A Report to Scottish Ministers

The 2008 Galston Mine Incident

Steven Torrie QFSM
HM Chief Inspector of
Fire and Rescue Authorities

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INQUIRY INTO THE 2008 GALSTON MINE INCIDENT

Introduction

1. On the 29th of November 2011, and following the publication of a Fatal Accident Inquiry Determination by Sheriff Desmond Leslie on the death of Alison Hume, I was instructed by Roseanna Cunningham, Minister for Community Safety and Legal Affairs, to undertake an Inquiry into the aftermath of the tragedy.

2. Alison Hume died on the morning of 26th July 2008, having fallen down a disused mine shaft some hours earlier. Sheriff Leslie set out defects in the systems of work which he determined had contributed to Alison's death and which, for the most part, were explicit criticisms of Strathclyde Fire and Rescue and its personnel.

3. For the duration of the incident, Alison Hume and Firefighter Alexander Dunn were in a confined space 14-15 metres down a large shaft. The total depth of the shaft was about 130 metres. This was an unusual and particularly dangerous incident and was beyond the experience of any member of the emergency services who attended. In those circumstances, all of the emergency responders agreed that a careful and systematic rescue had to be undertaken. Ultimately, their efforts failed and Alison died.

4. In the aftermath of the incident, Alison's family met with Fire and Rescue and Police representatives. They are strongly aggrieved that the explanation of events on that night which was given to them did not include a description of the multiple transfers of fire and rescue service command which took place, the disagreements on the rescue strategy relating to that change in command, the quality of command decisions and the impact all of that had on rescue efforts.

5. This Inquiry, under its Terms of Reference, takes as its starting point the Determination made by Sheriff Leslie. It does not seek to re-interpret the Sheriff's findings or reach different conclusions. It is an independent and professional examination of the incident and the lessons which have been learned or require to be learned.

6. Alison was badly injured but alive when emergency responders attended the site in Galston. It was over five hours after their arrival that rescuers were able to remove her from the mine shaft. At one point during her ascent, Alison's heart stopped beating. Given the extreme circumstances of this incident, the injuries Alison sustained when she fell and the risk of aggravating those injuries during the rescue, there was never a guarantee that she would survive. However, it is absolutely clear that, for those charged with her rescue, the collective lack of focus on rapid medical intervention and the risk of hypothermia significantly decreased the likelihood of her survival. The main concern of this report is therefore to examine the factors which influenced the overall timescale of the rescue and whether those have been translated into lessons learned.

7. All of the emergency responders who attended that night acted in good faith and all share a profound regret at the failure of the rescue operation.

Summary

8. This is a report on an Inquiry directed by the Minister for Community Safety and Legal Affairs. The Inquiry has been an independent and professional examination of the Galston Mine incident focussing, within its Terms of Reference, on the issues raised by Sheriff Desmond Leslie in his Fatal Accident Inquiry Determination and lessons learned for the Scottish Fire and Rescue Service.

9. The incident was complex and dangerous and beyond the experience of any of the emergency service personnel who attended.

10. Alison Hume's successful rescue was never guaranteed. However, the very long time she spent before being removed from the shaft greatly decreased her chances of survival. There was an inexplicable lack of focus on Alison's medical condition, the risk she faced of hypothermia and the consequent time pressure for a rescue. The Inquiry is therefore structured to consider the factors which influenced that timescale.

11. From my discussions with Alison's family they feel a strong sense of grievance over the explanation of events they were given shortly after the incident. They believe that they only achieved a proper understanding through evidence which came out during the Fatal Accident Inquiry process. They are equally critical of the quality of operational command decisions taken by fire and rescue commanders.

<u>The Law, Scrutiny and Regulation</u>

12. The Fire and Rescue Service is obliged to deliver an emergency service within a complex framework of law, regulation and guidance. Fire and Rescue Services and their staff are increasingly being challenged and charged with failures and offences. This is influencing the way in which the Services are operating.

13. Amongst other things, this influence is creating a growing cautiousness within the Service. It is causing the Service to question whether it should be responding to unusual and hard to define incidents and whether it is appropriate to adapt and improvise in such circumstances. It is placing a growing pressure on individual officers who know that they may be held to account for often difficult command decisions. The scrutiny of operational incidents and command decisions which are made by managers, prosecuting authorities, Fatal Accident Inquiries and Inquiries such as this are of course intended, amongst other things, to act as an opportunity to reflect and learn. It is also the case that the outcomes of this scrutiny are causing a growing cautiousness in decisions made by fire and rescue services and operational commanders.

14. The legal basis for Strathclyde Fire and Rescue responding to an incident of this type is unclear. Neither Strathclyde Fire and Rescue nor, to the best of my knowledge, any other fire and rescue service has made provision to deal with a Mines rescue. Setting aside absolute definitions of incident types – which might actually be contributing to the complexity in operational decision making for fire and

rescue services – Strathclyde Fire and Rescue had specifically ruled out providing specialist line rescue and had chosen to defer to other organisations.

Strathclyde Fire and Rescue

15. In 2008, there was a significant weakness in the approach taken to rescues involving the use of lines by Strathclyde Fire and Rescue. The Service did not properly consider the impact of its decision to cease improvised rescues involving lines (and may not have intended that). Measures which were intended to compensate for the loss of line rescue - which were to delegate specialist rescue incidents to Maritime Coastguard Agency (MCA), Strathclyde Police and Trossachs Mountain Rescue Services - were not sufficiently well thought through. In particular, the time it would take to deploy a specialist team was not known to Fire and Rescue commanders. The decision to cease improvised rescue appears to have been influenced by discussions on conditions of service for staff rather than through a process of risk and response planning.

16. There was good guidance available to Strathclyde Fire and Rescue - in particular within the *Fire and Rescue Service Manual Volume 2: Fire Service Operations Safe Work at Height*, but also elsewhere. However, guidance on pre-planning and liaison with other agencies and voluntary organisations was not followed.

17. There was a significant weakness in the working arrangements and communication between the blue light services at the Galston Mine incident. Decision making, command and control arrangements were at best informal. Mobilisation of officers was dependant on individual judgement rather than by pre-planned policy.

18. The internal 'lessons learned' process did not work well within Strathclyde Fire and Rescue. A significant number of personnel who attended at Galston feel that they were not able to properly express their views on the incident. There is no clear link between the incident and a subsequent decision by the Service to train up specialist line rescue operators or to amend officer mobilisation procedures. Policy on line rescue remained fundamentally unchanged until 19 March 2012.

Operational Command Decision Making

19. The growing sense of caution within the Fire and Rescue Service, the change to improvised line rescue policy within Strathclyde Fire and Rescue and, potentially, unrealistic expectations implied by that policy, all contributed to the decision that fire and rescue service operations should be suspended at the Galston Mine incident, and that that rescue should be handed over to Strathclyde Police Mountain Rescue. Fire and Rescue Service commanders became locked into their decision and were not able to review and alter their strategy as time went on.

20. Specialist fire and rescue crews who attended advised me that they believed that they had the skills and equipment to effect a rescue and are angry that they were ordered to stop work.

Changes in the Intervening Period

21. Strathclyde Fire and Rescue have made a number of changes since the time of the incident. One major step being the introduction of specialist line rescue teams. This resource was declared operational at 10:00am on 19 March 2012. The Service has also reviewed its officer mobilisation policy – there is less discretion available to officers about whether or not they attend a given incident.

22. There have therefore been developments in a number of policies procedures and practices within Strathclyde Fire and Rescue that go towards addressing the issues raised in Sheriff Leslie's report. However, the policy on improvised line rescue remained fundamentally unchanged until the line rescue resource became operational on 19 March 2012. There still remains a number of opportunities for improvement for the Scottish fire and rescue service as a whole, particularly as it moves through the current period of reform.

Recommendations

Ongoing Development of Rescue Functions

The Fire and Rescue Framework published by Scottish Ministers should set out an expectation that the Scottish Fire and Rescue Service acts as a champion and coordinator of specialist rescue.

Learning Organisation

The Fire and Rescue Framework published by Scottish Ministers should set out an expectation that the Scottish Fire and Rescue Service behaves as a learning organisation.

Legal Definition of Duty

The Fire and Rescue Framework published by Scottish Ministers should direct the Scottish Fire and Rescue Service to define the parameters of its operational functions, and should explicitly recognise the need to adapt and improvise in unusual and difficult to define circumstances. All of this should fall within the scope of the community risk planning which fire and rescue services undertake.

Operational Command

The Scottish Fire and Rescue Service should carry out an audit of operational command training examining, in particular, risk critical decision making in unusual and hard to define circumstances.

As part of the reform agenda, the Service should review operational command roles and implement the simplest possible structure for operational command.

Inquiry Terms of Reference

23. The Inquiry was asked to "review the manner in which Strathclyde Fire and Rescue is now carrying out its functions in relation to the issues raised in Sheriff Leslie's report. It should review whether appropriate steps have been taken, or require to be taken, by Strathclyde Fire and Rescue and across the Scottish fire and rescue services to address the findings of the report, thereby minimising the likelihood of this kind of tragedy happening again."

24. In particular, the Inquiry was asked to report on:

- *"whether the policies, procedures and practice now in place in Strathclyde Fire and Rescue adequately address the issues raised in the Sheriff's report;*
- *"whether the conclusions of the Sheriff's report gives rise to concerns affecting wider emergency operational response arrangements in Strathclyde Fire and Rescue and, if so, the steps taken by it to address these;*
- *"whether the Sheriff's findings have implications for the Scottish fire and rescue service as a whole; and an assessment of whether lessons have been learned; and*
- *"any other recommendations as to action which should be taken by the current eight Fire and Rescue Services and the proposed new single fire and rescue service."*

The Sheriff's Conclusions

25. In his Fatal Accident Inquiry Determination, Sheriff Leslie concluded that "*the attempted rescue of Mrs Alison Hume was impeded by:*

> *(1) A lack of awareness within the rescue services of the range of potential rescue services which could assist and inadequate knowledge, communication and co-ordination between those services;*
>
> *(2) Restrictive and proscriptive policies adopted by Strathclyde Fire and Rescue Service which combined with an inadequate appraisal of the equipment available and their training in the use of that equipment;*
>
> *(3) Over reliance by Strathclyde Fire and Rescue Service on the delegation of certain rescue functions;*
>
> *(4) The failure by Strathclyde Fire and Rescue Services to engage in preplanning for an occurrence such as the collapse of a mine shaft*.

26. The Determination has a significant amount to say beyond these conclusions and in this report I will try to address all of these matters as comprehensively as possible.

The Legal and Operational Guidance Framework

27. The Scottish fire and rescue services operate within a complex framework of legal and operational guidance. It is argued that the complexity and the legal challenges which have been faced by fire and rescue services are leading to the services becoming increasingly risk averse. This section sets out key parts of that framework and an annex to this report goes into more detail.

Legislation

28. The principal legislation which defines the duties of Scotland's fire and rescue services is the Fire (Scotland) Act 2005 Act (the Act).

29. Part 2 of the Act – sets out the principal functions of the fire and rescue services in sections 8 to 11, these sections detail the actions the fire and rescue services must take to make provision to respond to the following eventualities.

- Section 8 Fire safety
- Section 9 Fire-fighting
- Section 10 Road traffic accidents
- Section 11 Functions in relation to other emergencies

Of specific relevance to this report is Section 11.

Section 11 Conferral of functions in relation to other emergencies

30. This section empowers Scottish Ministers to confer on a fire and rescue board, additional specified functions relating to emergencies. This is achieved by issuing an Order (an "additional function order"). An Order can direct a fire and rescue board as to how they should plan, equip for, and respond to such emergencies. "Emergency" is defined in Section 52 of the Act.

31. An Order under this section came into force on 2 August 2005, The Fire (Additional Function) (Scotland) Order 2005. In particular, this Order gives fire and rescue boards a duty to provide a response to emergencies involving:

- Decontamination at chemical, biological, radiological and nuclear spillages or releases;
- Search and rescue at specified occurrences;
- Rescuing persons from serious flooding;
- Rescuing persons from major non-road traffic transport incidents such as rail or air accidents.

32. The Additional Function Order does not provide an exhaustive list of the non-fire emergencies to which fire and rescue services have historically responded, or to which they might respond in future. Where one fire and rescue service has specialist resources, including specialist personnel, that enable it to discharge functions under this Order in relation to a particular type of emergency, Article 7 of the Order

requires, to the extent that it is reasonable to do so, for those resources to be used outwith its own area in response to a request for assistance from another authority where that type of emergency arises.

33. Article 8 of the Order stipulates what provision a board must make for the specified emergency situations, such as securing the necessary equipment and personnel.

34. Of relevance to this Inquiry is the **Article 4** requirement within the Additional Function Order to make provision for search and rescue. The full text of Article 4 is as follows.

> Search and Rescue
>
> ***4.****-(1) A specified authority shall make provision for the purpose of rescuing persons who may be trapped and protecting them from serious harm in the event of–*
>
> *(a) a landslide; or*
> *(b) the collapse of a building, tunnel or other structure,*
>
> *in its area.*
>
> *(2) The function conferred by paragraph (1) shall not apply where it is reasonable for a specified authority to conclude that another person with search and rescue functions or specialist search and rescue capabilities can make satisfactory provision for the emergency in connection with which the function is conferred.*

35. Whether the mine shaft constituted a structure as was envisaged by Article 4 of the Order was discussed during the Fatal Accident Inquiry. Sheriff Leslie determined that he had not been led to any legislation, or protocol which allowed him to accept the views that the type of rescue that would have been required to be undertaken with Mrs Hume, was "not within the parameters" of the fire and rescue service.

<u>Section 13 Power to respond to other eventualities</u>

36. This section provides fire and rescue services with discretion to equip, and respond to, events other than the principal functions provided for at sections 8 to 11. This means that a service should be free to act where it believes there is or is likely to be a risk to life or the environment. This power can be exercised outwith its area.

37. Acts of Parliament are accompanied by an explanatory note which describes the purpose of the legislation. The author of the explanatory note for the Fire (Scotland) Act included in the note specialist activities such as rope rescue as an example of a function which would fall within this section. This explanatory note was written before the Additional Function Order was made.

Section 40 and 41

38. Section 40 of the Act requires Scottish Ministers to publish a Fire and Rescue Framework. The purpose of this document is to set out policies, objectives and guidance for fire and rescue services so that the public are properly protected from fire and other emergencies.

39. Section 41 of the Act requires fire and rescue services to have regard to the Framework when carrying out their functions. Scottish Ministers have the power to intervene if they consider that authorities are failing, or are likely to fail to act in accordance with the Framework by setting out, by order, an obligation for an authority to take a particular action or to refrain from taking a particular action, to ensure they act in accordance with the Framework.

The Scottish Fire and Rescue Framework 2005

40. As set out in the Framework, published on 15 November 2005, the principal aim of an emergency response is to save lives and reduce the number and severity of injuries. The Framework advised services that if outcomes can be improved by adapting services or working with other service providers this should be pursued. Where this is done fire and rescue services are able to rely on the powers conferred upon them by section 13 of the Act, which enables services to respond to other eventualities where there is a threat to people or the environment.

Mutual Assistance

41. Fire and rescue services have for many years provided mutual support across borders for fire-related emergencies through the shared availability of fire crews and appliances.

42. The Framework stated that it was important that this best practice is universally applied. The Framework expected that local and national boundaries should not stop services from delivering the most speedy, effective and efficient response possible. Section 33 of the Act makes provision for a fire and rescue service to enter into reinforcement schemes with other fire and rescue services while sections 35 and 36 give fire and rescue services power to enter into arrangements with persons other than a fire and rescue service, for the carrying out of any of its functions. This could be taken to include the arrangement with Strathclyde Police Mountain Rescue to carry out rescues from height of non-fire and rescue service personnel.

43. Services were expected to design their Integrated Risk Management Plans (IRMPs) to ensure that, so far as practical, there is greater shared use of resources, in terms of staff, equipment and support.

Integrated Risk Management Planning (IRMP)

44. As a consequence of the introduction of the Fire (Scotland) Act 2005, a new risk based methodology to the management of fire and rescue service intervention was introduced. In April 2005 national recommended standards of fire cover, were replaced by Integrated Risk Management Planning (IRMP). Following this change fire and rescue services were expected to manage the identified risks in their IRMPs. The purpose in moving to a risk based approach to service delivery was to allow fire and rescue services to plan their response based on the local risks which existed.

45. The Act and the subordinate legislation created a statutory function for the fire and rescue services in a number of non-fire related areas. Prior to the Act there was no statutory requirement for fire services to provide "special services" such as attending non-fire-related incidents, but individual fire authorities did exercise discretion in this area.

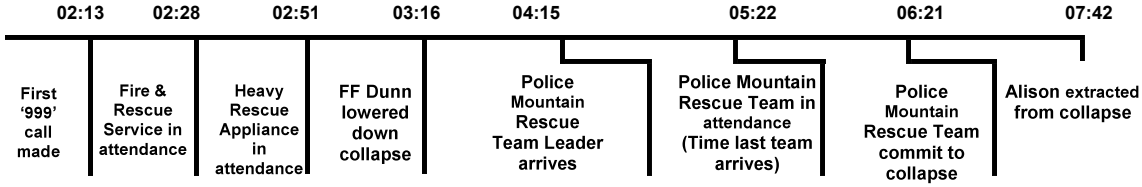
46. This potential for cross border working, and indeed multi agency working, means that common emergency management policies, practices and procedures are essential. To ensure a consistent operational approach the Framework states that the services should adopt the principles and procedures detailed in the Fire Service Manual Vol. 2: *Fire Service Operations - Incident Command*. Strathclyde's incident command policy has been developed to ensure the adoption of the contents of this manual.

Operational Guidance

47. Manuals providing operational guidance, including training, for the fire and rescue services have been issued by central government since the 1940s, when they were called *Manuals of Firemanship*. These manuals were initially intended to be an 'authoritative survey of the science of firefighting.' As the role of the fire service has developed beyond just firefighting, so have the topics covered by the manuals. One Manual in particular, *Fire and Rescue Service Manual Volume 2: Fire Service Operations Safe Work at Height* is particularly relevant to this Inquiry and contains good guidance on planning and preparing for line rescue incidents.

Events on the Night

Events timeline



Call Receipt and Response Arrangements

48. On Saturday, 26th July 2008 at 02.13 am[1], Strathclyde Fire and Rescue Control Room received a call from Jayne Hume who stated that her mother was stuck down what she described as a "massive, massive, massive hole" and gave the location as in a field behind a new housing estate located at Barrwood Gate, Galston.

49. Strathclyde Fire Control categorised the call as a "special service". This categorisation triggered the mobilisation of resources from Newmilns, Kilmarnock and Easterhouse fire stations to a "female trapped 25 ft down hole", a number of on-call officers were also informed of the incident. The fire engines from Kilmarnock and Newmilns arrived at 02.28 am under the command of Watch Commander Chris Rooney and the Heavy Rescue Vehicle from Easterhouse arrived at 02.51 am. At the time of the incident the Heavy Rescue Vehicle was the only one of its type in Strathclyde Fire and Rescue and carried equipment and specially trained firefighters for conducting specialist or unusual rescues. In this instance the Heavy Rescue Vehicle brought enhanced Safe Working at Height equipment such as additional lines (ropes), stretchers including a basket stretcher and firefighters trained in using them to conduct rescues by raising or lowering casualties.

50. It is of note that the initial information communicated from the first attending fire engines back to Strathclyde Fire and Rescue control room stated that the incident was "a female trapped down an embankment". This would have been considered a less challenging incident by on-call commanders when informed of the circumstances and within the capabilities of the crews attending.

51. This message altered the understanding of the incident by on-call commanders and contributed to their decisions as to whether or not they should mobilise to provide additional supervision. Strathclyde Fire and Rescue policy at that time meant that mobilisation was left to the discretion of the individual officers who were contacted.

[1] Where possible all times have been extracted from Strathclyde Fire and Rescue's log for the Galston Incident (Incident No 14465081). All other times have been taken or estimated from the information in transcripts from the Fatal Accident Inquiry. These times have been rounded to the nearest minute.

At the Scene

52. The weather conditions that morning were dry and misty although rainfall had been high in the few weeks prior to the incident. Following the arrival of the fire engines at 02.28 am Scottish Ambulance Service (SAS) resources which included a paramedic attended at approximately 02.30 am. Strathclyde Police arrived between 02.30 am and 02.45 am. An early assessment of the scene made by Watch Commander Rooney identified there was no direct access to the scene of operations for a fire engine and the locus of the scene was concealed due to overgrown vegetation and poor lighting.

Initial Actions

53. Watch Commander Rooney was met by family members who informed him that Mrs Hume had fallen down a substantial hole. An early appreciation of the fact that this was a disused mine was not obvious. However, as the incident progressed a developing awareness of the possibility of this being a disused mineshaft was discussed between the crews of Kilmarnock, Newmilns and Easterhouse. Although this understanding was being developed there was limited communication between senior commanders and firefighters at the early stages of this incident. The first reference to a shaft is in an informative message sent by the then officer in charge, Group Commander Paul Stewart, to Strathclyde Fire and Rescue Control at approximately 04.31 am.

54. Watch Commander Rooney's risk assessment of the scene had identified a large hole which he initially estimated to be 10 metres in diameter. The shaft was later confirmed to be broadly rectangular in shape and measuring 8 x 6 metres at its entrance. He directed his crews to establish a cordon around the scene to minimise the number of people within the risk area and requested the attendance of Strathclyde Police. He and others could hear Alison calling out, but they could not see her.

55. His early priorities were to improve scene safety through establishing an inner cordon (a restricted working area around the shaft), improve lighting around the locus and finally to consider options that would allow an assessment of Alison's condition.

Tactical Plan

56. In discussion with his crews, Watch Commander Rooney decided that a firefighter should enter the shaft in order that Alison's condition could be assessed. In an apparent acceptance of the unusual risks associated with this course of action, he asked for a volunteer. At 03.16 am Firefighter Alexander Dunn, having volunteered, was rigged in safe working at height kit in preparation to be lowered into the hole.

57. The Easterhouse Heavy Rescue Vehicle crew, given their greater familiarity in the use and adaptation of the Safe Working at Height kit, assisted in the planning and supervision of the lowering operation. Firefighter Dunn descended into the hole to conduct an assessment of Mrs Hume's condition. There is no record of a rescue plan being developed for Firefighter Dunn should he required to be removed. His descent into the hole was controlled by firefighters on the surface.

58. The decision to commit a firefighter to the shaft is significant. It demonstrates that in Watch Commander Rooney's assessment of the balance of risks and benefits, such an action is justified. Firefighter Dunn remained committed for the care and attention of Alison until she was removed.

59. Firefighter Dunn descended approximately 14-15 metres and located Alison who had come to rest on a cap that had been newly formed as a result of the collapsed infill. Unknown to anyone in attendance at the time, below this newly formed cap the disused mine shaft continued a further 115 metres to reach a total depth of some 130 metres. The conditions within the shaft were wet and muddy.

60. Firefighter Dunn moved Alison out of the water she was lying in and covered her with blankets. His assessment of her condition was that she had suffered trauma injuries as a result of her fall and was very cold and wet. This is a significant point in the incident where information regarding Alison's condition is captured. This information should have prompted an early consideration of hypothermia and had an important impact on subsequent decisions. Firefighter Dunn then provided Alison with oxygen and continued to relay her medical condition to those located at the surface.

61. Following a discussion with Firefighter Dunn, Watch Commander Rooney discussed with the paramedic the possibility of him being lowered down the shaft. He agreed to enter the shaft and around the time he was donning a body harness, a change of fire commander took place. This occurred around 03.25 am when Group Commander Fred Howe took over control of the incident from Watch Commander Rooney. The two officers discussed the option of sending the paramedic down the hole and intended to continue with that strategy.

62. Watch Commander Rooney and the Easterhouse crew considered options to raise Alison to the surface. The Easterhouse crew formulated a plan and advised Watch Commander Rooney that they could achieve the rescue by adapting a procedure they had been trained in and had practiced to raise Alison using a basket stretcher.

63. The Easterhouse crew conducted a risk assessment which included a visual survey of the condition of the shaft which indicated there were no visible cracks showing at its head and the head also appeared to be a formed structure which was secure. There was good lighting provided and good anchor points for rescue lines available using an existing telegraph pole and a piece of farm machinery located close by. The plan was discussed and agreed with Watch Commander Rooney and Group Commander Howe did not seek to change this plan. They got the equipment ready and firefighters donned harnesses and prepared to enter the shaft.

64. During this period, between 03.15 am and 03.30 am Sergeant Whittington of Strathclyde Police was in attendance and discussed with Watch Commander Rooney options to rescue Alison. They decided that he should contact the Strathclyde Police Force Overview to request the attendance of Police Mountain Rescue.

65. Group Commander Paul Stewart arrived at the scene as a media liaison officer at approximately 03.36 am. Whilst preparing to undertake his role he became aware of the decision to rig paramedic Martin Galloway in Strathclyde Fire and Rescue Safe Working at Height equipment.

66. He instructed a member of the Service with a radio to contact Group Commander Howe and Watch Commander Rooney to stop the preparations to lower the paramedic and the parallel preparations by the Easterhouse crew until he arrived at the scene of operations to discuss this strategy with them. On his arrival at the inner cordon, Group Commander Stewart spoke to the paramedic and made a decision that neither he nor the Easterhouse crew should enter the collapsed shaft.

67. At 03.45 am Sergeant Whittington received a call from Sergeant Maitland of Strathclyde Police Mountain Rescue informing him that he would assist at the rescue and would muster a team. Group Commander Stewart believed that the estimated time of arrival for the Police Mountain Rescue was 30-40 minutes. This assumption by Group Commander Stewart influenced his decision making. There was nothing in Strathclyde Fire and Rescue policy which aided his understanding of potential timescales for mustering and deploying the Police Mountain Rescue team. However, crews attending reported to me that discussions between police and fire personnel indicated that it would take much longer to muster the team.

68. Around this time Group Commander Stewart made the decision to take over as Fire and Rescue incident commander and Strathclyde Fire Control were informed of his decision at 04.03 am. Although Group Commander Stewart was not sent to the scene as Incident Commander once he arrived under Strathclyde's Incident Command System he was the highest ranking Commander in attendance, and as such he inherently held overall responsibility for operations. Following his arrival and assessment of the scene, Group Commander Stewart formed the opinion that there was insufficient control at the incident. This opinion was based on a number of factors, including the intention to commit the paramedic to the risk area, and the perceived lack of a sufficient cordon around the incident.

69. Pending the arrival of the Police Mountain Rescue team, Group Commander Stewart recalls putting in place contingency arrangements for conducting a rapid rescue should circumstances deteriorate, for example, if the shaft began to collapse. This plan involved bringing equipment from the Heavy Rescue vehicle to the scene so it could be used quickly if needed. This equipment included a basket stretcher, immobilisation kit and additional safe working at heights kit. The crew concerned cannot recall being advised of this course of action. As there was no practice of maintaining contemporaneous notes of command decisions this cannot be confirmed.

70. The Easterhouse crew were of the view that they had the necessary skills and equipment to successfully complete a rescue. There is no evidence that Group Commander Stewart discussed any potential plan with the crew or sought to understand their capabilities.

Tactical Plan Reviewed

71. Group Commander Stewart, Sergeant Whittington and Sergeant Maitland conducted a review of the tactical plan with regard to the extrication of Mrs Hume and made a joint decision that Police Mountain Rescue was properly equipped to perform the rescue of Mrs Hume. Despite this review, there was little evidence of shared priorities and objectives between the emergency services with inter-agency work being relatively informal. Prior to reaching this decision Police Force Overview had made a request for assistance to Aeronautical Rescue Control Centre. They were informed this rescue was outwith their capabilities.

72. The revised planning assumptions and the decision for fire and rescue not to recover Mrs Hume was based on Group Commander Stewart's understanding of Strathclyde Fire and Rescue policy on line rescue.

73. In line with Strathclyde's senior commander mobilising arrangements, Group Commander Thomson was updated of the incident details and that Group Commander Stewart was now the senior fire Commander in charge of the incident. It was only after receipt of Group Commander Stewart's detailed message that Group Commander Thomson decided to attend as the nominated on-call commander.

Rescue

74. At 04.57 am Group Commander Thomson assumed control of the incident following a handover from Group Commander Stewart. He was content to continue with Group Commander Stewart's plan that Strathclyde Police Mountain Rescue would perform the rescue of Mrs Hume.

75. Strathclyde Fire and Rescue Fire Control had informed Area Commander Craig Shaw of the incident and he made a decision to attend, arriving at 05.13 am. He met with Group Commander Thomson shortly before the Police Mountain Rescue team arrived and was content with the proposed course of action.

76. At 06.21 am Strathclyde Police Mountain Rescue had completed preparations and Police Constable Andrew Parker entered the hole with a stretcher and descended to a working position alongside Mrs Hume and Firefighter Dunn. Working together Firefighter Dunn and Police Constable Parker secured Mrs Hume into the stretcher.

77. Police Constable Parker and Mrs Hume were raised to the surface together by the Police Mountain Rescue team assisted by a large number of emergency

workers pulling on the ropes. At the same time Firefighter Dunn was raised by two firefighters operating the safe working at height equipment.

78. As the stretcher carrying Mrs Hume was approximately 1.5 metres from the surface a difficulty was encountered due to an overhang at the head of the hole. This prevented the stretcher being hauled to the surface. This was overcome with difficulty following some improvisation by members of the Mountain Rescue team and firefighters. Mrs Hume was then handed over for immediate care to paramedics and was transported by air ambulance to Crosshouse Hospital, Kilmarnock.

79. At the time of the incident Strathclyde Fire and Rescue mobilising policy allowed commanders to make professional judgements, in the majority of cases, on whether to proceed to incidents they had been informed of. Both on call commanders, Group Commander Thomson and Area Commander Shaw had been informed of the incident as a female trapped down an embankment at 02.38 am and 02.55 am respectively. Based on this inaccurate information they independently took the decision not to proceed to the incident. Although they mobilised following subsequent messages from Control to update them with information, this was not until later. Group Commander Thomson arrived at the incident at some point after being made aware of Group Commander Stewart's informative message at 04.31 am and taking command at 04.57 am, Area Commander Shaw arrived at 05.13 am.

80. Shortly after the recovery of Mrs Hume a 'hot' debrief was conducted on the incident ground in the presence of Area Commander Shaw and Strathclyde Fire and Rescue personnel. This was a prelude to a number of formal structured debriefs conducted by the individual 'blue light' services at a later date. It is of note that the inquiry team has not been able to establish that a multi-agency debrief which included all those who attended on the night took place. This would have been an opportunity to develop a better understanding of what is acknowledged as a challenging incident and would have enabled shared learning and fostered greater working relationships.

External Influences

81. The tragic incident at Galston resulting in the death of Alison Hume took place on 26th July 2008. As a precursor to the timeline of the incident itself, this section points to issues or incidents that might be considered to have influenced decision making and the outcome of the incident. The list is not intended to be exhaustive but sets some context for the events on the evening.

82. Dear Firemaster letters were the predecessor of Dear Chief Officer (Scotland) Letters and were issued by the Scottish Office or Her Majesty's Fire Service Inspectorate for Scotland. *Dear Firemaster letter 8/1994* was issued in May 1994 and covered a number of issues, item D of the letter was '*Firefighting and rescue operations in mines*'. It includes the statement "*There are circumstances, as outlined below, where the fire service is strongly advised* ***not*** *to become involved in mines incidents"*. Though the circular advised not to become involved, it did not completely rule it out. The circular continued '...*in certain types of mine, it may be feasible for*

the fire service to undertake a firefighting and rescue role; subject to effective arrangements and procedures...' these were then outlined in the circular as were hazards, and advice that *'normal' fire service equipment would not be suitable*.

83. In March 2004 Strathclyde Fire and Rescue was served with an Improvement Notice[2] by the Health and Safety Executive which included as one of its reasons for the issue of the notice, the Service's failure to ensure as far as reasonably practicable that persons not in their employment, in this case specified employees of the Scottish Ambulance Service (SAS) were not exposed to risks to their health and safety. This raised the awareness of committing non-FRS resources to the risk area.

84. In March 2005 an incident occurred within Lothian and Borders Fire and Rescue Service area in which a young child became unconscious after entering a 13 feet hole, two firefighters who entered the hole also lost consciousness and all three were subsequently rescued by further FRS personnel wearing breathing apparatus.

85. In July 2008, an experienced cave explorer lost his life after losing consciousness whilst entering a disused mine shaft in Edinburgh. These latter two incidents highlighted the potential dangers of operating within confined spaces.

Strathclyde Fire and Rescue Policy

Safe Working at Height and Line Rescue

86. Fire and Rescue Service response and the behaviour of crews and Commanders on the night revolved around line rescue policy and practice and the introduction of Safe Working at Height equipment. This sub-section provides some background to that change within Strathclyde Fire and Rescue.

87. In March 2008 Strathclyde Fire and Rescue published two memoranda relating to the introduction of Safe Working at Height equipment and the consequent withdrawal of traditional rescue lines. The publication represented a significant change in policy and capability for the Service and was a key influence in relation to subsequent events. The memoranda are effectively, amongst other things, policy statements on the use and limitations of lines to perform rescues. Their publication effectively removed the ability of Strathclyde Fire and Rescue staff to adapt existing equipment and skills to perform specialist rescues in a way which was very much routine within the fire and rescue service in general. Or at the very least that was the interpretation made by operational staff.

88. This change in policy was one of the fundamental influencing factors on events at Galston.

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[2] An improvement notice is a form of enforcement action that can be taken by the Health and Safety Executive. A notice can be issued where the Executive have identified a breach of health and safety legislation which involves some risk to people. The notice will identify what the nature of the breach is and direction on what needs to be done to comply with the legislation and timescales for this work.

The Work at Height Regulations 2005 came into force on 6 April 2006. The legislation was at the core of the change to the working practices of Strathclyde Fire and Rescue in relation to the conduct of rescues, including arrangements for the rescue of its own employees.

89. On 14 March 2008, following discussions with staff representative bodies the Memorandum "*Operational use of Safe Working at Height pack"* was introduced by Strathclyde Fire and Rescue. The Safe Working at Height equipment at that time was not to be used to effect rescues, but only to create a work restraint, work positioning and fall arrest systems of work for operational personnel. In order to provide clarity over the restriction on the use of equipment to effect rescues, this early guidance was then modified on 27 March 2008 by publishing a further memo. This stated '*Safe Working at Height equipment can be used for the rescue of fire and rescue service personnel using work positioning systems of work.*' The memo further stated that '*SWAH equipment cannot be used to effect the rescue of non Fire and Rescue Service personnel using work positioning systems of work'*.

90. This change had a significant impact, as it removed a level of rescue capability for members of the public which had previously existed.

91. The memo of 27 March directed Strathclyde Fire and Rescue incident commanders to request, when required to rescue a member of the public, assistance from Strathclyde Police Mountain Rescue, Trossachs Mountain Rescue and, where appropriate, Maritime and Coastguard Agency (MCA).

92. The terms of Section 4(2) of the Fire (Additional Function) (Scotland) Order 2005 specifically allow for that, where it is reasonable for them to "*conclude that another person with search and rescue functions or specialist search and rescue capabilities can make satisfactory provision…"* Strathclyde Fire and Rescue took a policy decision to call on the Maritime and Coastguard Agency (MCA), Strathclyde Police Mountain Rescue and Trossachs Mountain Rescue as resources – meaning that it was open to their commanders to call on assistance from these bodies as they felt appropriate.

<u>Policy Development</u>

93. In 2008 the creation and development of operational policy within Strathclyde Fire and Rescue was considered by the operations directorate with limited engagement and contribution from other directorates. This process has now been reviewed and I have been informed that the current development of operational policy and procedures now has four distinct strands;

- Policy and procedures
- Equipment and appliances
- Procurement
- Area Liaison

94. Each strand is managed by a subject matter expert. The process is designed to be more inclusive in that it considers the impact and requirements of policies in relation to other directorates more effectively. It is the opinion of Strathclyde Fire and Rescue that this is a significant improvement in the development and quality of operational policy production.

95. However, the policy which restricted improvised line rescue that was in place during the Galston incident remained very much fundamental to current procedures relating to the deployment of Safe Working at Height kit until 19 March 2012.

96. Strathclyde Fire and Rescue have been developing a technical rope rescue capability since July 2010 and this asset was declared available for deployment at 10:00am on 19 March 2012. This will significantly change current arrangements.

97. As part of policy development the service will engage in consultation with the staff representative bodies. Part of this process is to determine whether "*an employee may be paid an allowance or allowances to reward additional skills and responsibilities that are applied and maintained outside the requirements of the role but within the job function*"[3].

Additional Responsibility Payments

98. Additional Responsibility Allowance is a discretionary payment which can be made within the recognised Conditions of Service for uniformed UK fire and rescue service staff. There is a significant variation across the Scottish services in levels of payment and the functions which attract payment which are dependant on local negotiation and agreement.

99. It is widely believed that negotiation on Additional Responsibility Allowance between senior managers and representative bodies had caused this change of policy within Strathclyde Fire and Rescue. Whilst it is clear that discussions on allowances were happening at around the same time as changes to line rescue policy, it is impossible to make a direct link between the two issues.

100. It is difficult without that direct link to make substantial comment in relation to this other than to say in general terms that it would not normally be the case that local negotiations on the application of national conditions would cause a major change in fire and rescue service policy.

[3] National Joint Council for Local Authority Fire and Rescue Services Scheme of Conditions of Service Sixth Edition 2004

Defining Incident Types

101. Sheriff Leslie considered the legal framework defined by the Fire (Scotland) Act 2005 and the Fire (Additional Function) (Scotland) Order 2005 within which fire and rescue services operate. In particular, he saw a relationship between the term "collapsed structure" in the Additional Function Order and the nature of the Galston Mine incident.

102. Providing a trained response to deal with incidents such as collapsed buildings is relatively new for fire and rescue services. Some had trained teams on an informal basis prior to 2005, but the 2005 Order introduced for the first time a fire and rescue service duty to respond to a collapsed building, tunnel or other structure. There is no instance across the UK that I am aware of where a fire and rescue service has formally taken on a mines rescue function under the terms of the Order (or its English equivalent) or as a discretionary function. More generally, I am aware of past experiences where fire and rescue services have carried out such rescues, or have participated in them, but in each case, that seems to have been on an *ad hoc* basis.

103. Strathclyde Fire and Rescue policy at the time specifically considered and excluded the type of rescue which was necessary to extract Mrs Hume from the mineshaft (that is to say, an improvised line rescue). That is an entirely legitimate thing for the Service to have done. In training for and managing risk, the Service is driven to setting out what they can and cannot reasonably respond to. However, there are three caveats to that observation. Firstly, given the broad and ultimately un-definable range of incidents which the Service might be called on to respond to, the best operational policies are ones which set out what can and cannot reasonably be done but which allow for intelligent and informed decision making on the incident ground. Secondly, the variation in provision of functions across the Scottish fire and rescue services cannot be explained by variations in local risk. Particularly when Strathclyde Fire and Rescue have responsibility for about half of Scotland's geography and population. Thirdly, there is a question of definition. At what point does a large opening in the ground become a mine shaft or vice versa? What is important is not the absolute definition but whether, in a particular case, the fire and rescue service could reasonably adapt their equipment and training to perform a particular rescue.

104. If the Fire and Rescue Service is to take it that any incident type which is not explicitly excluded from its range of functions is therefore included then that will give rise to very serious consequences for the Service. A workable approach for the fire and rescue service is where it can, within its risk planning process (1) define the range of rescue and other functions it intends to provide, (2) define a second range which it absolutely rules out, and (3) recognises that between those two absolutes, there will be circumstances which are unusual and difficult to define and where there will be a need for incident commanders to decide on whether a given situation can be addressed through reasonable adaptation and improvisation of skills, knowledge and equipment.

105. Sheriff Leslie heard during the Fatal Accident Inquiry that since 2004 the Coal Authority had received 87 notifications of the collapse of mine shafts, of which 14 occurred in Scotland and 2 in Ayrshire. There are 23,000 recorded mine entries in Scotland, 4,000 of which are in Ayrshire. The exact location of a number of these are unknown to the Coal Authority, who are undertaking a proactive risk based programme of locating and, where necessary, treatment. The geographic spread of historic mining in Scotland is such that the location of disused mines will be restricted to certain parts of Scotland. It is worth noting that although the Strathclyde Strategic Co-ordinating Group's Community Risk Register does consider the hazard associated with landslide, it does not mention the hazard associated with disused mine workings.

106. Fire and rescue service mobilisation to a collapse of a mine shaft is a rare event. Although the likelihood is very low, the consequences of a collapse could be, as it was in this case, of such an extent that I feel this type of incident should be included on the community risk register. The guidance to responders on compiling risk registers allows them the scope to do so.

Fire and Rescue Service Incident Command

Operational Command Decision Making

107. UK fire and rescue services have a very well defined operational command framework and have a great deal of experience in applying that in real-life incidents.

108. As we have worked through the transcripts of evidence and have interviewed the people involved at the incident, the polarised nature of people's views has been apparent. On one hand is a group of emergency responders who believe that, whilst the rescue was a failure, it was dealt with properly with a balance being struck between the need to perform a rescue against the hazards and risks associated with the incident. On the other hand is a group of responders who believe that it is obvious that a rapid rescue could have been carried out and Alison saved. The former group's view is driven, I believe, by an understandable need to justify actions on the night whilst the latter group's view is mostly driven by an equally understandable anger and distress at the failed rescue.

109. Neither interpretation properly recognises the difficulty of command decisions taken on the night. Those decisions required a balance of judgement in very unusual and dangerous circumstances. This section of the Inquiry report considers that decision making process.

110. I have said earlier that the two memoranda published by Strathclyde Fire and Rescue in March 2008 were key influencing factors and *de facto* policy statements. Fire and Rescue Service policies exist for a reason. They have been thought through and have been approved by senior managers and in some cases by fire authorities. Strathclyde Fire and Rescue incident commanders had a duty to take into account the Service's operational guidance and, in other circumstances, would have been held to account had they not done so. It is entirely possible to imagine a scenario where one or more of the rescuers was trapped or injured and incident

commanders being held to account for their failure to implement the same policy they have been criticised for adhering to.

111. Balancing the benefit to be gained at any particular incident against the risks to responders and the general public can, by its nature, only be a subjective judgement. And, in matters of fine judgement, different individuals may well come to different conclusions. Variations in judgement cannot be engineered out of real life situations. The expectation is that operational commanders on the incident ground make this kind of judgement in a way which is both intelligent and informed. That is to say, they should have the best possible understanding of the benefits to be gained from any particular rescue operation or strategy and the risks associated with the actions of the responding personnel before determining a plan of action.

112. At the Galston mine, a command decision was made to suspend operations and await the arrival of the Police team. Once that decision had been made, it would have been very tempting for fire and rescue service commanders to stay with that plan, despite the increasing delays, particularly because that would have seemed less risky and compliant with Service policy. There is a generally recognised phenomenon relating to the psychology of decision making in difficult circumstances where, for the people involved, it becomes increasingly difficult to move away from a plan even when the conditions have changed, the level of risk has increased and an alternative course of action might be more appropriate.

113. In this particular case, it is easy to imagine that a better consideration of the time it would take for the mountain rescue team to attend and deploy coupled with a greater urgency around injury and the risk of hypothermia might have led to a review of the plan, and resulted in the Fire and Rescue Service completing the rescue. Suggestions about the potential involvement of Scottish Cave Rescue and Mines Rescue might also have been picked up on.

114. There is also a view amongst responding crews, and the Heavy Rescue crew in particular, that fire commanders did not properly consider the Service's own potential to perform a rescue. The Heavy Rescue crew believe that they had been appropriately trained to carry out this type of rescue and that their equipment was at least as good as the Police Mountain Rescue team's – if not better.

115. At the Galston Mine incident, it was realistic to consider the likelihood of a further collapse trapping or killing both Alison and her rescuers. Fire and Rescue operational commanders stressed to me the very high level of concern they had of further collapse and this concern should not be treated lightly. The potential for a catastrophic event at this incident was real, and it is simply wrong to say in hindsight that given that a further collapse did not occur the risk did not exist. Commanders also had concerns about the air quality within the shaft. At a date which is unclear but which post-dates the Galston Mine incident, the Coal Authority drew attention to "*two recent tragic instances […] in relation to the historic legacy of coal mining*". The second of those was the Galston incident. In the first, which occurred in Edinburgh,

> *A man, (who was an experienced caver) was being lowered down an open coal mine shaft, when he collapsed through insufficient oxygen in the*

atmosphere in the shaft. He was apparently at a depth of around 10m below surface where the oxygen content had fallen to 5%. He was rescued by the emergency services, but died several days later in hospital.

116. So, those considerations by fire commanders were both legitimate and significant. However, and this is a key point, the decision to suspend fire and rescue operations and await the attendance of the Strathclyde Police Mountain Rescue team had no effect on those risks. The responders who ultimately carried out the rescue faced exactly the same risk of collapse and poor air quality as those who might have carried out an earlier intervention. Steps which might have been taken to share and reassess the risks – for example, calling on expertise from Mines Rescue or Scottish Cave Rescue – were not taken.

Multi-Agency Working

117. The Galston Mine incident has been described as a multi-agency event. However, multi-agency management of the incident appears to have been informal and weak. There is no record log of discussion and decision making and little evidence that multi-agency decisions were being taken. If anything, multi-agency working became weaker as time went on. For example, the paramedic in attendance felt excluded from discussions for much of the time he was in attendance. Neither was a shared risk assessment discussed or recorded. There is an established framework for multi-agency working which was not applied in this case.

118. There are many simple things which could have improved joint working – for example, there is no reason why the paramedic could not have been handed a Fire and Rescue radio and afforded one-to-one contact with Firefighter Dunn. The fact that the paramedic had never been trained in using lines and harnesses should not have absolutely precluded him from being harnessed up and lowered into the shaft. This is something which the Heavy Rescue crew believe could reasonably have been done.

119. Reflecting on this – and on lessons learned for the planned National Fire and Rescue Service - there is a significant opportunity for the new Service to take ownership of specialist rescue across Scotland, to operate a centre or centres of excellence and to promote and engage with other emergency services, local authority emergency planners and voluntary organisations.

Creating a Plan and Maintaining an Audit Trail

120. Operational decisions are often complex and difficult and are therefore easy to challenge after the fact. It is important, however, that an incident commander should, on debrief, be able to describe in a straightforward way the thought process which he or she applied in developing a particular strategy.

121. An incident commander, when creating a plan or strategy, should be considering:

- The need to take some action and the speed with which that should be taken - thinking about the potential benefit to be gained;

- The hazards and risks which can be reasonably predicted and understood; and

- The skills of the responding personnel and the equipment available to them; and whether that fits a pre-planned scenario or could be reasonably adapted to the circumstances.

122. At an operational incident, that process should of course be recorded at the time and a clear audit trail of decision making kept.

Transferring Command

123. During the course of this incident, operational command responsibility for fire and rescue service resources was carried by four different individuals. Three of those were Group Commanders. On one occasion, the transfer was made when a Group Commander B took over command from a Group Commander A. My interpretation of the FRS rolemaps is that the A and B distinction was intended to be used as a pay point and specific reference is made within the fire and rescue service Conditions of Service to the A and B levels being used for job size. There is no distinction within the role which could be applied to operational command. It could be argued, therefore, that Strathclyde Fire and Rescue had introduced an unnecessary complication when its policies created that distinction. It is also the case that there is a variation in approach to this matter across the Scottish fire and rescue services.

124. On a second occasion, a Group Commander B took over command from another individual at the same level for no other reason than he was the nominated command officer on the duty rota.

125. Whilst the Sheriff has said that he did not believe the transfer of command had a practical effect on the outcome of the incident, it is at best difficult to see how the series of transfers provided added value to operational command and at worst might have caused unnecessary complication in the operational decision making process. It is an obvious point to make that transfer of command at operational incidents should be kept to a minimum to reduce the complexity and risk associated with transfer.

Variations in Approach

126. Sheriff Leslie noted what he perceived to be conflicting views between responders, some of whom were keen to effect a rescue and others who the Sheriff considered to be focussed on compliance with Service policy. Variation should not be unexpected at operational incidents. Whilst all personnel are trained to make

balanced judgements about the nature and approach to a given set of circumstances, it is a specific role and duty for the officer in charge to step back from the immediacy of an incident and to take a considered view. He or she will be trained to do just that. The officer in charge is aware that they will be held accountable for the decisions they will make on their own part and on behalf of the responding team as a whole.

127. All of the crews and officers who attended from the emergency services were experienced and trained. Fire and rescue service personnel, in particular, are trained to apply a sophisticated command and control model which is used throughout the UK. Length of service does not imply suitable experience - fire and rescue service operational command does not work in that way. What is important in a modern approach to command decision making is that risks and benefits are discussed and understood before the person or persons carrying ultimate responsibility defines a plan.

Learning Lessons

128. It is important for an organisation to reflect on previous performance and as such it is the practice for Fire and Rescue Services to conduct debriefs of incidents. These debriefs can be informal or formal as determined by the nature of the incident. *"Debriefing plays an important part in promoting improvements in personal and organisational performance and should take place whenever there is an opportunity to improve standards of service delivery"*[4]

129. The question of what lessons, if any, have been learned, is fundamental to the purpose of this report and the matters raised here will therefore be picked up on as the report reaches its conclusions.

130. Strathclyde Fire and Rescue conducted both an informal and a formal debrief of the Galston incident. Crews who contributed to those debriefs believe that they were insufficiently robust to challenge or affect existing policies and procedures.

131. However, having considered a wider review of changes to Strathclyde Fire and Rescue policies and procedures, I have identified a number of developments that go some way towards addressing the issues raised in Sheriff Leslie's report. Examples of this are changes to command officer mobilisation, the use of aerial appliances to effect the raising and lowering of Titan stretchers and joint training undertaken with police mountain rescue teams.

132. The Service has committed significant resources to develop a group of specialist line rescue personnel. The training package took around two years to deliver and the resource was declared available in March 2012.

133. Further work has been undertaken with respect to developing incident commanders and their understanding of risk. This is being delivered through a risk perception training package. Additional engagement with incident commanders is

[4] Incident Command - 3rd Edition (2008) - Fire and Rescue Manual - Volume 2: Fire Service Operations

being facilitated through regular officer liaison meetings which are considered a valuable forum for developing future operational policy and procedures.

134. As part of my inquiry I have written to all Scottish Fire and Rescue Services in order that I might form a broader picture of technical line rescue across Scotland.

135. My findings have identified the provision of technical line rescue capability ranges from being well developed to not developed at all. Those services that have developed this capability have intimated a willingness to support other Fire and Rescue Services. An example of this would be the mutual aid agreement between Dumfries and Galloway Fire and Rescue Service and Lothian and Borders FRS formalised with a specific memorandum of understanding.

136. I have also noted that a number of sophisticated arrangements have been developed between Strategic Coordinating Group's and Fire and Rescue Service's in response to Paddy Tomkins report "*Independent Review of Open Water and Flood Rescue in Scotland in Relation to Flooding*". This has resulted in the identification of other potential rescue services who could support fire and rescue operations during open water and flood rescues. There is the potential for this approach to be further developed in respect of other specialist rescue provision such as rescue from height. It is my opinion that this would provide the opportunity to improve knowledge, communication and coordination between those rescue services.

137. Multi-agency working was not identified as a weakness during debrief and there is no evidence of Strathclyde Fire and Rescue addressing this issue as a direct consequence of the incident.

The Benefit of Hindsight

138. In every case where operational command decisions are reviewed, whether that is by Fire Service management, an Inquiry such as this, prosecuting authorities or through the Fatal Accident Inquiry process, it is of course proper to challenge the basis of the plan and the thinking which took place at the time. However, there is an obvious responsibility on those challenging operational decisions to recognise that they are reviewing the decision in an unpressured environment and with the benefit of hindsight. Hindsight scrutiny of emergency events, along with the law, sets the external context of emergency service work and influences how the emergency services operate. There is a common view amongst many fire and rescue service managers that the Service is increasingly becoming 'risk averse' in response to the challenges and actions taken against the Service in recent times.

139. The need to take care in how decisions are challenged in hindsight (and specifically in respect of decisions made with limited information) is an element of the HSE high level statement "Striking the balance between operational and health and safety duties in the Fire and Rescue Service". The statement says: *'Inspectors will not revisit decisions made during operations with the benefit of information that could not reasonably have been known at the time*'. To that, it might be reasonable to add '*care should be taken when reviewing judgements made in high pressure*

circumstances where those reviews take place in the relaxed environment of post-event scrutiny'.

Conclusions

140. The attempt to rescue Alison Hume from a collapsed mine shaft in Galston failed. The defining moment at the incident was a decision to suspend fire and rescue service operations and defer to Strathclyde Police Mountain Rescue and the consequential time it took to carry out the eventual rescue. However, the factors which influenced that decision and the consequent impact on timescales were complex. The main aim of this report is to understand those factors – particularly in relation to Strathclyde Fire and Rescue policy – and by doing so, reflect on the issues raised by Sheriff Leslie.

141. The key themes which emerged from this Inquiry and which influenced the final outcome of the incident are listed below and some are expanded on in the paragraphs following the list.

- This was a complex and difficult rescue beyond the experience of the fire and rescue service in general.

- Successful rescue was not guaranteed – but was much more likely if the rescue had been carried out reasonably quickly. And in relation to that, there was an insufficient and inexplicable lack of focus on the need for a speedy recovery from fire and rescue operational commanders. It ought to have been clear to the decision makers that Alison's condition would deteriorate the longer she was down the shaft and that hypothermia would be a significant risk to her.

- The legal basis for a fire and rescue service dealing with this type of incident was unclear and that may have affected both policy development and operational decisions on the night.

- A ceasing of improvised line rescue by Strathclyde Fire and Rescue brought about by the publication of the March 2008 memoranda was a very significant change in policy.

- An associated decision not to call on specialist trained officers from neighbouring fire services contributed to avoidable delays.

- The arrangements made with third party bodies to compensate for the change in policy, and the implications of those arrangements were insufficiently worked through, and commanders on the ground were therefore working on inaccurate assumptions.

- The decision to suspend fire and rescue operations and await the attendance of the Strathclyde Police Mountain Rescue team had no effect on the risks which had been identified by operational commanders.

- Specialist Fire and Rescue crews firmly believed that they could safely effect a rescue but were prevented from doing so by operational commanders.

- Command and control arrangements were overly complex with unnecessary transfers of command. Officer mobilisation policy was weak and dependant on the judgement of individuals rather than being determined by pre-planning.

- Multi-agency working was weak. There was little evidence of a professional discussion between Police, Fire and Paramedic nor a shared risk assessment or decision making process. Practical issues relating to the use of equipment and joint working are things which could be easily addressed through closer cooperation between the emergency services and drawing on examples of good practice.

- There was a weak relationship between Scottish blue light services and potential voluntary and private sector responders (e.g. Scottish Cave Rescue, Mines Rescue) and a frustration on the part of the Cave Rescue team over lack of recognition and awareness of their capability. The value of calling on expertise from these bodies was not recognised.

142. Arising from all of that, there are significant opportunities to improve specialist rescue within Scotland and to decrease the potential for a similar event occurring in future.

143. Fire and rescue commanders may have assumed that the change in policy in respect of line rescue implied that the mountain rescue team were able to provide a superior set of skills and equipment for this type of incident. As it turned out, that assumption was wrong. Whilst the Police team are able to provide a high level of skills and experience for their core role, the skills and equipment they deployed at Galston were little different to those which were available from Strathclyde Fire and Rescue's own Heavy Rescue team. It is clear there was no understanding of the capabilities, training, equipment, mobilising, joint training, exercising or risk assessment.

144. When planning for alternative provision, Strathclyde Fire and Rescue did not fully consider calling on the services of the Scottish Cave Rescue team. In contrast to the Police Mountain Rescue team, Scottish Cave Rescue might have been able to deploy skills, equipment and experience which would have been very pertinent to this type of incident, albeit that their response time would not have been guaranteed. The Scottish Cave Rescue Association have expressed long standing frustration that Scottish blue light services are not aware of the skills they could offer – despite repeated attempts to raise the profile of their organisation.

145. Strathclyde Fire and Rescue took a policy decision not to call on support from specialist teams from neighbouring fire and rescue services. A number of services provided specialist line rescue trained teams, one such example - Lothian and Borders Fire and Rescue Service maintains two teams of trained line rescue specialists who operate from Newcraighall and Tollcross fire stations. At least one of the teams is available for instant call out on a 24/7 basis. On the assumption that a

specialist team had been requested on receipt of the initial call and taking 75 minutes as a reasonable estimate of travel time under blue light conditions, one of those two teams could have been in attendance and preparing to effect a rescue in around half of the time the Police team took. This decision not to call on assistance is in direct contradiction to the expectations of the Fire and Rescue Framework.

146. The nature of the Strathclyde Police Mountain Rescue team – or indeed any mountain rescue team – is different to that of a core blue light service. The most obvious difference is the time which a mountain rescue team needs to mobilise and gather people and resources. This is not a criticism of the Police team – and nothing in this report should be taken as that. The Mountain Rescue team are a highly skilled group of people. It is simply a statement that their operational arrangements are different to that of an on-duty fire and rescue crew. The practical implications of this difference were not thought through and the policy to mobilise these specialist teams was not properly embedded in Strathclyde Fire and Rescue mobilising procedures. All of this may have contributed to an unrealistic expectation on the part of fire and rescue commanders about how quickly the specialist team could attend and deploy – however, there is evidence that the long time scales were known and discussed at an early stage of the Galston incident.

147. A key objective of this Inquiry is to consider what changes have occurred within Strathclyde Fire and Rescue over the period between the incident and now. Crucially, the Service's policy on improvised line rescue remained fundamentally unchanged until 19 March 2012.

148. The rationale of a structured debrief is to consider how effectively the management systems and policies performed, examine the use of equipment, processes, inter-agency protocols and individual behaviour. It is a core part of a learning organisation. There will be many examples of organisational learning within Strathclyde Fire and Rescue, however, in relation to the Galston Mine incident, the service cannot be described as a learning organisation.

Recommendations to Scottish Ministers and the Scottish Fire and Rescue Service

Reform of the Scottish Fire and Rescue Service

149. The Minister will note that a number of the issues raised by Sheriff Leslie and reflected on in this report would be addressed as a consequence of the reform of the Scottish Fire and Rescue Service. These include the potential for a consistent approach to specialist rescue across Scotland and the removal of administration boundaries between the existing Services. The remainder of this section is written with that understanding and in the context of the Police and Fire Reform (Scotland) Bill which is currently passing through the Scottish Parliament.

Ongoing Development of Rescue Functions

150. The arrangements for providing an integrated 'blue light' emergency response are well documented. However, my review of this incident suggests that practical implementation is not properly embedded and requires further development. As part of the reform of the Service, there is an opportunity for the new Scottish Fire and Rescue Service to champion specialist rescue and joint working with the Scottish Ambulance Service and Scottish Police - with good links to voluntary sector rescue organisations, Strategic Coordinating Groups and local authority emergency planners. Part of that response might include a centre or centres of excellence for specialist rescue, including co-location and a close working and training relationship between staff, coordination of supervisory and strategic management and shared policy development.

The Fire and Rescue Framework published by Scottish Ministers should set out an expectation that the Scottish Fire and Rescue Service acts as a champion and coordinator of specialist rescue.

Learning Organisation

151. The fundamental purpose of this report is to consider lessons learned and the possibility of minimising a similar occurrence in future. Weaknesses which have been identified with organisational learning within Strathclyde Fire and Rescue practice are very pertinent to the new Fire and Rescue Service. It would be reasonable to expect the Scottish Fire and Rescue Service to adopt policies and practices which support organisational learning.

The Fire and Rescue Framework published by Scottish Ministers should set an expectation that the Scottish Fire and Rescue behaves as a learning organisation.

Legal definition of duty

152. Alongside the legal duties and expectations set out by Scottish Ministers, it must be open to the Service to define, within its community risk planning process, what it can and cannot reasonably be expected to do. The Service should use this

definition to organise its response and, in particular, to ensure that commanders are well prepared to deal with unusual and difficult to define circumstances.

The Fire and Rescue Framework published by Scottish Ministers should direct the Scottish Fire and Rescue Service to define the parameters of its operational functions, and should explicitly recognise the need to adapt and improvise in unusual and difficult to define circumstances. All of this should fall within the scope of the community risk planning which fire and rescue services undertake.

Operational Command

153. Alongside all of the skills and knowledge which are held by fire and rescue service operational commanders, commanders need to be able to take difficult decisions in unusual and hard to define circumstances.

The Scottish Fire and Rescue Service should carry out an audit of operational command training, examining in particular, risk critical decision making in unusual and hard to define circumstances.

154. Arrangements for operational command should be as simple and as straightforward as possible and consistent across Scotland.

As part of the reform agenda, the Service should review operational command roles and implement the simplest possible structure for operational command.

Who We Spoke To

155. The starting point for this Inquiry was the Determination made by Sheriff Leslie. I was able to benefit from a set of transcripts of the evidence heard by the Sheriff.

156. My intention was to speak to as many of those who participated in the Sheriff's Fatal Accident Inquiry as possible. To that group, I added the Strathclyde Fire and Rescue personnel who attended on the night (and who I met collectively at Newmilns and Easterhouse fire stations), Strathclyde Fire and Rescue Control Room leads and two serving Directors from Strathclyde Fire and Rescue.

157. I also declared a general intention to take submissions from any person or body who wished to contribute. I received a number of submissions, including some from private individuals.

158. By its nature, an Inquiry held under Section 44 of the Fire (Scotland) Act 2005 cannot compel any person or body to participate. I am therefore grateful to those people and organisations who were prepared to speak to the Inquiry team or who offered a submission. Where an individual did not participate, I was able to compensate by making reference to the Fatal Accident Inquiry transcripts.

159. I am grateful to Professor Rhona Flin, University of Aberdeen, for the insights into operational command decision making she gave me and to Elizabeth Morton and her colleagues from East Ayrshire Council for discussions around multi-agency emergency planning and response.

160. I am also grateful to Strathclyde Fire and Rescue for their openness in relation to the Inquiry.

The Inquiry Team

161. This report is deliberately written in the first person and I take sole responsibility for the content, comments and conclusions within it. Nevertheless, I am grateful for the very substantial support I received from the Inquiry team who were:

Area Manager Alasdair Perry, Lothian and Borders Fire and Rescue Service,

Area Manager Kenneth Fraser, Tayside Fire and Rescue Service,

Area Manager Dale Ashford, Northern Ireland Fire and Rescue Service,

Chief Superintendent Brian Plastow, Her Majesty's Inspectorate of Constabulary, Scotland,

Assistant Chief Officer Chris Boulton, Senior Fire and Rescue Advisor, CLG, England,

Graeme Fraser, Fire and Rescue Services Division, Scottish Government,

Brian Paton, Scottish Fire and Rescue Advisory Unit,

Dorothy Edwardson, Scottish Fire and Rescue Advisory Unit,

Erlend Barclay, communications advisor,

Kevin Gibson, legal advisor, Scottish Government Legal Services Diversion,

Andrew Campbell, legal advisor, Scottish Government Legal Services Division

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