to the recognition of the "rescue" activities and functions undertaken by the Ambulance rotary wing.
79. **Dr Manning** gave evidence in support of the need for clarification from the State Rescue Board regarding the role of NSW Ambulance aeromedical (helicopter).
80. **Recommendation C26 (SOT and SCAT Governance)**¹⁵ provided that the respective roles of SOT and SCAT and the role of the SOT Manager be examined to ensure the best possible deployment of SCAT and SOT resources and to remove any operational tension between SOT and SCAT.
81. Review of the scope of practice of Rescue, SCAT, SOT and helicopter paramedics has been undertaken. The Command and Control policy and related training addresses the allocation of resources: SOP2013_010 Command & Control Policy - Brief of Evidence, Vol. 12, TAB 2, Annexure B, pp. 891-908 to Supplementary Statement from **Dr R Manning**.
82. **Recommendation C27 (SOT and SCAT Governance)** provided that SCAT/SOT Activation Lines be recorded. The method of deploying SOT/SCAT resources via this line should be examined.
83. Changes have been implemented:
 - a. Aeromedical duty staff should be tasked via normal operational means via the Aeromedical Operations Centre. This is covered in the Command and Control standard operating procedures.

¹⁵ Associated with Corporate Investigation Report C10.

- b. If the duty resource is not available, then the Special Operations Unit, following consultation with the Control Centre, should source off-duty crew/s.
- c. SCAT/SOT deployment staff now have dictaphones to records telephone calls made from/to their work mobile phones.

84. Recommendation C29 (Training)¹⁶ provided that clause 2.2.7 of the Contract agreement between CHC and the Health Administration Corporation (HAC) be monitored and enforced by the provision of suitable Crew Resource Management Training. Further, Ambulance should require such training to be attended by Ambulance Aeromedical paramedics.

85. Since and in response to the recommendation Crew Resource Management training is complete for all paramedics.

86. Recommendation C30 (Aeromedical Operations)¹⁷ provided that each Aeromedical base hold a monthly meeting attended by the most senior operational officer for Ambulance, CHC and medical staff co-ordinate all relevant management issues.

87. Monthly meetings are in place: Brief of Evidence, Vol. 12, TAB C30, pp. 813-834: ASNSW Hunter Operations Meeting - Action Item List - Update May 2013; ASNSW/Hunter Operating Meeting; Greater Sydney Helicopter Operational Meeting; ASNSW Regional Helicopter (Operational) Meeting Minutes.

88. Recommendation C31 (Communications Equipment)¹⁸ was to the effect that an analysis be conducted by ambulance communications technicians on the best possible radio solutions for Paramedics "down the wire", back to the Aircraft and/or to Road Ambulances. Especially that consideration be given to an ear mike system, independent of helmets, and hands-free operation.

89. The review has been completed and new equipment identified and purchased. Implementation and training is complete. This includes new Motorola portable radios with enhanced functions, mobile phones and satellite phones. Following Investigation of options a trial is presently underway to examine the utility of alternate, helmet and communication options.

¹⁶ The **Corporate Investigation Report** did not include a recommendation numbered '28'.

Recommendation C29 is associated with RCA 2.

¹⁷ Associated with RCA 11.

¹⁸ Associated with RCA 5.

90. **Recommendation C32 (Communications Equipment)**¹⁹ provided that all paramedic aircraft crew, whilst on duty be assigned an Ambulance issued mobile phone, for use whilst on duty, which is programmed with the numbers for all other communications devices on the aircraft, the AOC and all operations centres.
91. Procurement and distribution has been completed for all helicopter bases.
92. **Recommendation C33 (Communications Equipment)**. The recommendation was that NSW Ambulance investigates the possibility of making all Ambulance mobile phones seamlessly access any mobile phone network which is available for use.
93. NSW Ambulance has investigated the possibility but found that seamless access is not possible. As an alternative, NSW Ambulance has enabled the telephone function in the new portable GRN radios for helicopter crews.
94. **Recommendation C34 (Communications Equipment)**.²⁰ The recommendation was that all aircraft have at least 2 satellite telephones on board the aircraft, each programmed with the numbers for all other communications devices on the aircraft, the AOC and all operations centres.
95. In line with this recommendation NSW Ambulance has procured and distributed the equipment for Orange, Wollongong, Sydney, Lismore, Tamworth and Newcastle.
96. **Recommendation C35 (Communications Equipment)**. The recommendation was that all CHC aircraft are immediately required to have available mobile phones on board which are capable of being removed from their cradle and continuing in operation without disruption when the aircraft powers down.
97. Changes to accommodate this recommendation have been made: *viva voce* evidence, **Dr Manning & Mr. Howe**.

Michael Windsor SC
13th Floor
Selborne Wentworth Chambers
174-180 Phillip Street
Sydney 2000

6 August 2014

¹⁹ Associated with RCA 5.

²⁰ Associated with RCA 5 and Corporate Investigation Report C 31 & C32.