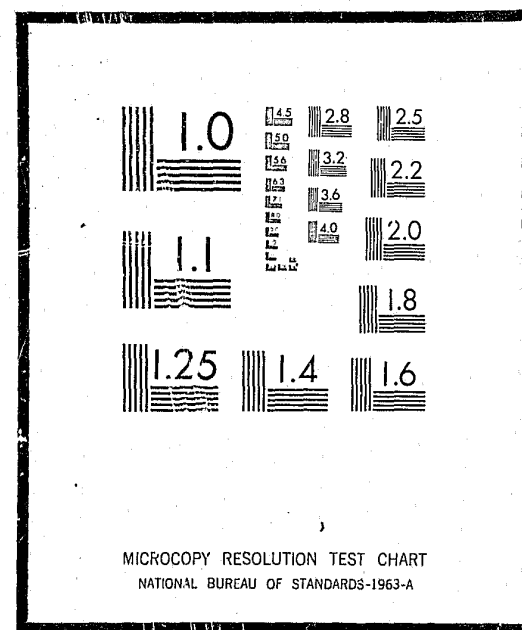


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MAJOR DISASTERS

A study report by Chief Inspector Brian Fisher
City of London Police

No. 6 Region - British Section

ON

- 1) The Swiss Planning and Organisation Structure for dealing with Catastrophe, and
- 2) Current Police Planning and Equipment for use in Major Disasters in England and Wales.

17529

MAJOR DISASTERS

PART I

A STUDY OF THE SWISS PLANNING AND ORGANISATION STRUCTURE FOR DEALING WITH CATASTROPHE

Section I	-	General
Section II	-	The Police Participation
Section III	-	Police Equipment
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Section I - General

INTRODUCTION

1. During the majority of my service I took no more interest than the average police officer in the scope of police operations at major disasters and serious occurrences.
2. My outlook was radically changed as a result of watching an episode of a well-known B. B. C. police series in September, 1968. The episode dealt with the resultant police action following a collision between two vehicles, one of which was carrying a highly explosive substance.
3. In the following months I developed a "hobby" of gathering together all information relative to dangerous loads and serious incidents and soon came to realise that, as such incidents were few and far between, there was an even more important need that equipment and planning for such occurrences should be such that a system worked efficiently in spite of the fact that it was only used on isolated occasions.
4. Statistice prove that the number of both natural and man-made technical disasters are increasing, not decreasing, and that the technical and scientific developments of our age lead to new dangers that can cause disasters which the permanent public services have insufficient means to combat alone when the need arises.
5. Every day we are laid open to dangers of an aeroplane falling on a town, fuel fires, floods, railway accidents, chemical accidents or a nuclear accident. When the disaster starts all time for planning has gone. When we provide for events that may occur the day after tomorrow, they may very well surprise us tomorrow, and planning must always be guided by the principle that the near future may become the very near future at any time.
6. With these thoughts in mind I embarked on this I. P. A. Scholarship study to Switzerland and found that the organisation was an overall combined effort by all the emergency services of that country.

THE SWISS WAY OF LIFE

7. So that readers can fully understand the complete organisation it is necessary to know a little of the way of life of the Swiss people.

8. Switzerland is a confederation of 22 Cantons. Each Canton is a republic, a sovereign state having its own government composed of an executive and a legislative branch. They have almost full control of cantonal affairs; education, public health, police, fire service, cantonal taxes etc.

9. The Federal Government, on the other hand, have powers as regards the militia army, civil defence and criminal and traffic law, which all Cantonal Governments are compelled to enforce.

10. The commune or village still remains an important element in Swiss civic life.

THE SWISS ARMY

11. The militia army is unique of its kind. Every able-bodied male citizen is a soldier. At the age of 19 he is called for medical examination, if fit he begins his military service the following year. The initial period of training is for 120 days. He then returns home, taking with him his full uniform, equipment and arms, so that he is prepared in case of civil or military emergency.

12. In subsequent years he serves as a full time soldier for ten periods each of three weeks duration until he reaches the age of 36. Recruits aiming at higher rank serve an extra initial period of 148 days for an N.C.O. and a further 148 days for officer ranks. If successful, these N.C.O.'s and officers continue in regular military service until the ages of 50 and 55 respectively.

13. Men exempted from military service have to pay an annual military tax, or serve in the civil defence organisation or volunteer fire brigades.

14. All army personnel are available on immediate call to assist the police or civil authorities in times of disaster and can be turned out at the request of the Burgomaster of the City or the Commandant of Police.

15. It is interesting to note that, no matter for what purpose the army are used in a disaster, no monetary charge is made to the local authority for their services or equipment. This is based on the theory that the population pays taxes for its army and is therefore entitled to call upon it to assist in times of disaster without further charge.

THE FIRE SERVICE

16. The fire service is organised at Cantonal level under the leadership of a Cantonal Fire Inspector. Service in the fire organisation is compulsory up to the age of 45 years for all males, but they can avoid this by paying a municipal fire tax.

17. Fire brigades are based on every Commune having its own company of volunteer firemen, who can be called out at a moment's notice to man fire appliances stationed in each Commune. In the main cities of each Canton there is a full time professional fire company assisted by four companies of volunteer firemen.

18. The full-time professionals provide the immediate attendance at any fire within the Canton. As soon as they are mobilised, a volunteer company is summoned to replace them at the fire station and thus give further fire cover. Other volunteer companies, either City or Commune, are then mobilised to take over from the professionals immediately a fire is brought under control. This allows the professionals to return to their base station for further fire calls.

19. Every professional fireman has at least one other skilled craft at his fingertips which ensures that the fire station is self-supporting in every respect. All equipment, repairs, building maintenance, laundry, cooking and the host of other administration duties are carried out by the firemen themselves.

20. The fire service is an extremely efficient organisation, supplied with the latest equipment and so organised that expenditure is kept to a minimum and boredom of the individuals is non-existent.

21. The Service is equipped for all types of civil disaster and, apart from fire-fighting, is expected to carry out the tasks of rescue at a disaster and to provide emergency supplies of domestic water.

THE CIVIL DEFENCE ORGANISATION

22. The Swiss Civil Defence Organisation is based on the federal structure of the country. As well as the 22 Cantons, all the municipalities are involved as main instruments in the organisation. With the Federal Office at the top of the pyramid, the network of Cantonal Civil Defence agencies and the executive bodies of the municipalities covers the entire national territory.

23. Within this network, provision is made for close co-operation with the military authorities and with the national economy's war provisioning. Civil Defence is part of the overall national defence programme.

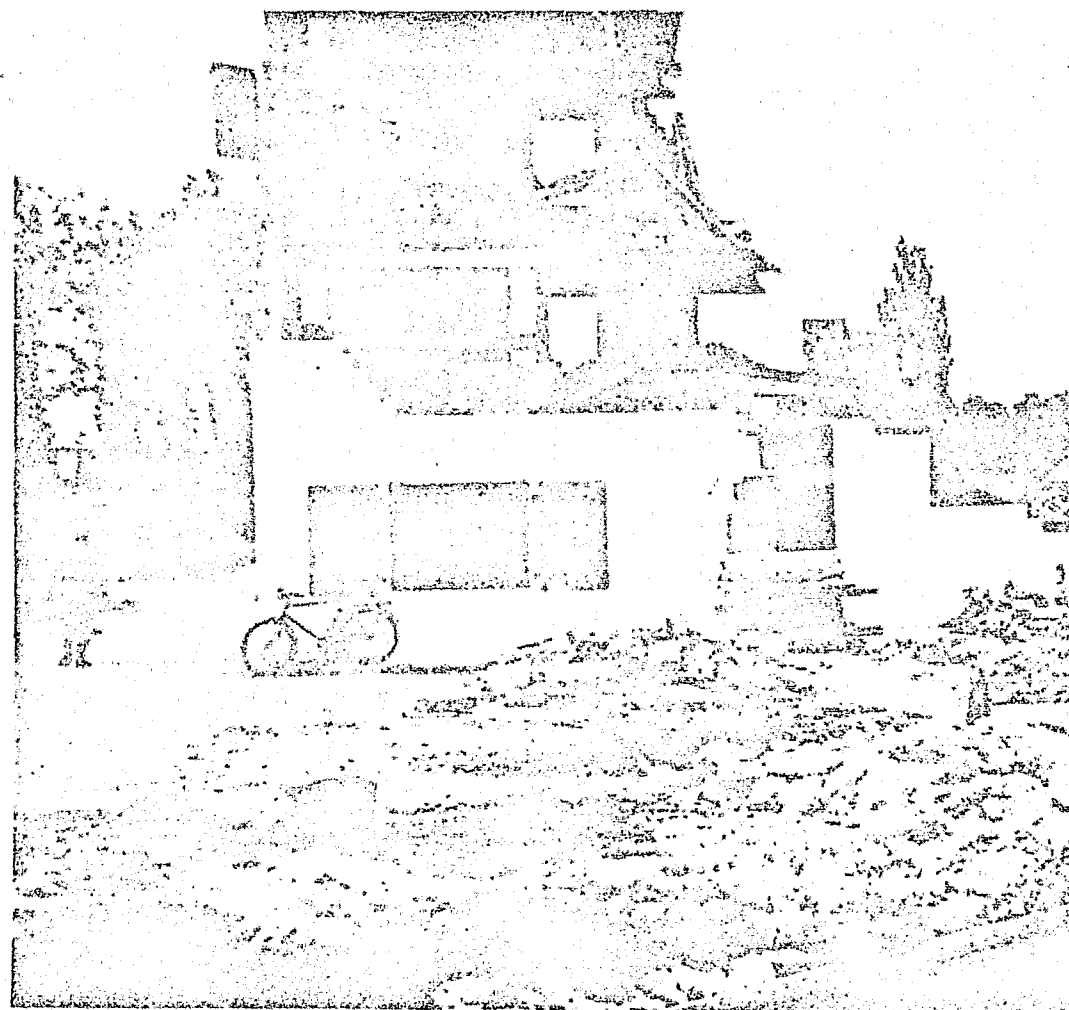
24. Civil Defence aims at allowing the civilian population to survive a disaster with a minimum loss and securing the means to keep on living during the time immediately following a disaster.

25. In Switzerland no differentiation is made between disasters in times of peace and those due to war. The principle always remains the same; care for the injured, extract buried and trapped persons, shelter the homeless, fight fires and to provide for the increased need for transport under such circumstances.

26. The system was evolved in 1964 when the Federal Government decreed that all male persons between the ages of 21 and 60 would serve in Civil Defence. Those males in army service are exempt, but on retiring from or completing their army commitment they become liable for Civil Defence service until they reach the age of 60.

27. During my visit to the Geneva Training Centre there was a course in progress of some 60 or so men. The majority of these were aged 50 or over and had just completed Officer or N.C.O. service with the regular army. Being disciplined persons these men are potential leaders for the younger element that has not been subject to military discipline. On completion of their training these ex-military men are promoted to "Group Leader" rank, groups consisting of nine men forming a specialist team.

28. Women and girls who have reached the age of 16 years can volunteer for Civil Defence duties for a five year commitment. If they do not apply for discharge at the end of this period they automatically continue for a further five years. This re-enlistment continues until they are 60.



Civil Defence Training Centre.
(See paragraph 35)

29. The training given to all personnel is split into several sections as follows:-

- Control and Communications Duties;
- Alarm systems;
- Fire protection and fire fighting;
- Rescue of persons and property;
- Protection against flooding;
- Evacuation of sections of the population;
- Preservation of establishments;
- Protection of essential property and cultural property;
- Welfare measures for the wounded, the cripples and the sick;
- Care of the homeless and needy;
- Technical aspects of nuclear, biological and chemical warfare.

It will readily be seen that all the above training except the last item, is necessary for dealing with peacetime disasters.

30. In order to educate the public and Civil Defence personnel, the Swiss Federal Government has published an excellent red booklet of some 320 pages entitled "Defense Civile". It has been distributed at a cost in excess of 1 million Swiss Francs to more than 2,000,000 households, including those of foreigners and is printed in three language editions - French, German and Italian.

31. The book far outsteps any other publications of its kind in the world. Whilst primarily aimed at Civil Defence in war the booklet describes, with a wealth of illustrations, how the public can care for itself and assist not only in war, but also in the majority of anticipated peacetime disasters.

32. The Swiss sense of realism in the face of disaster was vividly displayed during my many visits to installations in the Geneva Canton. Deep shelters for persons and vehicles are planned, many are already built and when the programme is completed Geneva will possess 21 of these shelters, which also hold comprehensive stores for immediate use in any emergency.

33. Equipment is being purchased and installed weekly, in order to keep pace with the intensive training programme being carried out at the Cantonal Civil Defence Training Centre at Bernex.

34. In Geneva alone there are 22,000 persons actively engaged in Civil Defence. Of these, 3,000 have received an intensive one week training course at the Bernex Centre.

35. Due to the necessity to keep tightly to training schedules the Swiss cannot afford to have courses disrupted by bad weather, therefore the majority of the Training Centre is under the cover of substantial tiled roofs.

36. The organisation is such that, within minutes of receiving an alarm of a peacetime disaster, volunteers can be ready to proceed to the scene to set up complete control, rescue, fire fighting and welfare organisations, together with all the necessary equipment for such organisation.

37. The Geneva authorities are extremely cost-conscious. Their aim is that equipment, especially vehicles, should be capable of being used for the everyday operations of local government as well as being available for an emergency.

38. It was in the field of transport that the best example of this was seen. Geneva decided that all vehicles in use by the authority should be of one make and type unless they were required for a highly technical task such as gully cleaning, tar spraying or refuse collection.

39. After many tests the vehicle chosen as best suited for the purpose was a 17 seat Ford Transit 'bus. This has been adapted by the removal of all but the five forward seats and the construction of box seats to take four persons over the rear wheel arches, giving a total sitting capacity of nine persons, which is the strength of the Civil Defence working groups.

40. During normal times these vehicles are used for the vast variety of tasks that a local authority performs - load carrying, school buses, highway maintenance, school meals, etc.

41. So that they are immediately available for emergency use each vehicle is fitted with a radio operated alarm bell signal. Should the vehicle be required for an emergency the depot manager simply dials out a triple number code over the radio-telephony system. This immediately rings the alarm bell in the vehicle, whereupon the driver stops at the nearest telephone and contacts his depot to receive his emergency instructions. These would normally be an order to return to the depot to pick up his Civil Defence equipment and personnel.

42. Irrespective of their designed use in the initial stages of disaster, all the vehicles are permanently equipped with a series of aluminium bars and rods, which are strapped to the internal sides of the bodywork. These bars enable the vehicle to be rapidly converted to an ambulance.

43. A practical demonstration of such a conversion was given to me. Within one minute the bars and rods had been slotted and clipped into various fitments and within three minutes five stretchers, collected from the depot, had been installed on the frames and strapped down to them. This provided the disaster team with an ambulance capable of carrying five stretcher cases and five sitting cases.

44. Where it was necessary to load a bulk of equipment, such as a mobile office or feeding unit, the equipment was permanently stored in the depot on a wheeled aluminium stand having a base at exactly the same height as the floor of the vehicle. This stand is rolled to the rear of the vehicle, a flap is lowered on the forward edge so as to bridge the remaining few inches between the stand and the vehicle. Equipment pre-packed in substantial boxes is then rolled on pallettes direct from the storage stand onto the vehicle.

45. The authorities were especially proud of this equipment as it had been designed and built in their own depot workshops by dedicated personnel with a true interest in rapid mobilisation at times of disaster.

46. The usefulness of Civil Defence at a peacetime disaster was most vividly described to me by Brigadier Rene Delasoire, of the Valais Police, during my visit.

47. At 1357 hours on 24th June, 1968, about 2 kilometres east of Sion, a special excursion train moving at 85 k.p.h. had a head-on collision with a goods train moving at 60 k.p.h. in the opposite direction. The alarm was instantly given and the police were informed.

48. The first police patrols to arrive immediately requested the help of the Sion Fire Brigade. Six ambulances as well as medical personnel were also called to the spot.

49. At 1515 hours it was evident that there would be difficulty in freeing some of the wounded and the Civil Defence were summoned. 54 Civil Defence personnel were immediately sent to the spot as well as all their equipment. A further 40 men, who were at that time receiving their initial training were also alerted as a reserve.

50. The Civil Defence detachment were divided into three main groups:-

- (a) 3 men to co-operate with the police in maintaining order;
- (b) 8 men helped to extricate the wounded;
- (c) 34 men carried out technical tasks such as:-
 - (i) clearing the line of 72 metres of twisted rail;
 - (ii) bracing wagons that were leaning over but were prevented from falling by some pylons;
 - (iii) installing electric cable for lighting the disaster site.

51. The men extricating the wounded worked with their own equipment - picks, axes, saws, crow-bars and motor cutters fitted with metal-cutting abrasive discs.

52. "Titan" bracing equipment from Civil Defence stocks was used to effectively brace the wagons. As there were no anchorage points these had to be installed into recent embankment works that had hardly any resistance. Traction cables stretching between wagons and anchorage points were made taut by using "Tirflor" apparatus and the weight on the pylons was effectively reduced. Eventually of course the railway authorities righted the wagons with their own powerful equipment.

53. Lighting was provided by dynamo generators, once again drawn from Civil Defence stocks.

54. A Civil Defence first aid post was set up and this fulfilled the urgent requirements of the full-time medical and nursing personnel.

55. The disaster caused 12 deaths, 29 hospitalised wounded and 100 other wounded persons. My police guide stated that there was no doubt that, but for the timely intervention of Civil Defence the casualty list would have been far greater.

56. The development of Civil Defence in Switzerland was summed up in three lines by Monsieur Duboule, president of the Geneva Cantonal Government, when he addressed a memorandum to members of cantonal governments responsible for Civil Defence.

INDISPENSABLE IN THE EVENT OF WAR
NECESSARY IN DISASTER AND
USEFUL EVERY DAY.

57. Civil Defence has become an integral part of the peacetime emergency services of Switzerland and also a first class example to the whole world of the manner in which an organisation primarily created for the needs of war can be economically used in times of peacetime disaster.

THE POLICE SERVICE

58. Although there is a Federal Investigation Bureau, there is no general Federal control over the police forces of the country. Each of the 22 Cantons and the many cities of the country recruit their own personnel, carry out their own training, adopt their own procedures for implementing the Federal Criminal Code and Traffic Law, and finance their forces from the local budget.

59. In consequence of this there is a variance in the conditions of service and pay throughout the country, but there is great similarity in the hours worked and the rota of duties.

60. As an example, the following conditions apply in the Geneva Cantonal Force.

Officers join the force at the age of 20 or 21 after they have completed their compulsory 17 weeks army training. Having joined the police they are usually exempted from performing the compulsory three weeks military training per year.

Officers retire after 30 years of service on a 75% pension based on their last year of service. Should they have joined the force at an older age they are compulsorily retired at 57 years of age, irrespective of whether they have completed 30 years service. Very few officers take up further full-time employment after retiring and live on their pension and casual seasonal work.

There is no system of transfer between forces and promotion vacancies are not advertised.

61. The duty system is based on a five day rota as follows:-

<u>Day</u>	<u>Duty</u>
1	1230 hrs to 1930 hrs.
2	0730 hrs to 1230 hrs & 1430 hrs to 1930 hrs.
3	0830 hrs to 1230 hrs & 1930 hrs to 0730 hrs.
4	Leave
5	Leave

Officers I spoke to were extremely happy with this arrangement, in spite of the long hours involved in day 3. It is perhaps pertinent to note that there is sleeping time allowed during the 1930 to 1730 tour of duty.

62. All officers are equipped with small arms in the form of a small semi-automatic pistol, but these are very seldom used. Wooden truncheons are illegal, rubber ones are used. When engaged on special security duties mobile patrols also carry a sub-machine gun in their vehicle.

63. At times of public festivals and conferences all forces are undermanned to deal with the numbers of people attracted to the event. This is a very real problem with Geneva, which is the home of so many international organisations and the nerve centre for all types of conference. In order to obviate the need for forces to hold a strength of personnel for such occasional events a system of mutual aid has been arranged whereby up to 10% of a neighbouring force can be loaned to an adjoining Canton, should the Commandant of that Police Force request such aid.

SECTION II - POLICE PARTICIPATION

64. Each Cantonal Authority has issued their individual instructions regarding the duties of the various emergency services in an emergency situation. All forces have, in the main, the same responsibilities.

65. These responsibilities involve taking overall control of all services additional to the normal everyday duties of the Police and can be split up into various headings.

At all Times

66. The force must maintain an up to date organisation chart of the sections and groups involved in emergency duties.

67. The force must undertake regular exercises to develop speed of action, co-ordination of activities, the necessary relationship with other services and their means of communication.

During an Incident

68. The force must simultaneously:-

- (a) alert the ambulance service;
- (b) alert all services of the disaster organisation;
- (c) establish diversions and road closures to isolate the incident;
- (d) establish liaison between the Police and the heads of the various other organisations;
- (e) organise a command post close to the incident with the following services:-
 - (i) traffic;
 - (ii) identification;
 - (iii) information;
 - (iv) communications;
 - (v) supplies;
- (f) organise a service of identification with classification of the injured and an enquiry centre;
- (g) organise the necessary services to establish order and co-operation in providing aid to the injured;
- (h) inform the Chief Justice, the Prefect, the Medical Officer, the hospitals, the Samaritans (first aid service), the Fire Service, religious bodies and undertakers;
- (i) inform as necessary:-
 - (i) The Air Ministry;
 - (ii) The Transport Ministry;
 - (iii) The Railway Board;
 - (iv) The Federal Police Office;
 - (v) Diplomatic representatives.

69. The direction of operations and co-ordination of the means of carrying out these operations has been laid fairly and squarely on the shoulders of the Police Commandant of the Canton. He is required to establish:-

- (a) A command post in the main police barracks;
- (b) An Advance command post in the disaster area.

Foreseeable Disasters

70. The police (and all other services) have a scheme whereby they can be mobilised for foreseeable disasters, such as floods or avalanches, in four stages, as follows:-

- 1st Stage - Sections prepare to become involved after a period of delay established by the Chief of Operations (The Commandant of Police).

- 2nd Stage - The personnel required are ready for action at a determined place. They must be ready to act with the necessary equipment and vehicles within a period of 1½ hours.
- 3rd Stage - All the personnel involved are to assemble at a place indicated by their Section Leader and be ready to go into action within half an hour.
- 4th Stage - To be ready within a few minutes. In this case detachments will move immediately towards the disaster area and be available close by. The Section Leader warns his detachments and establishes assembly points where he will give his orders for action. He himself will be at the disaster area in close touch with the Chief of Operations and awaiting his orders.

71. Throughout every stage the Chief of Operations is being constantly informed on the availability and state of preparation of the various sections. Once the rescue operation commences he is kept similarly informed.

72. Thus it can be seen that the police are well and truly in charge of all life-saving operations at the scene of a disaster. I have attached as an appendix to this paper a translation of the standing orders appertaining to all emergency services in the Canton of Valais.

Emergency Reserve of Police Personnel

73. In order that forces can muster the maximum number of personnel in the event of an emergency developing, telephones are installed by the police (and other authorities) in the private dwellings of all personnel irrespective of their rank.

74. Each telephone has two calling tones:-

- (a) the normal double ring for private calls;
- (b) a continuous ring for emergency alerting.

75. At the force control centre the following equipment is installed by the Federal Telephone Organisation:-

- (a) a panel of lamps sufficient for each officer of the force to be allocated a separate lamp and for his force number or position to be inscribed beneath it;
- (b) a series of alarm buttons which are wired so as to be capable of selecting:-
 - (i) a particular rank of officer;
 - (ii) a particular group of officers;
 - (iii) certain specialists;
 - (iv) certain police areas.
- (c) a microphone to enable the control officer to pass a verbal message over the system;
- (d) a tape recorder with a loop tape to enable a continuous pre-recorded message to be fed into the system;
- (e) a typewriter electronically connected through all circuits to record the exact time an officer picks up his telephone handset in his own home.

76. The system functions in the following manner:-

- (a) on receipt of an emergency message needing additional police on duty the control officer records a brief message on the loop tape recorder. This message indicates the rendezvous point to which officers are to report and the nature of the incident;
- (b) the control officer selects the groups of officers he requires, presses the relevant alarm button(s) and starts the tape recorder;
- (c) should he have decided not to pre-record the message, he verbally broadcasts it at half minute intervals for three minutes;
- (d) at the officer's home the continuous ring attracts his attention and he picks up the telephone and listens to the message;
- (e) when the officer at home picks up his telephone the time and his number are recorded on the electronically connected typewriter at the control centre, and his allocated lamp becomes illuminated;
- (f) the control officer can see at a glance what response the alarm is receiving by the number of lights illuminated on the control panel;
- (g) should the response be insufficient for the incident the control officer selects further groups of officers to alert.

77. The system's reliability is ensured by the fact that force standing orders dictate that ONLY the police officer himself must answer the emergency call. If he is not immediately available, then his wife must ignore the alarm but endeavour to inform her husband that it is ringing. If the officer is at another location then he can telephone the control centre on a certain number and will automatically be connected to the taped or verbal message, although in this case his acknowledgement does not appear on the control panel of lights.

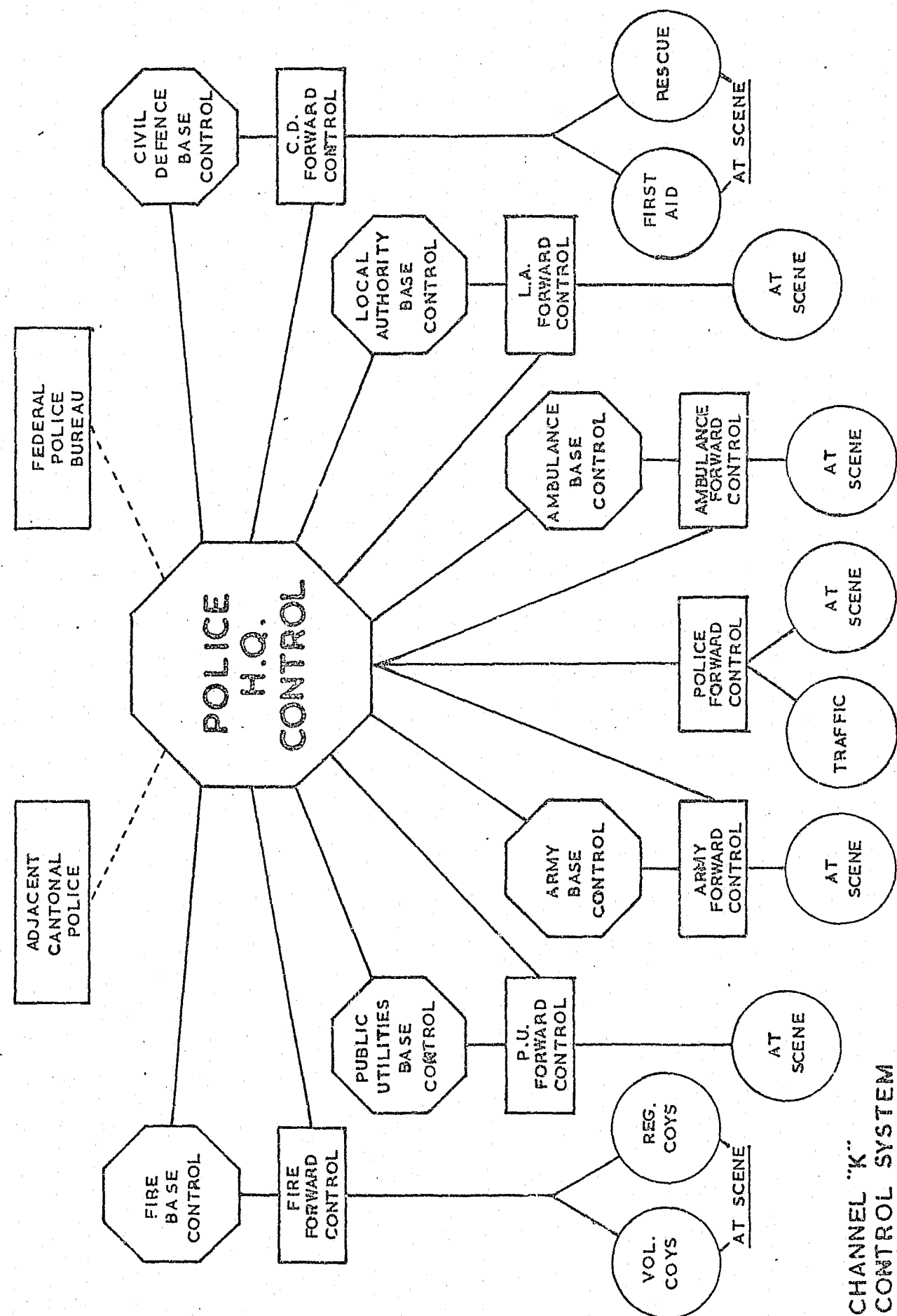
78. Should the officer's telephone be in use for a private call when the alarm is sent out, the alarm signal will automatically cut into the call.

79. The whole system is tested at least once each month at an unpublished hour. Not only does this verify the system is working but, by varying the times and days of the week the control officer can get a good picture of what would be the likely turnout of personnel if a full scale disaster occurs.

80. The system has been in use for many years, not only in the police service, but also in the fire service. In addition to emergency turn-outs it can be utilised for rapidly broadcasting details of bank hold-ups, serious crime, postal service crime and hi-jackings to all police stations in the Canton and all Customs and Frontier posts along the border with neighbouring countries.

Police Telephone Communications

81. In all control rooms that I visited a considerable amount of use is made of fully automatic dialling equipment for telephoning organisations that are immediately needed at times of disaster.



82. Each control position has an auto-dial panel alongside it. This panel consists of a collection of rectangular buttons endorsed with the details of the particular service to which it relates. By pressing the relevant button once only the telephone number of the organisation is automatically dialled out and the operator has no further action to take other than to pass his message.

83. The Zurich Police Force has in the past found difficulty in tracing calls back to the officer that deals with them. To overcome this a tape recorder is now connected to every incoming and outgoing exchange line, additionally it is connected to the equivalent of our post office speaking clock.

84. When a call is received or sent from the control room the tape recorder is automatically started and records the whole conversation on one of its two tape tracks: On the other track the speaking clock is automatically recorded at the same time.

85. Should an officer subsequently wish to check the time a message was received or sent he plays back the tape until he reaches the relevant message and notes the footage figure on the tape register. Having listened to the message he then plays the tape through again from the footage figure mentioned, but this time switches to the other track and listens to the speaking clock which gives him the time of the message.

86. Tapes are stored for 10 days and then erased, unless there has been a serious disaster or similar occurrence, when the tape is preserved indefinitely.

Communications Centre

87. By general British standards the communications centres and control rooms are superior both in layout and operational equipment.

88. Large scale wall maps record electronically the position of all vehicles and the patrol duties they are undertaking. In the event of a disaster lamps can be illuminated on the map to show when an officer has taken up his position on a certain road diversion, etc., thus the controller can see at a glance when he has all relative points covered. Emergency services routes are similarly marked.

89. The Swiss police suffer the same as our own forces when, at times of disaster, press reporters are seeking information. In the Valais Cantonal Control Centre this has been catered for by providing a separate exchange number for the sole use of the press.

90. Connected to this number is a tape recorder on which the control centre staff have recorded the latest information available to the press. Reporters can then immediately get the full picture of the occurrence without the need for a police officer to be taken off other duties for the purpose of disseminating such information.

Radio Communications

91. Whilst each Canton is responsible for its own emergency services, there is, as in most other countries, a national control over the wireless frequencies used.

92. Every emergency service, including volunteer organisations, such as the Samaritans (equivalent of the British Red Cross and St. John organisations), is allocated its own frequencies for everyday radio communications. In addition to these individual frequencies there is one national frequency allocated for Catastrophe use only. Throughout all the services this is known as "Channel K".

93. The provision of this national channel ensures that overall control can be immediately established between all the services that attend a disaster situation. When the channel is brought into operational use the Main Control Centre of the Cantonal Police Force directly involved with the disaster takes over the duties of becoming the Master Control for "Channel K."

94. The police therefore automatically have the overall capability of co-ordinating all the efforts of the emergency services at the scene. The police direct other services as to the manner in which they should become involved in the incident, and provide the up-to-date information on ambulance routes, emergency approach access, tasks, etc.

95. The personnel of the emergency services continue to take directions from their own master controller. This controller works under the overall command of the police controller as to vehicle movements into the disaster area from that service and also passes any requests for further specialist equipment for action by the police controller. Records at Police Control Centres give all information about specialist equipment available through private organisations, military, etc. The police thus become the Central Agency for all control and calls for specialist equipment and thereby prevent duplication of needs by different services.

96. The one exception to this rule is in relation to disasters involving aircraft which are in radio contact with Geneva Airport. Due to the complexity of the French/Swiss frontiers close to the main runway (200 yards) of the airport and the need for overall control involving both French and Swiss emergency services, the Airport Commandant assumes co-ordinating control duties in such incidents. During such emergencies the national frontier posts cease to exist for practical purposes and the services of each country combine their forces, still working under the emergency Channel "K".

97. The radio equipment on all vehicles of all services is equipped with the facility of Channel "K" in order that the first vehicle arriving at the scene from each service can immediately act as that service's control vehicle pending the arrival of the various purpose built control vehicles.

Police Radio Channels

98. Generally speaking everyday police operations are undertaken on two channels only. One is allocated to vehicles whilst the other is allocated to motor cycles.

99. Police control centres and disaster control vehicles are equipped with radio channels as follows:-

- (a) police vehicles;
- (b) police motor cycles;
- (c) the fire service;
- (d) the airport service (Geneva and Zurich only).
- (e) selective channel sets to surrounding Cantonal Forces and adjoining countries;
- (f) national disaster channel "K";
- (g) a State Federal Channel fitted with a scrambling device.

With the exception of the State Federal Channel, all channels can be connected together and talk-through facilities provided.

100. Pocket radio sets have not been adopted in Switzerland due to the unreliability of reception under all conditions. There are however large numbers of larger walkie/talkie sets which can be worn on the chest by police when they are engaged on specific tasks, such as diversion routing in cases of disaster. These sets have a range of 10 miles and are on various frequencies. Control vehicles carry a large number of the sets as permanent equipment and batteries are kept continually on trickle charge so that they will last for the maximum time available when required.

101. Operating procedures varied according to the type of sets used. Some forces use "Pye" radiotelephones and procedures in these cases were identical to those of this country.

102. In other forces radio receivers were of a different type and manufactured in Switzerland. These sets are fitted with a series of buttons similar in operation and appearance to the waveband selector buttons on private car radios. Two lights - amber and green, and a bell/buzzer were also fitted.

103. When an officer wishes to pass a message to his control operator he presses a "call" button, which flashes an alarm light in the control room. The controller answers with a single word "Controller", the unit then passes its message, finishing with its call sign, the controller acknowledges and the channel is then free for further messages. Whilst one mobile unit is making a call the amber lights glow in all other mobile units to indicate to other operators that the channel is engaged.

104. Should the Controller wish to call a unit he depresses a button on the control console which relates to the call sign of the unit required. This action sounds a bell/buzzer on the mobile unit signifying that the controller has a message for that particular unit, or number of units if he presses more than one button.

105. In order that an outstation operator can leave his vehicle or motor cycle and yet remain contactable, each unit is equipped with a three position switch. On leaving his vehicle the operator throws the switch to either a "siren" or "light" position. Should the controller then call that unit either the siren on the vehicle sounds or the flashing beacon comes into operation, thus indicating to the operator that there is a message for him. This system has overcome the necessity of the police officer carrying an additional walkie/talkie radio with him when he leaves his vehicle during the course of his duty.

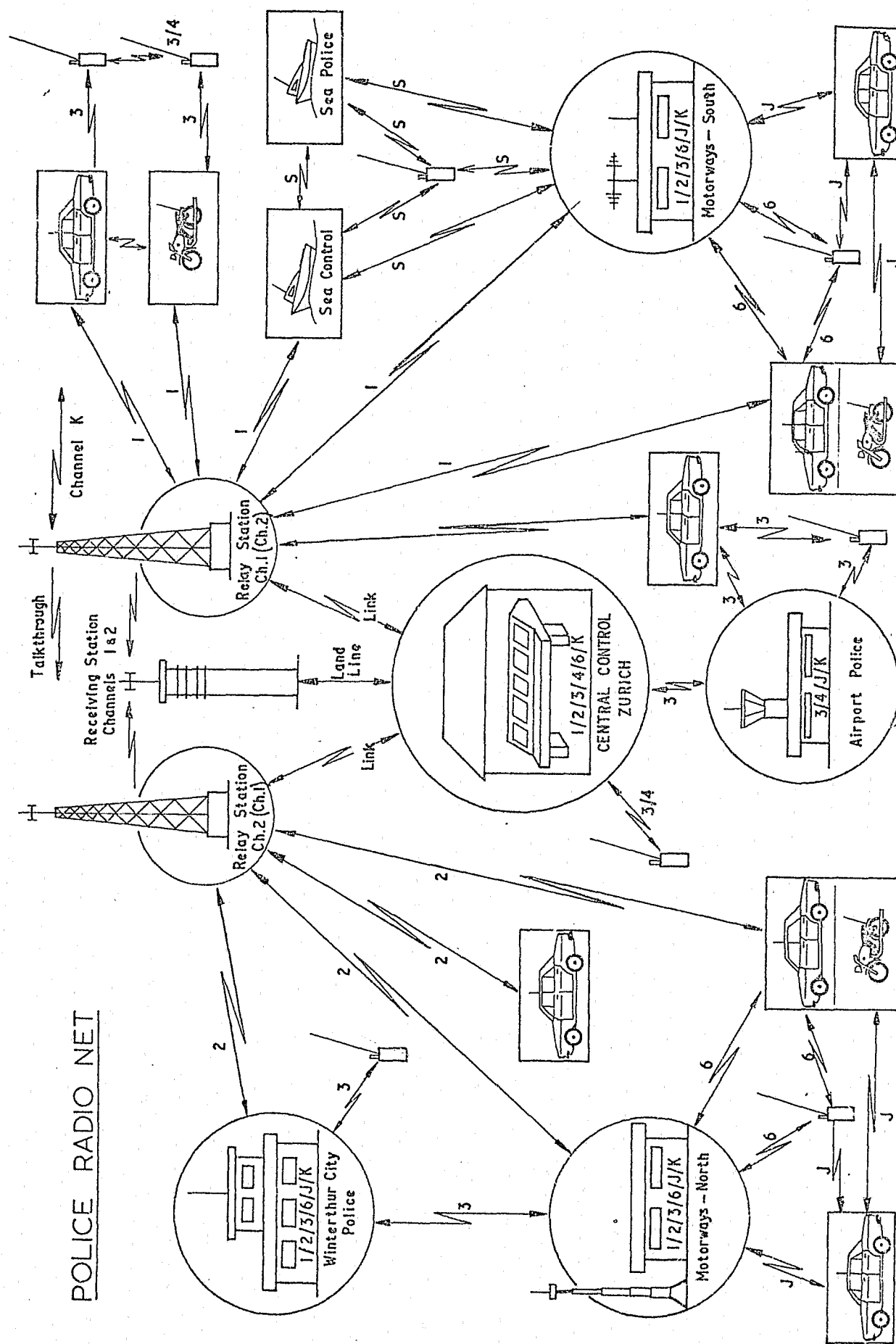
106. Should the necessity arise, all police vehicles and motor cycles have the facility to talk direct to a walkie/talkie outstation operator. The complete net afforded by the radio schemes can best be seen by reference to the following diagrammatic representation of the scheme existing in the Zurich Canton.

Air Disaster Organisation

107. The police service are the central hub of a system devised to provide for a rapid attendance at the scene or in the area of a possible or actual air disaster. This system is operated in conjunction with the two international airports - Geneva and Zurich.

108. The system is based on dividing a wide area around the airport into small segments. The focal point is the Control Tower of the respective airport. From this point lines are drawn so as to split the complete 360 degrees of a circle up into a number of sectors. Each sector is given a coded letter starting at the north position with "Alpha" and reading round in a clockwise direction. Still using the Control Tower as the centre point circles are drawn at 1 kilometre intervals. The intervals between the circles are given numbers from 1 upwards and are known as segments.

109. Copies of the area map with the above information superimposed are displayed in control centres of all the emergency services. All vehicles also carry a small scale copy of the map and a booklet with separate instruction sheets for each segment. These sheets give details of the responsibilities of various vehicle personnel, including traffic diversion points, essential service routes and a pre-arranged general rendezvous point.



110. The aim of the system is to:-

- ensure that complete police observation is given to the area where aircraft is expected to crash. This ensures that there is no delay in obtaining exact information of the crash and that services attend with the minimum of delay.
- ensure that an emergency service route is immediately closed to ALL but emergency traffic attending the disaster and carrying casualties from the disaster to hospital.

111. On receiving information from the airport control that a crash has occurred or is anticipated to occur within a particular segment the police controller carries out the following procedure:-

- refers to his master instruction booklet relating to the relative segment;
- passes an "all stations" radio message giving details of the emergency.

112. On receipt of this message vehicle/motor cycle drivers refer to their instruction booklets and:-

- the police controller calls each unit in turn;
- the unit operator replies giving details of the number of officers he has as a crew and the emergency point he is going to;
- on receipt of this information the police controller illuminates the respective lamp on his wall map, thus readily observing the complete picture regarding road closures and diversions;
- should any of the pre-arranged units not acknowledge the message the controller immediately allocates a reserve unit to cover that particular task;
- all other units not pre-allocated a task are directed to the rendezvous point for subsequent deployment by the senior police officer at the scene.

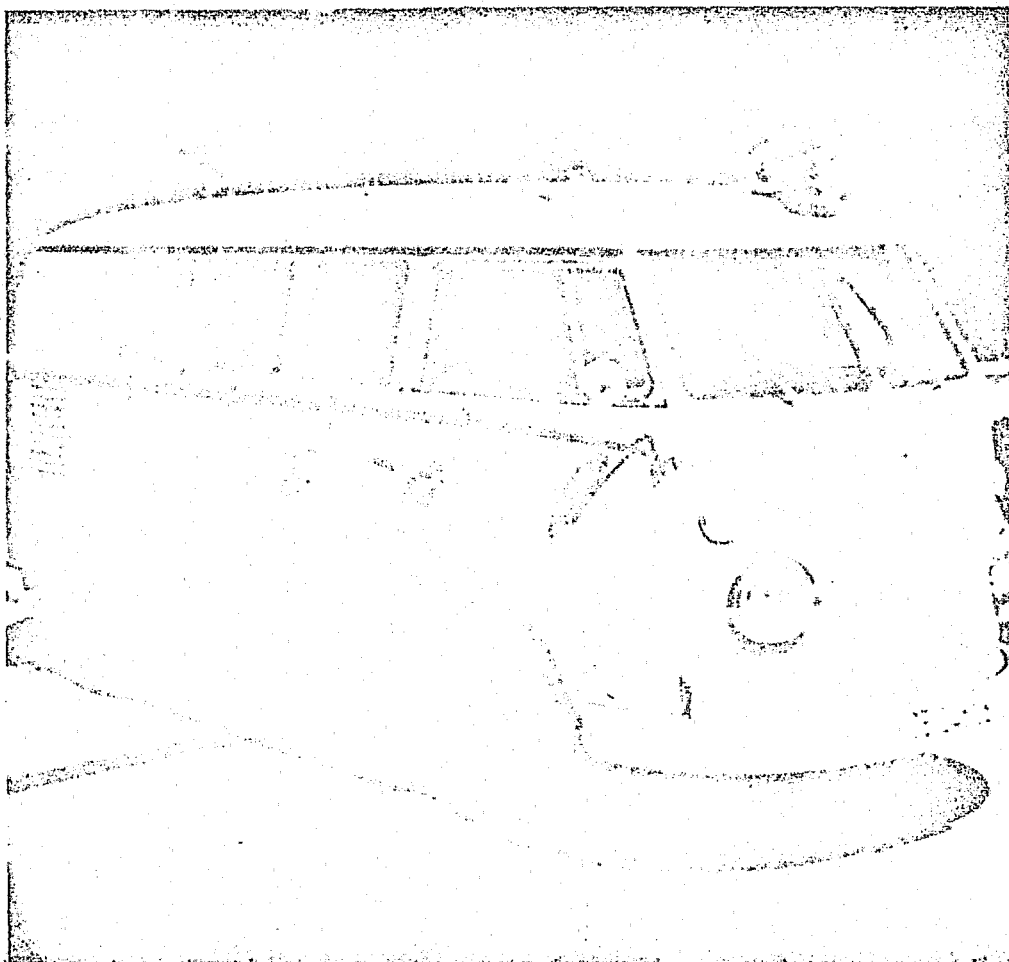
113. Exercises of the complete procedure are held at monthly intervals. The exact time and date being only known to the Controller at the Police Control Centre.

SECTION III - POLICE EQUIPMENT

Command Vehicles

114. As with any incident, the first vehicle from each emergency service arriving at the scene of a disaster immediately takes over control duties at the incident and establishes communications with the police controller through the disaster radio channel "K".

115. The Swiss Police are very conscious that such a vehicle has limited scope of control and have thus equipped themselves with a variety of specially designed and equipped vehicles.



Command Vehicle.
(See paragraph 122)

116. The vehicles I saw during the course of my visit were fully equipped with separate radio operation positions for each of the many radio channels (see paragraph 99) used during disaster operations. Channel "K" - the disaster channel, was always most prominent and easily identifiable by the set being manufactured from red plastic.

117. All vehicles carried a comprehensive collection of all the necessary items used in mobile control offices, such as operations log books, typewriters, reference books, tape recorders, etc. Each vehicle was of sufficient size to enable all essential personnel to operate from the vehicle without being required to work under cramped conditions.

118. Emergency Control Vehicles attending scenes of disaster were immediately backed up by a traffic accident car on which was carried almost one ton of equipment ranging from Mitralux lighting equipment and generators to a selection of both standard type and stereo cameras. Further details of these stereo cameras appear elsewhere in this paper.

119. The Bern Canton control vehicle was additionally backed up by a 3 ton vehicle carrying the most comprehensive sets of emergency signs that I have ever seen. These ranged from the general road closure and diversion signs down to small battery operated beacons which are used to indicate the routes to be taken by emergency services attending the scene at night. Additionally this vehicle was fitted with a 40 foot pneumatic mast on the top of which was an ultra powerful rotating beacon. This beacon ensured that the control area at the disaster was readily identified by all other vehicles on their approach.

120. Nearly all emergency vehicles whilst garaged in their normal standby accommodation are coupled at the rear to a 220 volt power supply which is used to keep the engine at normal operating temperatures at all times. This ensures that maximum performance could be obtained from the vehicle immediately it was taken out from its garage. A 12 volt supply was also plugged into each vehicle in order to keep the various batteries fully charged.

121. Should the vehicle be required for use the driver simply drives the vehicle straight out of the garage. The two electrical supply leads automatically disconnect themselves without the need for delay whilst manual removal is undertaken.

Designation of Command Vehicles

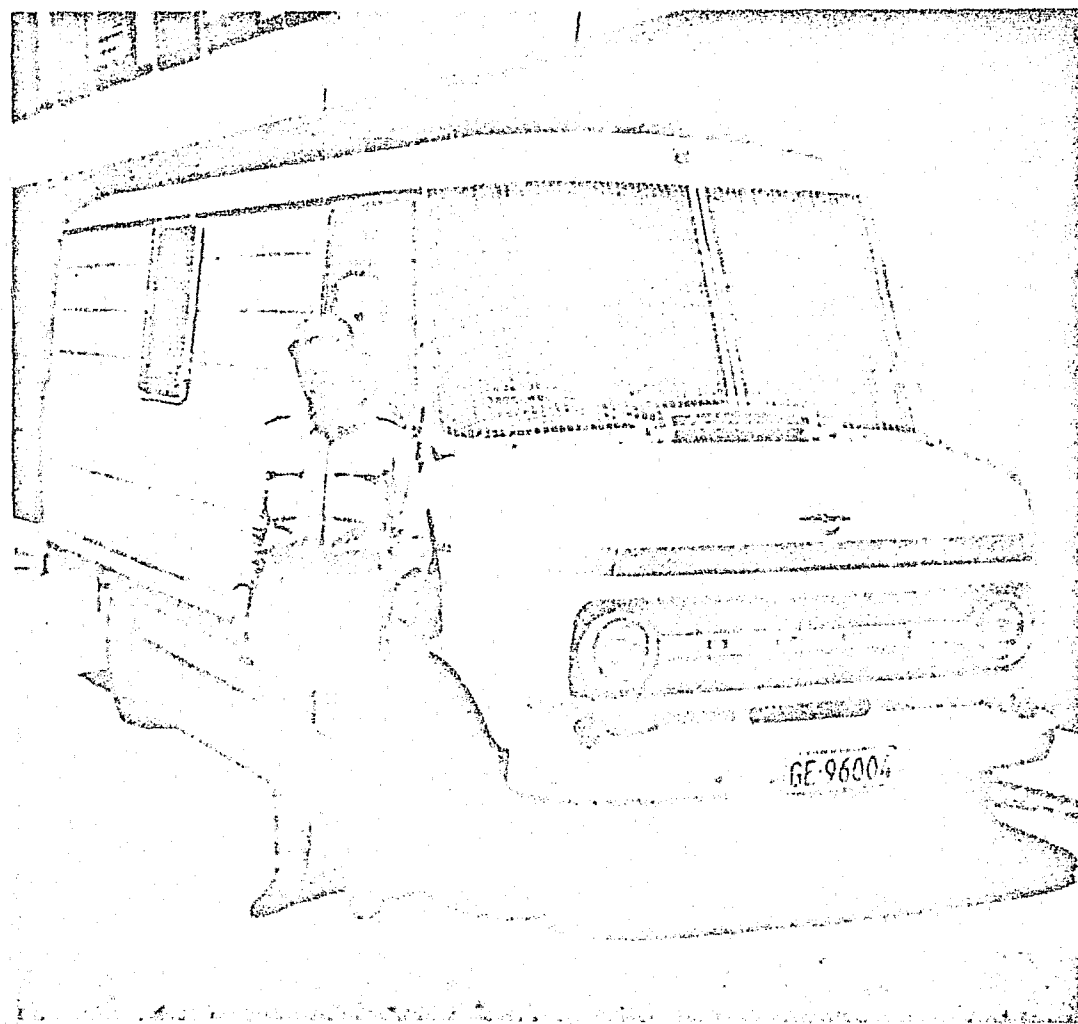
122. Command Vehicles were not conspicuously painted, but were provided with four "Police Control" signs which are placed on each face of the vehicle when it arrives at its designated operating location. At night these signs are illuminated from the rear.

Command Vehicles for Mountainous Regions

123. Following upon the Mattmark Disaster of 1965 (see later) the Valais Canton realised that they must at all times be in a position to take their emergency command vehicle anywhere, irrespective of weather or terrain difficulties.

124. As a result the Canton has just completed plans for the purchase of a long wheel-base four wheel drive vehicle which is fitted out with all the usual control and incident equipment.

125. Additionally this vehicle will have large rings welded to each corner of its chassis to enable it to be lifted to any scene in the mountainous Canton with the aid of a military helicopter.



Personnel Carrier fitted with wire mesh
for riot/demonstration use.
(See paragraphs 126-127)

Personnel Transportation

126. Amongst the many vehicle fleets that I saw there were always a number of personnel carriers kept on reserve. These carriers are fitted out with longitudinal seating to allow them to comfortably carry 23 men and their equipment.

127. The vehicles were dual-purpose in that, should they be required for demonstration or riot control, wire mesh screens can be readily fitted over all window areas and secured in position with wing nuts. The layout of the seating also permitted many prisoners to be laid into the vehicle without the seating obstructing the loading operations.

Photographic Equipment and Facilities

128. All police forces that I visited are equipped with the latest types of photographic equipment, both for black and white and colour work. All processing for both types is carried out in the police photographic studios with the exception of cine film, which is sent to the normal civilian processing laboratories.

129. Colour photography is now replacing black and white in a large number of cases, especially where scenes of crime or disturbance are involved. Whilst it is accepted that coloured photographs are inclined to distort the actual colours to some degree, they have been found to convey much more information, not only to examining Justices, but also to recruits during training.

PHOTOGRAPHIC RECORDING OF MEASUREMENTS

130. Conventional measurement of the scenes of accidents and disasters has not been generally practiced by the Swiss Police for the last 30 years. A system of stereo-photography has been utilised and the measurements obtained from it have been found to be accurate to within 1 or 2 centimetres when an object 10 metres long is 50 metres from the camera.

131. Errors that previously occurred when measurements were made with a conventional tape have been completely eliminated. By use of the photographs, subsequent measurements, which did not appear essential at the time of the incident, have been able to be ascertained, in some cases many years after the occurrence.

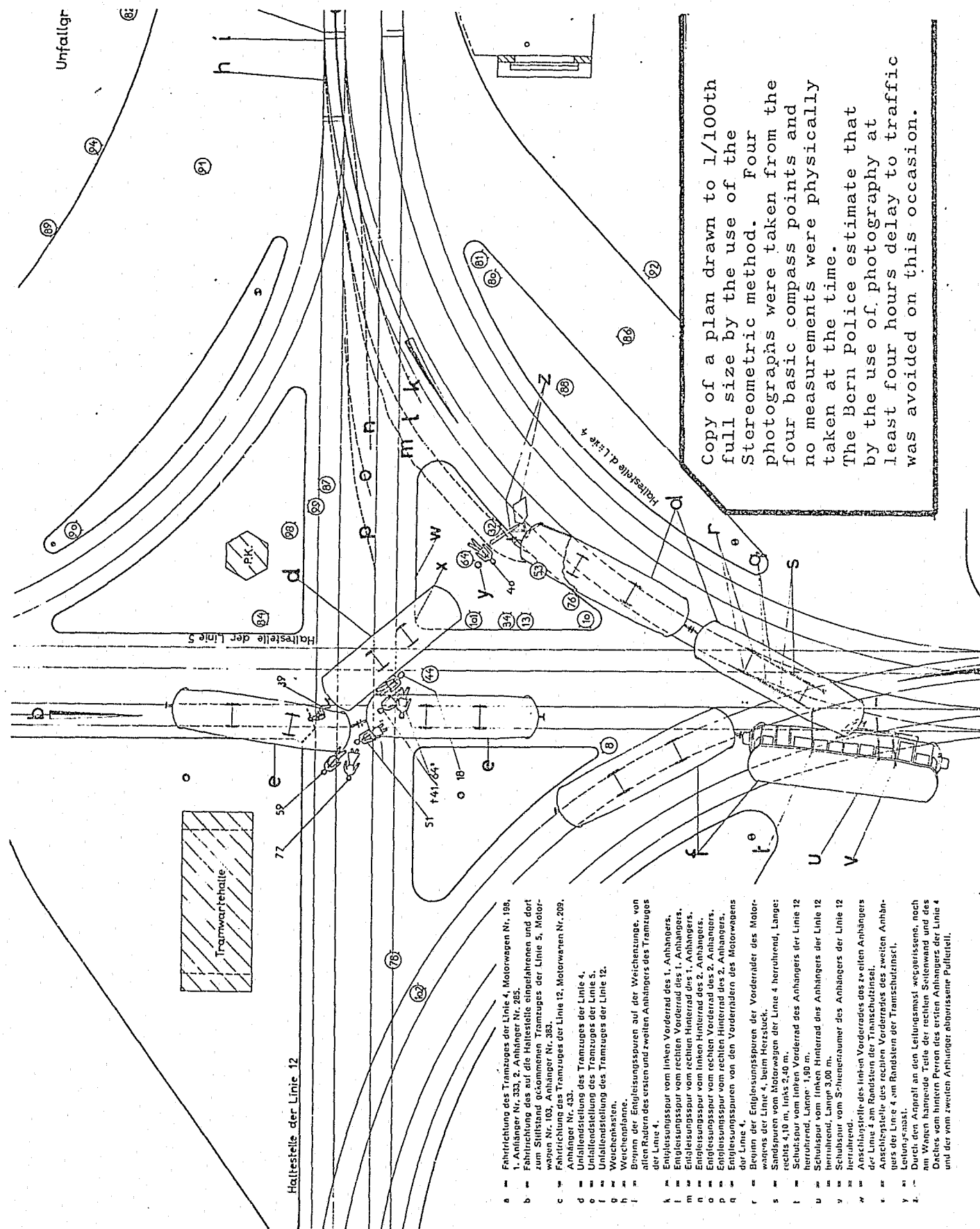
132. The equipment consists of:-

- (a) Stereometric Camera, complete with 12 plateholders, tripod and electric lighting;
- (b) Track marker for marking road tracks of all kinds;
- (c) 12 small black and white cones;
- (d) Supporting board for transport of the equipment;
- (e) Plotting apparatus and drawing table.

Stereometric Camera

133. The camera consists of a base-tube, at the ends of which two cameras are arranged with their axis parallel to and at right angles to the base. The base-tube is mounted on a tripod column and clamped to it by spring pressure. When the clamping levers are loosened the camera can be rotated. A bolt fitted above the base-tube enables the camera to be set at different angles of inclination, such inclination being automatically recorded on the photo negatives.

134. A viewfinder is provided under each camera. Knobs for setting exposure, aperture and the shutters are arranged centrally. The distance between the lens and negative is fixed and therefore no focussing is necessary.



135. Glass plates are used in the cameras. These plates are pressed against a registering frame when the photograph is being taken. Simultaneously with the photograph, marks are made on the plates for later registering on the plotting apparatus, on one negative the number of the camera is also noted.

136. The tripod is fitted with a circular spirit level to enable the cameras to be set accurately in both the horizontal and vertical planes. This setting is essential for correct photographic reproduction to be made.

137. In order to obtain a better view of the site being photographed the base-tube can be raised to a height of 2.5 metres above ground level by means of a crank.

138. Electric lighting is provided for the various setting knobs and spirit level. When all settings are correct a light glows in the centre of the base-tube to ensure that no mistakes have been made.

Track Marker

139. In order that travelling and braking marks may appear clearly in the photograph, they are accurately marked in a very simple manner with a track marker.

140. The marker consists of a cylinder of powdered chalk supported on two sheets. When wheeled alongside a mark, chalk is transferred to the ground surface. The special advantage of the marker is that it does not cover the actual marks but only indicates them for the photograph.

Cones

141. The cones are set out at the scene in such positions (about 10 paces apart) that they appear in the photographs taken. They are used to enable accurate positioning of the various negatives in the plotting process at a later stage, it only being necessary to accurately line up two or more cones through the plotting apparatus to ensure 100% accuracy between photographs.

Supporting Board

142. The board enables all the above equipment to be carried in a safe condition when being transported by car or other vehicle.

Plotting Apparatus and Drawing Table

143. The apparatus, although of somewhat complicated design, is very simple to manipulate. Two main systems are incorporated.

144. One system consists of a base plate with carriages and slides running on three rails arranged at right angles to each other. Suitable movements are obtained by rotating two hand cranks (depth and distance) and a foot disc (height).

145. The other system is the tilting part, suspended on two supports with two cameras for photographic plates and a double telescope for viewing the pictures. This telescope contains the measuring marks. By means of two sliding sleeves a pair of links connect the cameras with the first main system and transmit to the cameras the movements of the operating wheels.

146. In order to prepare a plan from a pair of photographs, the negatives from the stereocamera are placed in the corresponding plotting cameras. The frame marks on the plates are very accurately placed over the edge marks on the plotting cameras. Allowance is made in the plotter for any tilting of the original camera photographs. The required scale of drawing is obtained by setting the plotting apparatus accordingly.

147. In the telescope the three dimensional image is now visible, greatly enlarged, and also a three dimensional "T" shaped measuring mark. This mark can be set to any point of the picture by adjustment of the two hand cranks and foot disc. The drawing table is coupled to the plotter and the pencil traces accurately the movements of the measuring mark in plan and therefore draws points or lines representing the plan of the objects photographed. Heights are read off the plotter on a counting mechanism.

Practical Use of the Equipment

148. The stereo-camera equipment is carried on certain traffic emergency cars and vans. All officers performing duty on such vehicles are capable of using the equipment. They take their own photographs, develop their own plates and prepare their own plans, thus continuity of work is established throughout the case.

149. During my visit there were no instances of serious disaster, but I was able to see the equipment used at several serious road accidents and to follow the cases through until the finished plan was produced.

150. Operations at the scene proceed on the following lines:-

- (a) On arrival at the scene the police glean the basic "story" from witnesses and persons involved and confirm that the vehicles concerned have not been moved.
- (b) The track marker is used to outline all relative road marks and to indicate where the casualty was lying before removal to hospital.
- (c) The black and white marker cones are placed out at 10 paces intervals along the longitudinal axis of the scene.
- (d) Photographs are taken from at least two positions.
- (e) Once photographing is completed the vehicles involved are immediately moved (where possible) and normal traffic conditions are allowed to resume.

151. The average time for taking such photographs in the cases that I saw was under 10 minutes, thus delays to traffic were kept to a minimum.

152. Operations on return to the police office were as follows:-

- (a) The photographic plates were developed and dried and positive print enlargements made from them.
- (b) The pairs of plates were in turn, placed into the "autograph" plotting equipment.
- (c) The plan was prepared using the various pairs of photographs taken at the scene.

153. Unless a case was extremely complex, the plans were available within 24 hours of the incident occurring and were of sufficient detail to enable immediate production before an examining Justice.

Advantages over Normal Measurement Procedures

154. The Swiss Police have proved over the years that this system is foolproof in recording accurately the exact circumstances appertaining at the time of the incident. The plans prepared by this method have also become fully acceptable to Justices in Court proceedings.

155. Amongst the advantages mentioned to me by various officers were:-

- (a) The scene need not be entered or touched. Thus objects which are burning, exploding, glowing or are radioactive can be measured and located accurately where conventional means would have been impossible.
- (b) The stored photographs permit revision or addition to plans at a later time when details would normally have been forgotten or are seen later to be more important than at first thought.
- (c) Photography and plotting are two quite separate operations. Therefore plotting can be done later without the pressures present at the time of an incident.
- (d) Incorrect depositions of parties concerned or witness to an incident can be refuted and the objective facts of a case proved.
- (e) The need to delay or stop other traffic whilst police take measurements is eliminated.

Standardisation of Police Major Disaster Equipment and Procedures

156. As a result of the 1965 Mattmark Disaster, the Swiss Police came to realise that mutual aid between police forces was severely hampered by each force using its own procedures for dealing with such disasters. Each force had also devised its own equipment and forms for use under such conditions.

157. As each Canton is in effect a Republic in its own right there is no overall control of the police forces at Federal level and therefore there was no machinery by which standardisation could be imposed on individual forces.

158. At the suggestion of the Federal authorities the Bern Cantonal Police convened a national meeting at their headquarters and invited all forces to send a representative. As a result of this meeting a standard schedule of equipment and procedures for major disasters was formulated and it was readily accepted in all forces.

159. The procedures and equipment can be dealt with under the following headings:-

- (a) A system of overall control and co-ordination of services.
- (b) A scheme for identification of casualties.
- (c) A scheme for correct searching of the disaster area and plotting of all items found.
- (d) Lists of essential equipment.
- (e) A Mutual Aid Scheme between forces.

Overall Control

160. This type of control has already been reported in detail in paragraphs 68 to 70 and 93 to 95 of this paper.

Identification Scheme

161. A pre-numbered casualty label is pinned onto the casualty before he is removed to hospital. This label records various identification and medical treatment details, but removal of the casualty from the scene is not delayed whilst all details are obtained. The only essential details that must be recorded are:-

- (a) Where the casualty is found.
- (b) The treatment he has received at the scene.

All other details are entered subsequently at the hospital.

162. Where casualties are treated at the scene and then discharged without being taken to hospital a police officer records their particulars on a duplicate entry casualty book in order that the inquiry centre may be appraised of all casualties from the incident.

163. Should the victim be dead or unidentified then the main identification task of the police commences. Each force has amongst its disaster equipment a series of 99 envelope/wallets containing the following items:-

Separate forms giving details of:-

- (a) Personal description.
- (b) Personal effects.
- (c) Money found on victim.
- (d) Identity documents found on victim.
- (e) Property found at victim's lodgings, etc.

Sample folder for holding samples of hair, clothing, fibres, etc., taken from the victim.

Fingerprint slips for individual fingers and thumbs.

Plastic numbered tag for attaching to victim.

164. Each envelope/wallet and each document contained within it is pre-numbered with the same number. Numbers are prefixed by the Cantonal Code letters and run from 1 to 99.

165. Following recent air disasters and the need for international investigation and identification of victims all these forms are now being printed so that each item heading on the form will appear in several languages, probably French, German, Spanish, Italian and English.

166. The authorities feel that once these new forms are brought into use considerable time and cost will be saved by overcoming the necessity to provide interpretation facilities for foreign speaking investigators and relatives.

167. The value to investigators, both from the police and civil enquiry teams, to know the exact location of where each body and all property was found at the scene of a disaster has been acknowledged as of paramount importance for many years.

168. The following equipment is included in all emergency stores to cater for this prime necessity:-

99 metal plates bearing the embossed numbers 1 to 99 and prefixed by the Cantonal Code letters.

400 cards bearing the embossed numbers 100 to 500 and prefixed by the Cantonal Code letters.

Large boards each bearing a letter of the alphabet from 'A' to 'G'.

Lengths of cord each 100 metres long and marked at each 10 metre point by a small flag.

Self-sealing plastic bags of varying sizes capable of being directly written upon in either ball pen or black lead pencil.

Blocks of wood which are slotted on one flat face.

Metal or wooden rods with a slot in one end.

169. The 99 metal plates are used to indicate the position of fatal casualties. The number on the plate corresponds to the documentation number referred to in paragraph 164. Where possible the plate is placed on a rod or stick, which is pushed into the ground alongside the body. The body is then photographed in situ before it is removed, leaving the numbered plate for future photographing and reference.

170. Once the initial life-saving phase has finished, the whole disaster area is divided up into alphabetical sectors by using marker cords. An alphabetical letter card is placed in each sector to identify it.

171. Teams of searchers now methodically search each sector, recovering any property that they find, marking the spot with one of the 400 cards numbered 100 to 500, which can be either fixed on rods (where the surface of the ground permits) or in wooden blocks.

172. The recovered property is placed in plastic bags which are endorsed with the corresponding number to the card and also the measurement of the spot where it was found. Such measurement is judged by use of the indicator cords and flags surrounding the sector.

173. When the police are satisfied that a sector is completely searched, stereo-photographs are taken of it. These photographs will then show the location of all fatal casualties and property found. Plans are produced from the photographs and an accurate record of the scene and the property found obtained. The following diagrams are specimens of one of the plans and catalogue sheets prepared after a recent air disaster in Switzerland.

Mutual Aid Scheme

174. The system of police mutual aid has been fully described in paragraph 63 and is purely extended for disaster operation. With the standardisation of equipment no problems now arise through different forces using different procedures.

Other Essential Equipment

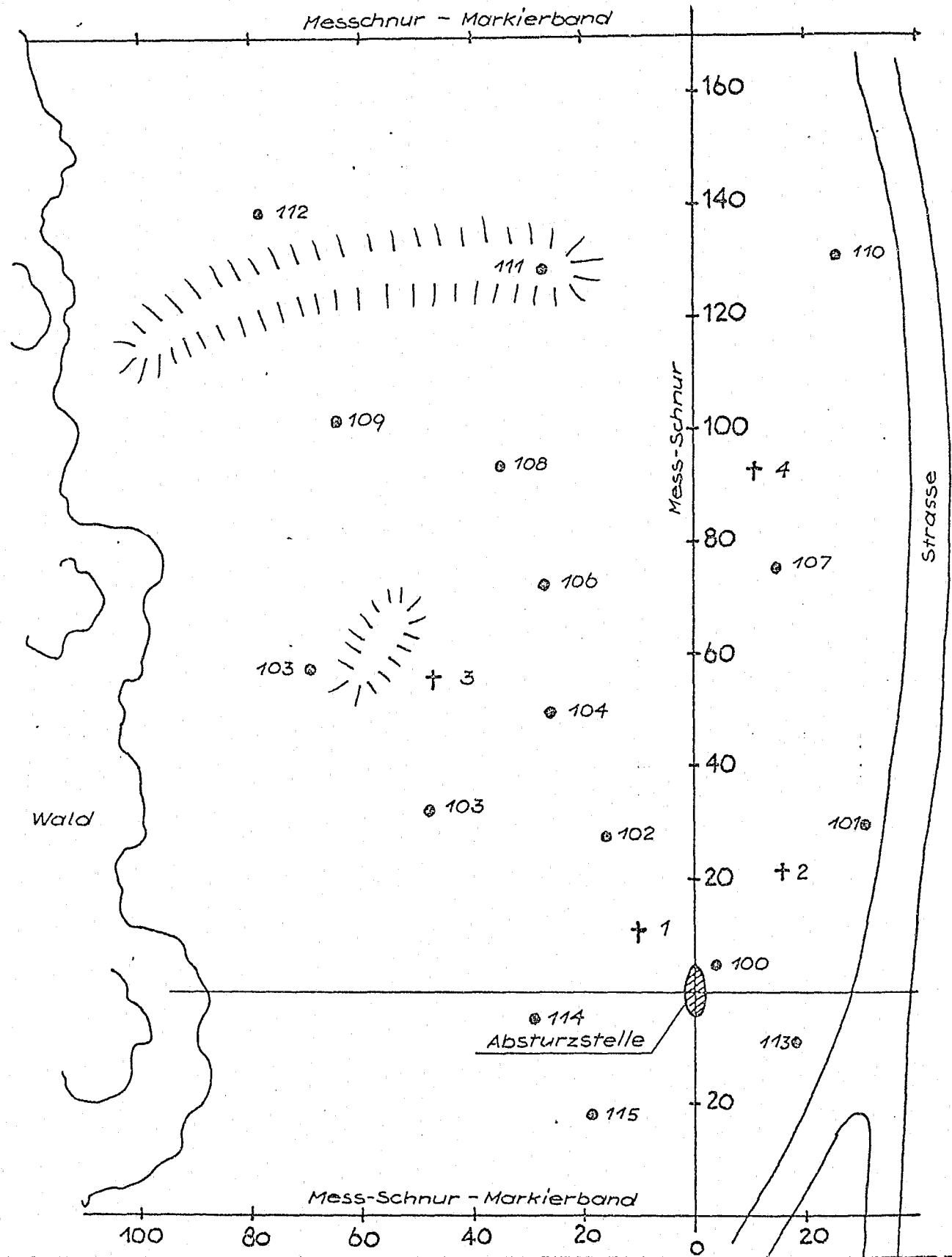
175. Each Canton has prepared three large incident boxes or metal suitcases which, in addition to items already mentioned in paragraphs 163 and 168 contain the following:-

- 2 pairs scissors;
- 2 pairs secateurs for removal of casualty's boots, etc.
- Penknife;
- Self-adhesive plastic tape;
- Paper/bitumen carrier bags for property, etc.
- Plastic Gloves;
- Tape Measure;
- Drawing boards, instruments and graph pads;
- Fingerprint equipment;
- Folding rule.

Flugzeug - Katastrophe

Ort :

Zeit :



Sector Clearance Plan of Air Disaster at Zurich - 1970

FLUGZEUG - KATASTROPHE

in :

am :

Protokoll Sektor A

Arbeitsgruppe :

Det. Wm. Widmer Jakob Det. Gfr. Keller Gustav

Det. Kpl. Oertli Hans Det. Gfr. Meier Walter

A/ 1	Leiche	Foto
A/ 2	Leiche	Foto
A/100	Ledermappe, schwarz, enth. Flugbillet lt. a. Mr. Smith, SR 570	
A/101	Handtasche, weiss, enthaltend Toilettenartikel	
A/102	Herrenhut, braun, Initialen "J.C."	
A/103	Portemonnaie, schwarz, enth. sFr. 500.-	
A/104	Kugelschreiber, weiss	
A/ 3	Leiche	Foto
A/105	Damenhandschuh, blau	
A/106	Aktenmappe, schwarz, daneben Bordpapiere	Foto
A/ 4	Leiche	Foto
A/107	Herrenhalbschuh, braun	

Sector Clearance List compiled from adjoining Plan



Incident Boxes.
(See paragraphs 175-178)

176. The cases do not form part of the equipment carried by vehicles every day, but are kept at police headquarters and placed on the first vehicle to leave the headquarters for the disaster area.

177. The protection and welfare of rescuers is not forgotten. 100 sets of adjustable overalls, steel protective helmets and average sized rubber boots are held for their use in the headquarters storeroom.

178. To assist with the rescue efforts quantities of the following items are held at headquarters and are transported to the scene at the earliest possible opportunity:-

Long handled shovels and forks;
Brooms;
Disinfectant solutions and pressure sprayers;
Emergency food supplies.

SECTION IV - PREVENTING DISASTER

179. It has always been acknowledged that "prevention is better than cure" and the Swiss take due note of this fact. My study showed that the police had a particular responsibility insofar as the many Swiss lakes and the continual fear of avalanches were concerned.

180. Switzerland has many large inland lakes which lie between large mountain ranges, as a result sudden squalls and small hurricanes, together with rainstorms of unprecedented power are likely to strike these lakes at any time with little or no warning. The consequent dangers to small ships and yachts need no elaboration.

181. Obviously an effective alarm system is necessary and the Swiss Meteorological service has set up a station on Zurich Airport to provide such a system, not only for the lakes, but also for the three main airports in the country.

182. The warnings are based upon information received from a weather satellite which is static over the centre of the country. This satellite transmits television pictures of the Swiss weather formations to the Zurich station once every 40 minutes.

183. The pictures are rapidly evaluated by means of computers and should the picture show danger to any particular lake, the alarm is given to the police force providing cover for that lake.

184. The police responsibility is to warn all shipping of the impending weather condition and this has been accomplished by placing at strategic points round all lakes a system of powerful flashing amber/red beacons, all of which are controlled by operating one switch at the lake police headquarters station.

185. Two types of warning are given:-

- (a) Winds of up to 20 k.p.h. imminent, which is given by flashing the beacons at 14 flashes per minute. Shipping is not obliged to take any action upon seeing this warning, although smaller vessels usually make for shelter.
- (b) Winds in excess of 20 k.p.h. imminent, which is given by flashing the beacons at 90 flashes per minute. All shipping is compelled to seek shelter on seeing this warning, although the bigger ships could quite safely ride out the storm.

187. During my visit I was taken onto the lake in a police launch when the wind speed was 20 k.p.h. This practical experience left me in no doubt as to the effectiveness of this law in preventing disaster.

Lake Disaster Scheme

188. Should a disaster of any type occur on Lake Geneva for instance, the police have developed the following scheme:-

- (a) A total of 600 volunteers have been recruited and trained in disaster rescue operations by the lake police.
- (b) The volunteers are divided into 32 sections, each with its own depot adjacent to the lake.
- (c) Each depot has been fully equipped by the police with rescue boats and all the necessary protective clothing and equipment.
- (d) Sections are exercised regularly. Nobody but the Inspector in charge of the lake knows when the exercise will take place and any call received is regarded as being the real emergency.

189. In spite of the generally held view that too many exercises tend to make volunteers slow to attend when a real disaster occurs, the Inspector assured me that the Swiss nation as a whole never adopts this attitude and will always regard any call as a genuine emergency until it is shown to be otherwise. Whilst some minor injuries occur by treating all exercises with secrecy, all those involved appreciate that this is the only true way to test the system and find its faults.

Avalanches

190. Over a period of years both the Swiss Police and the Swiss Army have evolved an effective joint intelligence service to warn of impending slides of the snow cap from mountain tops.

191. There are hundreds of avalanches each year which cascade down the mountains to the valleys below without any danger to either population or property. These slides have been carefully plotted and the police are now in a position to raise the alarm should they observe unplotted movements in the snow cap due to sudden weather changes.

192. Throughout the winter months police keep a watchful eye on the mountain areas and if a movement is detected which they do not expect the following organisation is brought into being:-

- (a) The likely path of the avalanche is plotted;
- (b) All inhabitants in the path and close to it are alerted and if necessary evacuated until the danger has passed;
- (c) Roads and ski-runs in the danger area are closed to traffic and skiers;
- (d) The organisation referred to in paragraph 70 of this paper is implemented.

193. In spite of this excellent organisation there is still a great risk of unprecedented avalanches taking place, two such disasters occurred in one town earlier this year.

SECTION V - MISCELLANEOUS

The Mattmark Disaster of 1965

194. This disaster was unprecedented in its infliction of casualties and the complexity of getting rescue services to the site. As a result of this experience the Cantonal Police Authority drastically revised its procedures and equipment for disaster use.

195. The operation took some 90 days before all the victims had been recovered and a considerably longer period before they were all positively identified. The officer in charge of this operation, Brigadier Rene Delasoire, conducted me through the disaster area and gave a first hand account of the many problems that he found at the time.

196. At the time of the disaster Mattmark was the scene of large scale dam building operations. It is situated at the head of the Saasar-Visp Valley, 27 kilometres from the nearest town of Visp.

197. Access to the site was from Visp via a good metalled road for some 20 kilometres and thence a works road built of hardcore, single line, with passing places.

198. At the approach to the site was a labourer's camp holding many hundreds of men, most of them Italians. Operations at the base of the dam consisted of moving hardcore and earth to form the wall of the dam. These operations were overshadowed by a glacier, which had never given any sign of danger and which had been in existence for many hundreds of years.

199. At 5.15 p.m. on 30th August, 1965, a large piece of the glacier broke away and fell as an avalanche right into the work area where some hundreds of men were using various earth moving machines. The fall was of such magnitude that it completely engulfed the main working area.

200. The alarm was given and police were quickly on the scene, only to find their way barred by the terrible state of the approach road. However, some officers did reach the scene and made a first assessment of its magnitude.

201. The senior officer in charge immediately ordered that no further vehicles were to be allowed on the unmade road for fear of collapse of the road and serious congestion. A road block was instituted at the junction of the metalled road and unmade road and a large vehicle park organised. A helicopter landing site was designated close by.

202. All further rescue services and their equipment were taken from this parking area to the scene of the disaster by helicopter. The police emergency control vehicle was too large to be lifted directly to the scene and in consequence all its equipment had to be offloaded and transported in stages.

203. Having lost their specialist control vehicle the police were required to make ad-hoc control arrangements by means of a forward command post relaying its messages back to the control vehicle some 7 kilometres from the scene.

204. The next problem was to prevent further disaster. Due to the moving glacier and the fear of further falls, no rescue work was undertaken after the initial search for any live casualties until an adequate alarm system of observers and sirens had been set up.

205. Due to the physical state of many of the bodies of the victims there was an apparently impossible task placed upon the police of identification. All normal systems were used and yet some victims still remained unidentified. As a last resort, and more of an experiment than anything else, it was realised that the employers had taken x-ray photographs of the chests of the victims before they had been declared medically fit to work for the company.



Civil Defence Emergency Stretcher.
(See paragraphs 218-220)



Fire Fighting Pump.
(See paragraphs 222-225)

206. X-ray photographs were therefore taken of the unidentified victims and these were compared with those taken by the employers some months previously. By using comparison microscopes identical bone formations, thorax growths, etc., were found and these were accepted as evidence of identification by the Coroner.

207. Colour photography was used throughout this disaster and cine film was taken of every stage of the operations. These photographs and film are now used as training aids for police purposes and give an extremely vivid picture to students on the types of psychological stress that they will be called upon to sustain under such conditions.

The Ritzingen Disasters of 1970

208. During my visit I was conducted over the scenes of both the 1970 avalanche disasters that overtook the small town of Ritzingen in the Valais Canton. My guide on this occasion was Brigadier Rene Delasoire, who had been the Chief Investigating Officer during the incident.

209. At the first scene a church had been completely demolished by an avalanche. This church had stood for more than 200 years right in the predicted avalanche path and each winter had seen many avalanches at this point.

210. The site of the church was some 800 yards from the base of the mountain and the valley floor, to all intents and purposes, was level. All previous avalanches had come to a stop at least 400 yards from the church.

211. Over the years the inhabitants had become complacent and on receiving a further warning nobody had taken much notice, assuming that all would be safe.

212. On this occasion the avalanche had been larger than previous ones and in spite of having travelled over 800 yards of almost level ground it still contained sufficient force to demolish the complete church, which was constructed with 4 feet thick solid stone walls. Fortunately the church was empty at the time and there were no casualties.

213. The second avalanche hit the town on 24th February, 1970, and completely demolished parts of an army camp in its path, causing 28 deaths and many injuries.

214. Again avalanches had been commonplace in the area and were expected on this occasion. Records had proved that the falls came from one particular area of the nearby mountains and as a precaution large steel barriers and support rails had been built on the mountain top to hold the bulk of the snow.

215. On this occasion the avalanche came from higher up the mountain valley from a hitherto unpredicted point thus avoiding the steel protection barriers. Again the valley floor was almost level and it was incredible that snow could travel across such a valley for almost one mile before coming to rest.

216. Following upon the Mattmark Disaster of 1965, this was the first opportunity the police had of proving their new disaster organisation in the region.

217. I was informed that the organisation (see paragraphs 68 and 69) had worked well, although rehabilitation had been delayed until a few weeks before my arrival. The compacting of the snow and the frozen conditions had prevented a final search of the disaster area and debris.

Civil Defence Emergency Stretcher

218. In England there has always been considerable concern over the manpower used for stretcher carrying - usually necessitating the aid of four persons. The Swiss Civil Defence Organisation has overcome this problem to some degree.

219. Normal stretchers have been fitted with clips on each side member and close to one end of it. A pair of 10 inch pneumatic tyres on a light axle are clipped to these fittings, whilst at the opposite end a pair of hooked metal handles can be clipped over the existing wooden handles of the stretcher side members. Onto these hooked handles a canvas man-harness is fitted.

220. These stretchers can be readily manhandled over quite long distances and over ground unsuitable for heavy ambulances, by one rescuer working on his own.

221. For carrying casualties in really rugged country an all metal stretcher is utilised. This stretcher is fitted with metal skids to assist in sliding it over areas where a carry is not possible.

Fire Fighting Pumps

222. The authorities have realised that with compulsory civil defence training there are many individuals living in each street who are fully capable of containing small fires before the arrival of the professional fire brigade, provided they have the necessary equipment.

223. To cater for just this need, Geneva is currently engaged in distributing a lightweight fire pump and several lengths of hose to every street in the City. A suitable room in one house in each street is selected and the equipment deposited there.

224. In order that the location of the pump is readily known both the room and the outside of the house are conspicuously marked. Trained personnel can then rapidly gain the use of the pump and its ancillary equipment in an emergency.

225. The pump is fitted with suction pipes and strainers. These can be dropped into dirty water mains running through each street and provide a virtually inexhaustable supply of water. Additionally the pumps can be connected to the standard fire hydrant.

PART VI - ACKNOWLEDGEMENTS

SWITZERLAND

I am greatly indebted to the following organisations and personnel for their hospitality and assistance in making my study visit a most worthwhile and interesting experience:-

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The Acting Commissioner of Police for the City of London

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APPENDIX

This appendix is a translation of the Directive issued by the Council of State for the Valais Canton on 1st July, 1969, setting out the responsibilities and duties of the emergency services of the Canton during a period of disaster.

It is reproduced here in order to show the degree of preparedness that exists, not only in the Valais Canton, but throughout the Swiss Confederation.

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DIRECTIVES

For the Organisation of Measures in the case of Disasters.

1. Definition and objective of organisation.

The organisation of measures foreseen in the case of disasters occurring in peacetime includes the services of the State of Valais liable to be involved in such a case, as well as the eventual assistance of the National Government. By co-ordination of the application of these means the objective is to ensure all necessary action as quickly and effectively as possible.

2. Definition of the disaster.

By disaster it must be understood to include all events involving the following criteria:-

- (a) human lives being destroyed or menaced;
- (b) a normal social organisation is broken or seriously hindered;
- (c) the incident takes on the dimensions exceeding the character of a normal accident taking account of:-

- the number of people killed, injured or threatened;
- the area involved;
- the property destroyed or threatened.

- (d) the incident takes on an exceptional character;
- (e) the normal means for dealing with accidents and life saving in general are insufficient.

3. General Task

All aid in the case of a disaster must have the following objectives:-

- primarily the saving of human lives;
- secondly, preservation of property;
- finally, the re-establishment of a normal situation in the social organisation and the area involved.

4. Constitution of the organisation

4. 1. The organisation of assistance is under the command of the Cantonal Police Commandant.

4. 2. It is composed of sections supplied by the following services:-

- Cantonal Police
- Fire and civil defence
- Bridges and roads
- The military
- The Sion arsenal
- The military aerodrome
- Public health
- Social services
- Veterinary service
- Forestry Service
- Water department
- Sewage department
- Finance
- C.A.S.

5. Responsibilities of the group leader - organisation and tasks of the respective sections.

5. 1. Group Leader

Responsible : Commandant E. Schmid.

Deputies : (a) Cap. M. Coutaz.
(b) Plt. M. Pasquinoli.

Tasks (a) At all times:-

- To maintain in a state of readiness the organisation for assistance;
- To carry out once per year a tactical exercise to test the functioning of the organisation.

(b) During the incident

- To analyse the situation and dependant on the nature of the event to decide which sections it is appropriate to alert;
- To inform the President and all members of the Cantonal Government immediately and as necessary from time to time of the development of the situation;
- To direct and co-ordinate the engagement of the various sections of the organisation and as necessary other means (communal and private) as required by the circumstances of the task;
- To organise an information service for the population affected by the incident, for the press, the radio and television, in agreement with the Cantonal Government;
- To submit a report of the situation to the central national government.

5. 2. Section : Cantonal Police

Responsible Commandant E. Schmid.

Deputies : (a) Cap. M. Coutaz
(b) Plt. M. Pasquinoli.

Tasks (a) At all times:-

- To maintain up to date the organisation chart of the sections and groups concerned;
- To undertake exercises to develop speed of action, co-ordination of activities, the necessary relationships and means of communication;

(b) During the incident:-

Simultaneously:-

- To alert the ambulance service;
- To alert the organisation;
- To establish means of isolation, internal and external as appropriate;
- To establish liaison between the Cantonal Police and the heads of various sections;
- To organise a command post close to the incident with the following services:-
 - traffic
 - identification
 - information
 - communications
 - supplies.

- To organise a service of identification with classification of injured and inquiry centre;
- To organise the necessary services to establish order and co-operation in aid to the injured;
- To inform the Chief Justice, the Prefect, the Medical Officer, the hospitals, the Samaritans (first aid services), the Fire Service, religious bodies and the funeral services;
- To inform as necessary:-
 - Air Ministry
 - Transport Ministry
 - The Railway Board
 - The Federal Police Office
 - Diplomatic representatives.

5.3. Section : Fire and Civil Defence

Responsible A. Taramarcaz

Deputies : J. Delacretaz
M. Karlen.

Tasks (a) At all times:-

- To determine by area the detachments which are most readily available;
- To arrange by areas the personnel and technical means;
- To organise and maintain in a state of readiness the alarm and action system;
- To determine the responsibilities for internal warning and the provision of technical means;
- To determine on a regional basis the medical aid posts;
- To establish the internal co-ordination of the civil defence groups.

(b) During the incident:-

- To alert and assemble detachments of the civil defence and fire service;
- Depending on the situation to bring into action detachments for:-
 - rescue of injured and transportation to the medical aid posts and hospitals;
 - classification of injured in collaboration with the identification service;
 - establishment of reception centres and accommodation services;
 - protection of establishments and buildings;
- To organise the housing and subsistence of homeless and strict census control;

- To organise the housing and subsistence of the aid organisation groups;
- To inform constantly the Chief of Operations on the development of the situation.

5.4. Section : Bridges and Roads

Responsible G. Magnin

Deputies : E. Ribordy
J. Vernay

Tasks (a) At all times:-

- To establish the technical means of the State available with their officials and the means of rapid alert;
- To agree on a regional basis on the federal services, cantonal services and private organisations which can be used and to make an inventory to maintain a list of machinery available;
- To agree on the collaboration and responsibilities with the water service.

(b) During the incident

- On the orders of the Chief of Operations to alert and bring into action the necessary teams for the assistance and rescue of injured, the removal of debris, the protection and repair of roads, bridges and dykes.

5.5. Section : Military services

Responsible Lt. Col. Roux.

Deputies : (a) Cap. Louis Imstepf
(b) Cap. Norbert Wicky.

Tasks (a) At all times:-

- To maintain an inventory of troops:-
 - in service
 - cantonal
 - federal
- To constitute groups of troops with a view to various possible tasks, security, isolation, technical involvement.

(b) During the incident:-

- To control the engagement of troops involved in the operations at any one time;
- To order the call-up of necessary troops.

- 5.6. Section : Sion Arsenal
- Responsible Lt.Col. Marclay.
- Deputies : Plt.Ch. de Cocatrix
Cap. G. Zermatten
- Tasks (a) At all times:-
- To determine the internal responsibilities of alerting specific personnel and preparation of material and vehicles which may be used during a possible operation;
- (b) During the incident:-
- Make contact with:-
 - Area Commander
 - Commander of local armoury
 - IMG
 - Federal arsenals of St. Maurice and Brigue
 - To establish the material in a state of readiness subject to official approval;
 - To direct the control procedures.

- 5.7. Section : Military aerodrome (on reserve subject to priority superior authorisation).
- Responsible Col. Br. Phillipe Henchoz
- Deputies : Cap. Burlet
Adj. Pfister.
- Tasks (a) At all times:-
- To maintain an inventory of the aircraft available in various places in the Valais with their crews;
 - To determine the internal responsibilities for the alerting of nominated personnel, the preparation of material and vehicles which may be used in a possible emergency.
- (b) During the incident:-
- To make available immediately reconnaissance aircraft;
 - To ensure the state of readiness of the aerodrome personnel to meet the needs of the situation;
 - To control the ability to supply military or civil aircraft and helicopters and to use them in accordance with the needs stated by the Chief of Operations.

- 5.8. Section : Public Health.
- Responsible Dr. Pierre Calpini.
- Duties : A. Bonvin.
vacant.

- Tasks (a) At all times:-
- Maintain an up to date list of:-
 - hospital beds
 - clinic beds
 - effective Samaritan personnel and ambulances.
 - the Cantonal stores of material and medical supplies.
- (b) During the incident:-
- To recruit personnel and supplies;
 - To nominate a Chief Medical Officer;
 - To co-ordinate the bringing into action of the various medical aid groups;
 - To allocate the injured to hospitals and clinics;
 - To take all prophylactic measures on the spot and in the vicinity of the disaster.

- 5.9. Section : Social Services.
- Responsible M. Glasscy.
- Deputies : K. Brunner
vacant.
- Tasks (a) At all times:-
- To establish the regional welfare organisations;
 - To collaborate with the Civil Defence and the Finance Department regarding the establishment of the responsibilities for aid to the victims.
- (b) During the incident:-
- To activate the welfare groups;
 - With the Red Cross to organise immediate aid and future aid to the victims.

- 5.10. Section : Veterinary Service.
- Responsible Dr. Rene Cappel.
- Deputies : M. Michaud.
vacant.
- Tasks (a) At all times:-
- Prepare and instruct personnel required;
 - Veterinary Surgeons.
 - Butchers.
 - Experts for eventual assessments.
 - Prepare supplies of:-
 - Emergency supplies of medicine;
 - Reserves of sanitation materials and vaccine;
 - Cattle pens and means of transport.

(b) During the incident:-

- Warn and put on stand-by the veterinary personnel necessary for evacuation, slaughter, transport, cutting up and incineration;
- Undertake disinfection and bacteriological analysis;
- Organise general prophylaxis;
- Restock with fodder the affected zone.

5.11. Section : Forestry Service.

Responsible H. Dorsaz.

Deputies : (a) C. Perren.
(b) Th. Kuonen.

Tasks (a) At all times:-

- Prepare the collaboration with the Fire Service for the employment of fire fighting personnel;
- Establish the means of action available from the State and from any other organisation which may be used.

(b) During the incident:-

- Direct the use of the means of protecting the forestry areas affected;
- Determine the measure necessary to prevent the spread of the incident.

5.12. Section : Water Department.

Responsible Mr. Jacques Wolff.

Deputies : vacant.

Tasks (a) At all times:-

- To maintain a permanent contact with the Federal Water Authorities and the responsible personnel of the hydroelectric companies in order to be able to advise the Chief of Operations on the possible dangers threatened by the dams.
- In the case of heavy rainfall or snow storms to follow developments in the water courses and advise the Chief of Operations regarding dangers of flooding;
- In cases of imminent flood danger to check the measures taken by the local authorities on the basis of articles 43 and 44 of the law concerning water courses of the 6.7.32.

(b) During the incident:-

- In the case of a water alarm to make immediate contact with the Chief of Operations and provide him with the necessary data to permit him to analyse the situation and to make decisions;
- As required to call for temporary work on dams and dykes essential for the protection of roads, bridges, buildings and property threatened by water (article 45, law of 6.7.32).

5.13. Section : Sewage Department.

Responsible M. Georges Huber.

Deputies : (a) Mr. Jean Julien.
(b) M. Jean-Claude Bonvin.

Tasks (a) At all times:-

- To maintain permanent contact with the management of the Collombey Refinery in order to obtain information on the possible dangers arising from the "pipe line", also with the Companies with large oil depots;
- To maintain lists of specialist personnel and the availability of material required to meet the dangers of hydro-carbons.

(b) During the incident:-

- In cases of disasters of this type:-

- To supply the Chief of Operations with the information which will permit him to analyse the situation and take decisions;
- To direct the employment of competent personnel and any special equipment and measures.

5.14. Section : Finance

Responsible Mce. Germanier.

Deputies : (a) Henri Zermatten.
(b) J. Pierre Salamin.

Important : The responsibility for the eventual costs will be decided by the Council of State on the basis of reports from the Chief of Operations and of the sections concerned.

Tasks (a) Before the intervention:-

- To issue directives for the attention of the heads of the various sections;

(b) During and after the intervention:

- To foresee all the expenses envisaged and the decisions having a financial influence;
- To limit the expenses committed in line with actual needs;
- To call for justification in original form and in detail with a view to payment;
- To check the accounts and effect payments;
- To charge the share of the costs to the federation and third parties;
- To administer the funds arising from the rescue operations and insurance claims;
- To submit a final financial report to the Council of State.

6. Degrees of Readiness

In all cases of disasters whether foreseen or actually suffered the Chief of Operations establishes a degree of readiness which calls for the section heads to take appropriate measures.

6.1. Situations Foreseen

- 1st Degree : The sections prepare to be involved after a period of delay established by the Chief of Operations.
- 2nd Degree : The personnel required are ready for action at a determined place. They must be ready to act with the necessary material and vehicles within a period of 1½ hours.
- 3rd Degree : All the personnel involved are to assemble at the place indicated by the Section Leader and be ready to go into action within a half hour.
- 4th Degree : To be ready within a few minutes. In this case the detachments will move immediately towards the disaster area or be available close by. This degree corresponds to the warning. The Section Leader warns his detachments and establishes assembly points where he will give his orders for action. He himself will be at the disaster area and will make contact immediately with the Chief of Operations to receive his orders.

6.2. In all cases the Chief of Operations is to be constantly informed on the availabilities and the state of preparation of the Sections. During the rescue operations he should be similarly informed.

7. Communications

7.1. From the moment of the alarm by the telephone service.

7.2. During the incident:

- By SE 18 of the Cantonal Police;
- By army radio;
- By motor cyclists and runners.

7.3. The Police control centre is always attainable by the number 027/2 56 56.

8. Authority

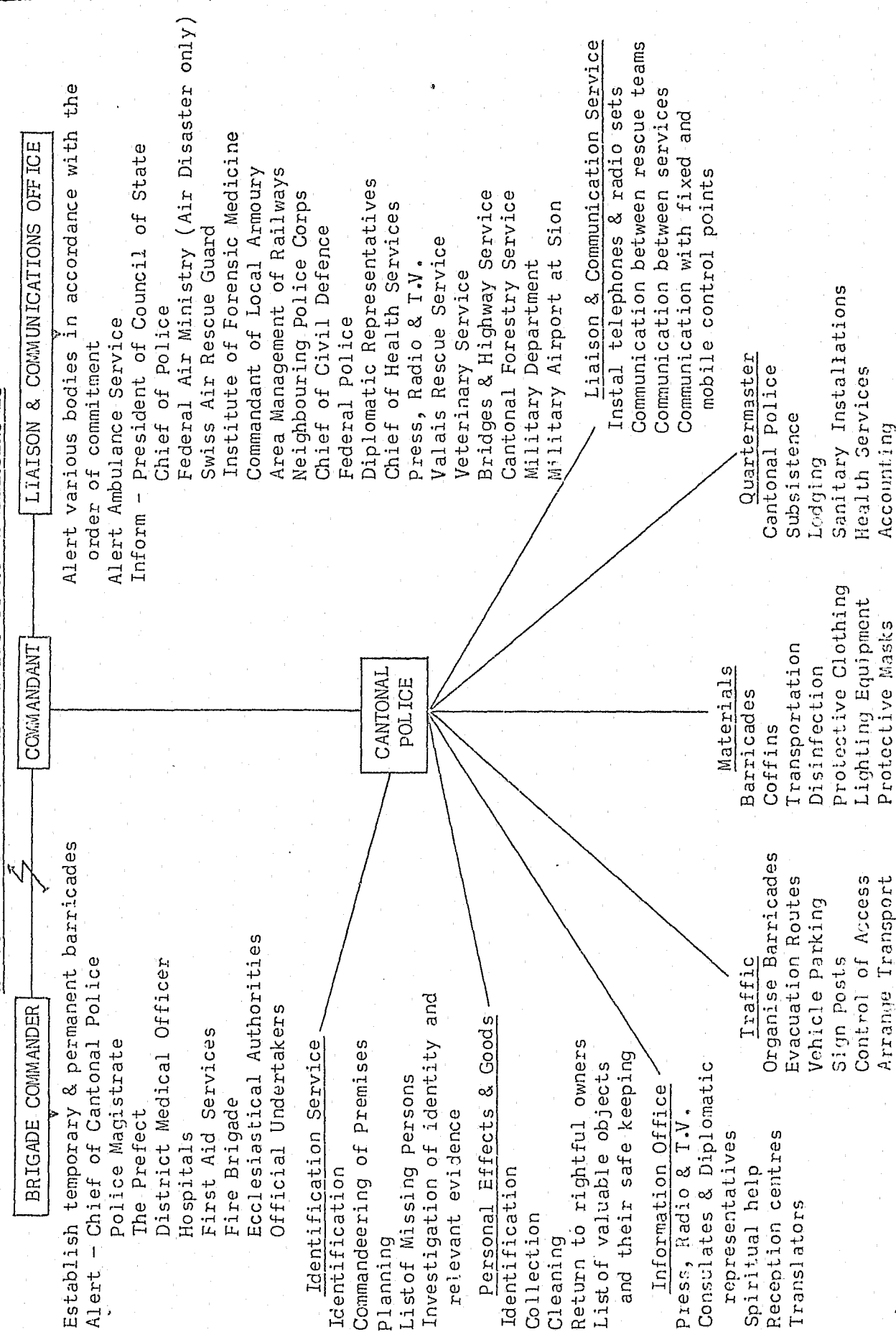
The direction of operations and co-ordination of means are to be assumed by the Canton Police Commandant. Or failing this by deputies. The Chief of Operations will establish:-

- A command post in the police barracks at Sion;
- An advance command post in the disaster area.

This was decided by the Council of State at Sion the 1st July, 1969, signed by the President of the Council of State - A. Bender and Chancellor of State - N. Roten.

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CHART OF ORGANISATION TASKS INVOLVED FOR THE DIFFERENT RESCUE TEAMS IN THE CASE OF DISASTERS OR EMERGENCIES



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MAJOR DISASTERS

PART II

A STUDY OF CURRENT POLICE PLANNING AND EQUIPMENT FOR USE IN MAJOR DISASTERS IN ENGLAND AND WALES

INTRODUCTION

1. Prior to the commencement of my Scholarship Study I was fortunate to be permitted to contact various police forces in England and Wales in order to ascertain their individual involvement in major disaster planning in their respective areas.
2. All the forces approached co-operated to the full to assist me with this study. Many Chief Constables invited me to visit their police area and to learn at first hand of their plans and previous experiences. I was able to accept some of their invitations, but time did not permit me to accept all of them, much to my regret. Other organisations also assisted me and are shown in the Acknowledgements of this paper.
3. Many lessons have been learnt by forces from practical experience, whilst in others there are useful ideas, procedures and equipment included in their plans. In the following paragraphs I have attempted to set down the lessons learnt through my own eyes. Whilst the paper is not intended to form part of the main Scholarship, the information gleaned may well be of advantage to other officers engaged on compiling force plans.

THE POLICE RESPONSIBILITY

4. It has now become almost nationally recognised that the police responsibility in disaster situations is as follows:-
 - (a) Maintaining a record of all agencies who may be able to provide assistance and calling those agencies out if the need arises;
 - (b) Creating the most favourable conditions for other services to work under, which involves:-
 - (i) adopting the role of controller at incidents during the life-saving phase (other than at fires or similar hazards);
 - (ii) acting as a communication organisation.
 - (c) Setting up public and press enquiry bureaux, especially in relation to casualties;
 - (d) When items (a), (b) and (c) have been adequately covered, then performing rescue and life-saving tasks;
 - (e) When the life-saving phase has finished, handing over overall control to the Local Authority for the restoration phase and assisting the Authority as and when necessary.

5. It is of interest to note that the Ministry of Housing and Local Government Circular No. 79 of 1969, supports these views and gives guidance on these lines to Local Authorities.

FORCE PLANS

6. All forces have a plan for dealing with major disasters. In a few cases several plans exist for the various parts of the force area. This has been brought about by recent amalgamations and in all cases plans are being actively reviewed and new composite orders produced.
7. The means by which such plans were produced varied from force to force. In some cases a single officer was delegated to draw up plans for approval, sometimes without the opportunity of conferring with the other services likely to be involved. Others had set up a working party of the representatives of various police branches involved, whilst in a large number the planning had been carried out as a joint working party effort, consisting of representatives of the police, fire, ambulance and hospital services, also the armed forces and local or county emergency planning officers.
8. Generally speaking representatives of the voluntary services had not been included in working parties, although information on the scope of their services, their views and their availability had been sought and recorded.
9. In a few cases the bulk of the planning had been produced in pamphlet form by the Local Authority. Such pamphlets dealt in detail with the responsibilities of the police and other emergency services. Where this system had occurred police instructions to personnel had been kept short and brief and reminded personnel of the need to consult the County Plan.
10. Mutual Aid within forces and between forces in an emergency had been planned for in all the forces visited. Some had firm arrangements for support from neighbouring Divisions within the force, whilst others had left the calling for such support to the senior police officer in charge of the incident. Aid between forces was well catered for and it is understood that neighbouring forces will readily assist on receipt of a request from the Chief Constable or his delegated officer.
11. In the case of border incidents involving more than one force the question of unified control has been considered. No hard and fast rules have been laid down but the forces I spoke to stated that Chief Constables of adjoining forces appreciate the problem and are quite prepared to allow personnel to work under a neighbouring Chief Constable when a more viable control would result.

THE INCIDENT CONTROL OFFICER

Responsibility

12. Whilst it is accepted that the Chief Constable is in overall command of operations during the life-saving phase, some interesting differences occur from force to force.
13. In some forces the Chief Constable attends and physically takes command himself, appointing his subordinate officers to carry out specific functions within the overall control organisation.

14. The majority of forces place their actual command of the incident squarely on the shoulders of the Divisional Commander in whose area the incident occurs. Their instructions include a mention that when a more senior officer from a specialist department of the force attends the scene he will leave the overall control in the hands of the Divisional Commander, although that officer may be junior in rank.

Duties

15. Forces lay down in their orders the main functions of the incident control officer; it was of interest to see how closely these followed the training instructions issued by the Police College to students at Bramshill.

Identification

16. Opinions differ considerably on the desirability of the control officer being readily identifiable at the scene of an incident. Some forces have made no arrangements in their plans for the officer to wear any but the standard police uniform. The argument given is that provided the control vehicle is readily identifiable, the control officer can always be found close to it.

17. In all incidents the control officer has to leave the close vicinity of his control vehicle at some time or other, if only to carry out a reconnaissance to ascertain the current progress of the operation. It is in such circumstances that he should be easily recognisable as being the police officer in overall command.

18. In nearly all cases where forces had provided a means of identifying the control officer, this had been done by providing him with an orange fluorescent jerkin, which was worn over normal uniform. Sometimes this was trimmed with "Scotchlite" reflective material and in a few cases added identification was given by adding the words "Control" or "Controller" in "Scotchlite" across the back of the jacket.

19. It is appreciated that an orange jacket suitably labelled is better than nothing. It must, however, be remembered that in the current emergency equipment of most emergency services this type of jacket has now become a common item. It is used extensively by police traffic patrol crews and motor cyclists, firemen, local authority highways personnel and many others.

20. There is no doubt that shortly after the commencement of an incident there will be a preponderance of orange jackets being worn by a vast number of the involved personnel. Additionally, such jackets effectively hide the badge of rank of the wearer. Whilst this might not be considered important, how often have we, the police, wondered what rank a particular fire officer holds when we only have his helmet rings to identify him?

21. It is time that we considered identifying the control officer in a jacket that is not commonly used. Bearing in mind the accepted police colours, why not a bright blue and white chequered jacket, or even a bright green? Additionally the jacket could be illuminated on the shoulders at night by small battery operated lights. Perhaps other officers carrying out subsidiary duties should also be similarly identified, but of course with a different colour.

COMMAND VEHICLES

22. Whilst in the very early stages of an incident the nearest police radio car is used as a control point at the scene, this is invariably backed up by a specially equipped mobile control vehicle after a comparatively short time.

23. Many forces have a caravan equipped as a mobile police station, which doubles up as an emergency incident control post when required. All the forces visited have expressed doubts as to the efficiency of such caravans at emergencies.

24. Through bitter experience some have found that it is impossible to take such a control unit closer to an incident than the nearest metalled road, either due to the caravan sinking into the soft earth of fields or to the lack of manoeuvrability through narrow gateways.

25. All forces that have experienced this difficulty are now actively engaged in obtaining more suitable self-propelled vehicles, usually with four wheel drive facilities to enable them to traverse soft ground in desolate places.

26. Unfortunately such vehicles are too small to act as a complete control on their own and it is suggested that the ideal arrangement would be to have a light caravan towed by a four wheel drive vehicle. By this means the caravan can act as a main control, whilst the towing vehicle continues forward to the scene of operations and acts as a forward control.

27. The forward control vehicle should be suitably fitted with a separate radio frequency which connects only with the main control. This would establish a reliable communications contact without affecting the overall operation of a force radio scheme. As a final refinement, the forward control vehicle can be fitted with another walkie-talkie frequency for forward control to personnel with walkie-talkie pack sets working at the incident itself.

28. In certain forces with a small area to cover, the cost of maintaining emergency command vehicles is prohibitive and the foregoing paragraphs are unlikely to meet with sympathetic consideration. In my own force for instance, there is no necessity for a four wheel drive vehicle as the whole of the force area is well served with a closely knit system of metalled roads.

29. The need still exists however for an effective communications system which is mobile, coupled with a need for temporary office accommodation. Such accommodation could, if the need arose, probably be found in adjoining office premises.

30. As a safeguard against such premises not being readily available a small steel framed tent has been purchased by my force. This is designed to fit neatly to the rear of a Land Rover vehicle, but it can just as efficiently be attached to the rear of the more commonly used police vehicles, such as the Morris and Ford Transit type vans.

31. Such a tent removes the necessity for incident control personnel to physically enter the vehicle, which is used as a main communications office. Thus communications personnel are able to carry out their duties uninterrupted. From papers received, at least one other force has adopted a similar system.

32. When the Civil Defence Corps and Auxiliary Fire Service were disbanded in 1968, a large number of surplus control vehicles were offered for sale at a very low cost. Some forces seized this opportunity of purchasing an already tailor-made control centre and subsequently adapted them internally to meet police requirements. Even with these vehicles, I can still envisage difficulty in siting them close to an incident in an arable and desolate area.

DESIGNATION SIGNS ON COMMAND VEHICLES

33. It is the usual practice for all services attending at an incident to report initially for briefing and any further instructions to the command vehicle being operated by the police.

34. Obviously such a vehicle must stand out amongst all the other vehicles that are present at an incident. This is done extremely effectively during daylight hours by the provision of a blue/white chequered flag or a blue/white chequered dome fitted to the vehicle.

35. It has become the practice to mark the specially designed control vehicles with written words such as "Police Incident Control" and all emergency services have included in their instructions a requirement for them to report to this control in the first instance. Bearing in mind the fact that major incidents are few and far between it is doubtful whether all service personnel would report to the police control, due to the inclusion of the word "Police" in the written designation. If this could be the case, then perhaps we should leave the word "Police" off the vehicle altogether, thus giving everybody the correct impression that it is the overall control vehicle for the incident.

36. Due to the lack of general usage of major disaster control vehicles it would also be of benefit to all concerned if a portable sign were to be placed so as to face all incoming services with the legend "All services report here" thereon.

37. At night an added difficulty of identification of the command vehicle is experienced. Invariably the vehicle is identified by the blue flashing beacon normally fitted to the vehicle. In order to support this identification all services issue instructions that "all blue lights except the command post beacon are to be extinguished on arrival at the scene".

38. In the heat of attending an incident, it is doubtful whether such a small, but important, instruction would be remembered by all vehicle drivers, with the consequent result that there would be many blue beacons at the scene. In order to get all others extinguished, police manpower would require to be used in the form of an officer visiting each vehicle in turn.

39. One force has adopted a green light to identify its control vehicle. This is admirable at most incidents, but I pose the question "what happens when the incident is on or close to an airport?" Green lights are used at such establishments for indicating landing paths to aircraft and this additional green light could well cause problems to aircraft pilots approaching the airport.

40. Another force has under consideration an illuminated blue and white triangular shaped rotating sign with the legend "Incident Post" thereon. This would stand out in normal weather conditions, but would be of doubtful value when there is fog or mist about. We must remember that many incidents occur in bad weather conditions and these are usually off the beaten and illuminated track.

41. What is the answer? It is hard to say, but two ideas come to mind:-

- (a) An ultra powerful blue beacon capable of penetrating reasonably dense fog or mist and of standing out from all other blue lights at the scene. Additionally it could be mounted high above the control vehicle on an extending mast, which could double as a radio aerial mast.
- (b) The provision of a rear illuminated blue and white chequered translucent panel incorporating the legend "Control Post" either around the whole roof ridge of the vehicle or across the top of the vehicle.

OPERATIONAL MAPS

42. It is an acknowledged fact that the Incident Officer and his associated control organisation cannot effectively carry out their duties without plans or maps of the area involved in the incident.

43. The area covered by an incident can vary greatly. It can be a relatively small area, such as a serious fire in a single building of a block, or it can cover a wide area, such as was the case in the recent flooding disaster when whole constabulary areas were affected

44. It follows therefore that in some instances a large scale map is required, whilst in others a smaller scaled map must be used because of the widespread nature of the incident and the limited room available on the control vehicle.

45. Forces have equipped their control vehicles with varying scaled maps. Some use 1 inch to 1 mile, others have 2½ or 6 inches to a mile maps. Those forces which have a densely built up area have even larger scale maps varying between 1 inch to 2500 inches and 1 inch to 500 inches.

46. In some cases maps have been mounted on hardboard. In others there is an arrangement where maps are left unmounted and when required are pinned onto a wallboard and then covered with talc sheet or perspex. In the case of those mounted on hardboard, one can envisage the situation where an incident is centred in one corner of one map. Under such conditions at least four maps would be required to be placed together to give an adequate appreciation of the area around the disaster. Four maps alone can take up a considerable amount of room in the control post, to the detriment of other functions.

47. This particular problem confronted my own force. The whole of the force area consists of a densely built up city where it was essential that plans should be of as large a scale as possible. To have this done with one map would have entailed using an area 8 feet by 5 feet.

48. The problem was overcome in the following manner:-

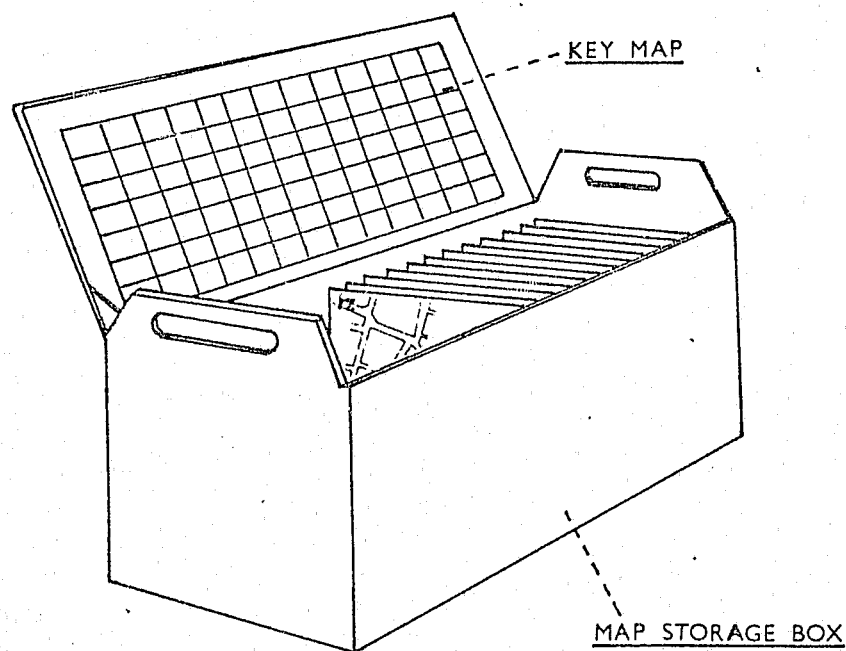
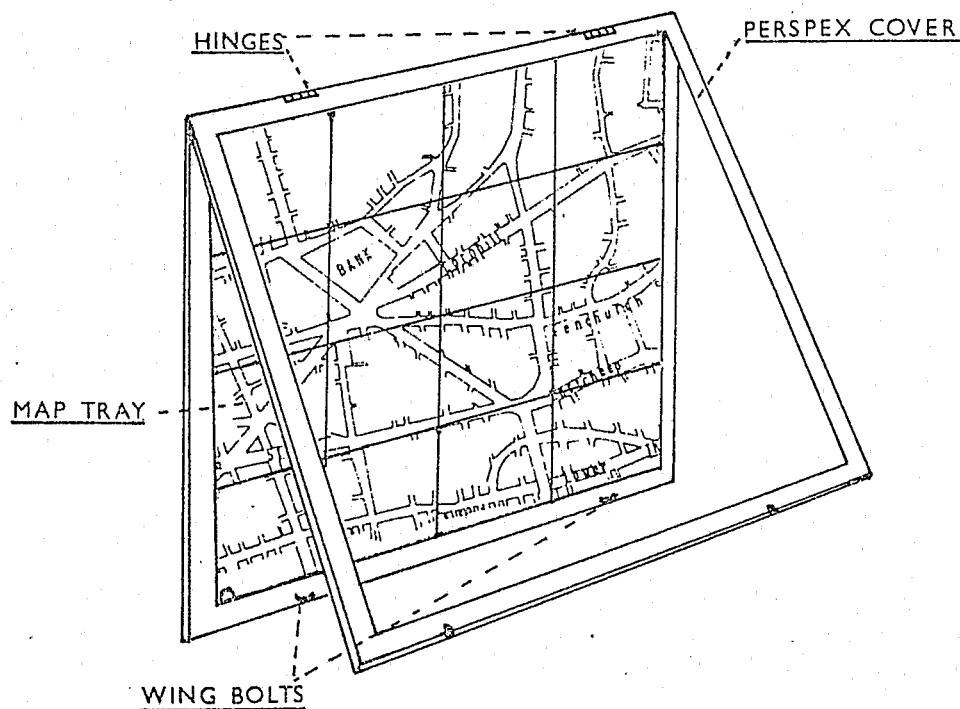
- (a) A large scale map of the complete city was cut up into 8 inch squares. Each square was pasted onto hardboard and given a reference number, starting at "1" in the north-west corner and following on across the map in horizontal lines until the highest number related to the map square in the south-east corner.
- (b) A "key" map was produced on a small scale and was ruled with lines corresponding to the 8 inch squares. Each square of the resultant graph was then numbered to correspond to the numbers on the 8 inch squares.
- (c) A board of 3/8" plywood was surrounded with a strip of wood 1/8" thick so that a 32 inch square tray was formed. A sheet of 1/8" thick perspex was framed in wood and hinged to the top edge of the base board. Two wing nuts and bolts were fitted to the lower edge. These held the perspex sheet tightly to the base board surround.

49. On arriving at an incident the control officer refers to the "key" map and selects 16 of the 8 inch map squares in such a manner that the focal point of the whole incident appears within 8 inches of the centre of the 16 combined squares. The squares are then placed in the tray of the base board, the perspex frame is closed and bolted down and the map is ready for use.

50. Whilst my own force only uses a large scale map, the system can be developed to enable 2½ or 6" to 1 mile maps to be used in the same frame. In such circumstances these maps can be prepared in 16 inch squares and four maps only utilised in the frame. Unfortunately the 1 inch to 1 mile maps cannot be satisfactorily cut to fit this particular frame.

51. The advantages of this system can be readily seen. Where a force area consists of a mixture of urban countryside and built up areas two sets of maps can be carried and yet used in the same frame. Large scale maps can be used for an incident in a densely built up area, whilst smaller scale maps can be used in urban areas.

52. The following sketch shows the complete equipment.



CROWD CONTROL AND CORDONING

53. In any incident it is always necessary to prevent sightseers from approaching the area and to cordon off the damaged area, either to prevent looting or to preserve the scene for scientific examination.
54. All forces are cognisant of this need and have included instructions in their standing orders. Some forces have wisely provided lengths of rope in their emergency equipment to assist in this work and to conserve police manpower.
55. To carry sufficient rope for even the smallest need involves considerable storage space being allocated on the control vehicle or other transport due to the bulk of even the lightest of ropes.
56. Fortunately the British people are a law-abiding race during times of disaster and little physical barrier is necessary to prevent them encroaching too close to a scene. If no physical barrier were used a large number of police officers would need to be employed to carry out this duty.
57. In order to conserve storage space and yet enable sufficient cordoning material to be carried on the vehicle my own force has utilised 2 inch wide white linen tape. A 36 yard roll of this tape occupies an area 8 inches square and 2 inches deep, thus a considerable length of tape can be carried in a very small area.
58. The cost of the tape is so low that it is economical to cut it to varying lengths dictated by the incident and for it to be quickly fastened between existing street furniture, trees, posts, etc., so as to form a simple easily seen, yet effective barrier.

RECONNAISSANCE

59. One of the first essentials of the police plan is for the first officer on the scene and the subsequent control officer to gather a comprehensive knowledge of the extent of the complete incident. Such an incident occurring at night could well prevent a full reconnaissance from being carried out over a short period.
60. During daylight helicopters can be used for reconnaissance purposes and it is consoling to know that arrangements can now be rapidly made for the use of military machines, especially when there is a true "life-saving" commitment.
61. At night the problem can still persist as a helicopter crew, if they are permitted to become airborne, are still hampered by darkness.
62. Consideration should be given to equipping all emergency vehicles with parachute flares. These flares have a high intensity of illumination over a considerable area and their brilliance lasts for a full half minute. Such a period is sufficient for an observer to get a sufficient overall picture of the scene thus enabling him to decide upon his plan of operation.

ACTION FILES

63. All forces have made arrangements concerning the immediate action to be taken upon notification of a disaster situation and in their planning have catered for certain authorities and individuals to be informed. The plans are usually written into the typescript of the force instructions.
64. Normally such action, apart from the initial action taken by the officer at the scene or at the sectional or divisional station, is carried out by the force operations room staff. If they had to wade through a complete order to ascertain the particulars of all persons and organisations to be warned a considerable period of time would elapse.

65. To enable staff to rapidly warn other organisations most forces have evolved an "Action File". This file lists all essential services, personnel and organisations that have to be informed. There is an order of priority in the lists, which include telephone numbers and addresses. Columns are also provided in which the warning officer can record the time the information was given, to whom it was given and by whom it was given.

66. The distribution of "Action Files" varies from force to force. Some have one copy only, which is kept in the operations room, whilst others extend the circulation to all police stations and in some instances wireless vehicles.

67. Some forces also include in their file log sheets to enable incident and operations room officers to record all details of services arriving at the scene, also details of ministers of religion, doctors, nurses, etc.

AIDE MEMOIRE CARDS

68. Happily major disasters are few and far between. In consequence of this personnel, whilst having received training in major incident procedures at some time in their service tend to overlook a number of essential actions when confronted with the disaster.

69. Some means of reminding officers of their responsibilities is therefore essential at whatever level of control they are working at. One force has circulated to all ranks a small Aide Memoire card to remind them of the initial action to be taken upon receipt of information regarding a variety of incidents.

70. In all sets of major incident equipment there should be a series of cards relating to specific tasks that could be given to officers both at the scene and in support roles, such as a Casualty Bureau. The following would constitute a suitable list:-

- (a) Incident Officers Duties and Responsibilities.
- (b) Staff Officers Duties.
- (c) Radio Operators Duties and Procedures.
- (d) Property Collection Officers Duties.
- (e) Minor Casualty Officers Duties.
- (f) Casualty Bureau Officers Duties and Responsibilities.
- (g) Press Liaison Officers Duties.
- (h) Base Station Officers Duties and Responsibilities.

71. Many forms are purpose-designed for sole use at major incidents. These forms should also include easily understood instructions reminding officers to whom they are issued of the purpose of the forms and the manner in which they should be completed and processed.

CASUALTIES AND UNINJURED PERSONS INVOLVED IN THE DISASTER

GENERAL

72. Speedy rescue and dispatch of casualties to Hospital is probably what major disaster planning is mainly concerned with. From papers received and discussions which I had with representatives of forces there is no doubt that this subject is one of the biggest headaches for the police and one which will involve most manpower.

73. It is generally acknowledged throughout the country that the Senior Fire Officer is responsible for the initiation of a rescue plan and for carrying out the rescue of trapped and injured persons involved in an incident. From this point onwards, apart from hospitalisation and treatment, the police take the main interest in the welfare of the casualty and the safe-guarding of his property.

74. The police responsibility is that of positively identifying the casualty, informing his next of kin, acting on behalf of H.M. Coroner and providing positive and reliable information to alleviate the anxiety of enquirers who believe that they have a relative or know somebody who had been directly concerned in the incident.

75. Equipment, methods and procedures vary throughout the many forces in this country. In the majority of forces systems have been evolved for documenting casualties and uninjured persons. These systems are backed up by an organisation to deal with the documentation of the casualties and with the large number of enquiries from friends and relatives which would be instigated by the publication of news of the incident by wireless broadcasts and the national press.

76. In some forces the back-up organisation has been established under the umbrella of a public enquiry or casualty bureau, whilst in others the responsibility for such a service has been superimposed upon the duties of the Press Liaison Officer.

Involved but Uninjured Persons

77. In order to render a service to enquirers and also to keep the work of the casualty bureau down to a minimum it is essential that particulars of all uninjured persons connected with the incident are recorded at an early stage.

78. Many of such persons will, quite naturally, be only too anxious to inform their relatives and friends themselves at a very early stage and adequate arrangements for them to do so must be provided. The Post Office service will provide such facilities with the minimum of delay, even to the degree of providing a free telegram service.

79. Officers first at the scene, apart from their other duties, must therefore endeavour to obtain brief details of as many survivors as possible before they leave the scene. Such particulars being passed to the casualty bureau as soon as possible.

80. The value of questioning survivors should not be overlooked either. Information that they give can result in establishing where other occupants of the train compartment or coach boarded the transport, this will later assist with identification of casualties by the police.

Removal of Casualties from the Scene

81. The haphazard removal of casualties from the scene to Hospital can create additional problems later on. Not only in connection with identification, but also from the point of view of repatriation of families. Whilst the police cannot dictate circumstances to the ambulance and medical authorities, it is as well to consider the human aspect as far as is practicable.

82. Where more than one hospital is being used to receive casualties it is desirable that all related casualties be taken to the same hospital. Normally such casualties would all be in the same compartment of the train, or sitting in adjacent seats in an aircraft, etc.

83. One can imagine the anguish of a mother who, having herself been injured and taken to hospital, subsequently enquires about the family that was travelling with her only to be told that they are not at the hospital. She would think the worst had happened, whilst her children might be young or unconscious and receiving treatment at another hospital. Many hours of suffering for an already shocked and injured mother may result before she is told that they are alright.

84. The well meaning motorist can also present problems. Being on the scene before the arrival of the emergency services he might well pick up a number of casualties and transport them to a hospital outside of those designated to receive casualties from the incident. Police would not have been sent to that hospital and many vital hours could elapse before information reaches the enquiry bureau giving details of a casualty's whereabouts.

85. Water borne incidents can create additional problems, especially where many small boats are concerned in the rescue of casualties. A boatman may well pick up swimming survivors and having got a full load he could land them on the nearest dry land in order to return to pick up more swimming survivors. Such persons, once landed, could remain undetected for a considerable period and would suffer from exposure in extreme conditions. The value of a helicopter reconnaissance must not be overlooked in such circumstances.

Stretcher Bearing

86. In many situations following an incident casualties may have to be carried a considerable distance from the scene to the nearest ambulance loading point. Most forces have included in their Standing Orders instructions to their personnel to "enlist the aid of bystanders to carry stretchers".

87. Adhering to such an instruction will not create any problem where the incident occurs in or close to a populated area, but disasters have a habit of occurring in desolate areas where bystanders are virtually non-existent. Under these conditions officers I have spoken to stated that they would enlist the aid of uninjured survivors. This source of labour is doubtful.

88. One has only to read reports of disasters to see that there is a strong psychological reaction in uninjured survivors. The majority of them will be shocked and bewildered, they become docile and suggestible and will readily admit to a state of fear when describing such reactions. Such descriptions demonstrate that they are unable to act for themselves or to make decisions and in fact would become a hindrance to any form of rescue work.

89. All survivors, therefore, need to be removed from the disaster scene as soon as possible. They need a good rest coupled with a warm drink before they can be considered for any work in connection with the disaster. Of course there are always one or two exceptions to this rule.

90. From the foregoing it follows that an alternative source of manpower must be found for stretcher bearing and for assisting walking casualties. As a last resort the emergency service personnel in attendance can be utilised, but this will detract from their trained tasks of control, rescue and treatment of victims.

91. A thought here for officers attending an incident in desolate country. The majority of police personnel now travel to incidents by car from their local areas. Why not let them enlist the assistance of three or four able bodied male persons from their local area and transport them to the scene? Such persons would be most willing helpers, capable of withstanding the rigours of stretcher bearing and of working for long periods if necessary. An instruction to this effect could usefully be incorporated in Force Standing Orders.

Identification of Victims by Clothing and Property

92. One of the most difficult problems of police is the correct identification of victims following a disaster. To avoid the possibility of doubtful identification it is essential that all clothing and personal effects remain on a casualty or body until either the police or the Coroner's Officer has itemised them and attached a completed property label.

93. The natural desire of hospital staff is to rapidly commence treatment of their casualties. This often results in the haphazard removal of clothing and other forms of identification without any thought for the future. Police working at hospitals must be fully aware of this danger and if possible tactfully put the point over to the hospital staff.

94. Even more serious hazards can occur earlier at the scene of the incident. Well meaning rescuers are inclined to place property found adjacent to a victim onto the body or stretcher carrying the victim. Whilst in some instances such placing may be correct, it can very often lead to wrong identification. This results in distress to relatives called to identify a body or casualty only to discover that the victim bears no connection with the property and thereby adding to their anguish.

CASUALTY LABELLING AND LABELS

General

95. Throughout the country there is a vast difference in the type of label used and in the content of such labels.

96. Some forces use a plain luggage label, some have a printed label, whilst others have arranged with local Hospital Boards for hospital labels to be carried in police incident boxes.

97. At least one force uses different coloured labels to indicate the degree of injury of the casualty. Whilst all labels perform certain functions their main purpose appears to be confused.

The Purpose of Labels

98. Medical authorities need to record details of any treatment given to the casualty at the scene, this includes the administration of drugs, etc. Obviously, the saving of life being their prime consideration, such information is essential to them.

99. The police are not primarily interested in the treatment that a casualty has received. Their main interest is the subsequent identification of the victim, his rehabilitation, and the necessity of informing his relatives and other enquirers as to his condition and whereabouts.

100. Thus we arrive at the situation that medical labels do not materially assist the police in their duties and conversely police labels do not assist the medical services fully in theirs. None of the forces who provided me with specimens of their labels seem to have found the universal answer for a label suitable to both services.

Details Required by Police

101. It is not within the scope of this paper for me to say what detail the medical authorities require, but the following items are certainly required by Police:-

- (a) Name and address of the victim.
- (b) Where the victim was found.
- (c) Who found him.
- (d) Where victim was seated or working when the incident occurred.
- (e) If examined by a doctor before rescue and found to be dead, then the particulars of such doctor.

102. By recording the position in which a victim was found, or which he previously occupied, the police can be materially assisted in re-uniting him with relatives travelling or working with him. It will also assist in checking identification against any passenger lists, and act as an initial guide in relating property found in the same area.

103. By recording details of the certifying doctor, the need for immediate rescue by following teams of rescue personnel can be removed so as to permit such teams to concentrate on releasing those obviously still living.

Use of Labels

104. From the above it follows that labelling should be carried out at the earliest opportunity, if possible before the casualty is removed from the scene. Full completion of the label is not immediately necessary, but certainly the position of the victim when he was found is of paramount importance.

105. Subsequently, as the casualty is passed through the various stages of his removal to hospital further details such as name and address, and, if he is in a fit state to provide them, where he was when the accident occurred can be added.

106. For the quick and efficient use of labels it is essential that each label is provided with an adequate length of string. This small item can so easily be overlooked in the planning stage, and nothing could be more embarrassing in the heat of an incident than to find that the label cannot readily be fastened to the victim.

Material for Labels

107. In recent years it has been the experience of at least two forces that the straightforward cardboard labels normally used by the service are unsuitable for use in certain conditions connected with a major incident. This fact has been currently noted in Home Office Memoranda relating to aircraft disasters, but, apart from stating this fact, there appears to be little guidance as to a suitable base material for such labels.

108. With these experiences in mind I approached a number of printing firms and requested them to produce a label capable of meeting the following requirements:-

- (a) Capable of being written upon with ordinary black lead pencil or ball point pen (being the standard issue writing materials);
- (b) the label to be able to withstand disintegration when subjected to:-
 - (i) body fluids;
 - (ii) condensation found when plastic bags remain closed with clothing, bodies, etc. inside;
 - (iii) liquids commonly found at incidents such as petrol, paraffin, water, foam and turpentine.
- (c) the writing on the label to remain legible and not to run or smudge when exposed to liquids or normal rubbing;
- (d) the label to be capable of receiving pre-printed detail without risk of smudging or easy removal.

109. A number of commercial firms submitted specimens of material for examination. Only one firm produced a label meeting all these requirements. The label was expensive to produce, but, bearing in mind the infrequency of its use and the necessity when it is used, the cost is comparatively low.

110. The label is produced upon a material known in the printing trade as "Bextrine". It was exhaustively tested under simulated conditions before being adopted in my own force as a composite label for major incident use for recording details of casualties, fatalities and property.

CASUALTY BUREAUX AND DOCUMENTATION

General

111. All forces accepted the fact that one of the main tasks of police following the initial action at a disaster was that of documentation of the victims and the informing of next of kin and other persons as to the condition and whereabouts of such victims.

112. Some forces instruct their officers that all possible details should be obtained at the scene. With the current ambulance service coverage of an incident, it can be assumed that the first casualties will normally commence their journey from the scene within 10 to 15 minutes of the incident occurring. Even in the most widespread incidents all casualties, other than those still trapped in wreckage, would be removed to hospital within 1 hour of the disaster. Thus it follows that there will be little time to obtain full records from casualties before their removal to hospital.

Hospital/Mortuary Documentation

113. The majority of forces have produced schemes whereby police officers are immediately despatched to all hospitals and mortuaries receiving victims from an incident. On arrival these officers record details of the victim and, where possible, of his next of kin.

114. Methods of obtaining these details vary from force to force. In most cases the police officer relies for his initial information on obtaining details from records already prepared by the hospital staff. This avoids the officer obstructing the hospital staff whilst they are treating the casualty.

115. Obviously in a number of cases the police require more information than the hospital records provide. If such is the case, then the officer is obliged to seek out the information from the casualty himself. Due regard must still be given to avoiding obstruction to the hospital staff and to adhering to a doctor's advice on the desirability of interviewing the casualty in his present state.

116. One force has overcome this problem by liaising with the Hospital Board, whereby a combined card is used by the hospital staff for obtaining all details required by both the police and the hospital authorities.

117. Once sufficient details have been obtained they are transmitted to a central point, either a police station or purpose designed casualty bureau, where a central index of information has been set up.

118. Few forces have evolved a completely satisfactory system for use when casualties from an incident are conveyed to hospitals outside the force area. To forces I visited I posed the question "What happens where casualties are taken to a hospital within the boundaries of a neighbouring force?".

119. All forces accepted that police officers of the neighbouring force would attend at such hospitals and obtain details, thus relieving the incident force of the need to divert precious manpower to such duties. However, the point that has been overlooked is that casualty documentation forms are not common between forces.

120. Whilst the necessary detail would in all probability be similar, it is by no means certain that documentation between the hospital and the Casualty Bureau could be carried out in a fully efficient and rapid manner.

121. The answer has been found by at least one force. In this instance the force has provided their neighbouring force with extra casualty books during the planning stage. These books are issued to boundary divisions of the adjoining force and the police officers of that force use the books when assisting their neighbours in such incidents.

122. The other method that is available is that casualty documentation forms should be standardised throughout the country.

Casualty and Public Enquiry Bureau

123. In most forces plans are laid down for the setting up of a Public Enquiry or Casualty Bureau for the purpose of dealing with the vast number of enquiries likely to be received following a disaster. These are manned by teams of police officers. In other forces this task has been made an added responsibility of the Press Liaison Officer.

124. If such a bureau is established, it must be well away from the scene of the incident so as to relieve the Incident Officer and his staff of its responsibility in an already complex situation.

125. Most forces have set up the bureau using the normal police exchange telephone number for communications purposes. When one considers the vast number of enquiries that will subsequently be made to the bureau it is doubtful if normal police exchange numbers would be sufficient to cope with both this type of message and operational messages being received from the Incident Staff at the scene.

126. It therefore follows that a Casualty Bureau will operate more efficiently if it is allocated an exchange number different to that of the Force concerned. The initial outlay for such a system is reasonable. I understand from the Post Office Corporation that they operate a scheme whereby, once the system is installed, the force can opt to have the telephone number "blocked" at the Telephone Exchange until such time as the Bureau is needed in an emergency.

127. When a number is "blocked" there is only a small maintenance rental to pay. The whole system can be rapidly mobilised by a telephoned request to the Exchange Supervisor from the force communications officer.

128. Whilst Civil Defence was placed on a care and maintenance basis in 1968, none of the purpose built control centres were disconnected from their telecommunications systems. It is suggested that forces could well make an approach to their Local Authority in order to explore the possibility of using such centres as a Casualty Bureau in an emergency.

129. Other plans already made in certain forces cater for the police to have the use of army drill halls, (especially signal units). In one instance the facilities of a local large business concern who possess a large switchboard with a reserve of internal lines on it have been arranged.

Bureau Documents

130. The information recorded at Casualty Bureaux consists of:-

- (a) Details of identifiable casualties.
- (b) Details of identifiable fatalities.
- (c) Details of uninjured persons involved.
- (d) Details of unidentified persons involved.
- (e) Details of enquiries received.

131. Most forces have prepared forms for all these records. In some cases the forms are printed on normal thickness paper, whilst in others various coloured cards are utilised.

132. Certain forces have catered for details of several casualties to be written onto the same sheet or form. This may well suffice where there are only a small number of casualties, but separate forms for each casualty are essential if any form of index is to be developed.

133. Where forces have arranged for their casualty bureau to index records this is usually done under the following headings:-

- (a) Casualty Card Index.
- (b) Enquiry Card Index.
- (c) Unidentified Persons Index.
- (d) Uninjured but Involved Index.
- (e) Completed Cards Index.

134. Such a system involves Casualty Bureau Staff in continuous searches through at least three indices (a, b and d previously mentioned) whilst they are endeavouring to link casualty and enquiry cards and answering the enquiry of a person telephoning the bureau.

135. This formidable problem was found within my own force during training sessions held during the last year. As a result of our own experience it was found that a more reliable and foolproof system of filing can be obtained by restricting it to one or other of two indices, namely a "General" and a "Descriptive" Index.

136. The first requirement of such a system is dependant upon all forms being printed on card and all of them being identical in size. A size of 10" x 8" proved ideal. Experience had shown that paper forms became easily mislaid or overlooked through them either becoming attached to other papers or falling below the top level of the indices. For ease of recognition each type of card must be of a distinctive colour.

137. The system is based on the use of clear plastic folders, each with two of their sides open. When a card is to be placed into the general index the indexing clerk first consults the index to ascertain if there is already a folder allocated to previous cards bearing the same casualty's name. If so, then the additional card is inserted into a new folder and placed in its alphabetical location in the general index.

138. Details of casualties and others whose names are unknown and who are recorded purely by descriptions in the early stages following an incident must of necessity be filed separately. In due course, as these unidentified persons are identified the cards are transferred into the general index.

Informing Next of Kin

139. Generally speaking this is no problem for the police. Information is either given over the telephone or messages are sent for the local police to inform the relative. Informing the next of kin of fatal casualties is, however, a more serious problem.

140. The procedures for informing next of kin of fatalities vary from force to force, but, in the main such information is always given to the relative by means of a personal call from a police officer.

141. During training sessions on major disaster procedures the question has often been asked "What do we tell a wife when she telephones and asks if her husband is alright and we have him recorded as dead?" One force has answered this question by clearly laying down in its major incident instructions that the wife should be told immediately and not given evasive answers.

142. The theory behind the definite instruction issued is that such a person making an enquiry is already prepared for sad news and would suffer no more distress than if she received the news by the conventional means.

143. I doubt as to whether in practice this theory would be proved to be correct. Surely the person seeking information is hoping and praying that her husband is safe and well, not expecting the worst of news.

144. The advisability of giving such information direct to an unknown relative is open to debate. For instance how does the police officer at the Casualty Bureau know the circumstances surrounding the enquirer? She may be old, suffering from heart disease and living on her own. The sudden news of death in her family could well bring on another heart attack whilst she is unaccompanied, thus adding another casualty to the toll of the incident.

145. Procedures in such cases must be left to the individual police officer speaking to the enquirer. If he can satisfy himself that the enquirer is not alone, is a reasonably robust person in health, etc., then by all means he could tell of the death over the telephone. In all other cases I am of the firm view that such news must be delivered personally by a police officer in order to be satisfied that the next of kin is left in good hands at a time of need.

146. A thought here, would we, as police officers, ever telephone a colleague's wife to say that he had been killed on duty? No! An officer would be immediately dispatched to inform the wife personally and would no doubt be accompanied by a woman police officer.

Training In Bureau Work

147. Most aspects of disaster work are mainly an extension of every day police duty. Not so with Casualty Bureau operations. This is a system which, fortunately, is rarely used and as such requires regular training of the staffs that are to man the Bureau.

148. The majority of forces have placed Casualty Bureau duties under the control of their senior policewoman who uses her own women as a regular team. Others have treated Bureau work as a general extension of police duty involving all officers.

149. Whatever system has been adopted the value of such training is enormous, not only from the fact that when an incident occurs a smooth and efficient organisation is immediately forthcoming, but snags and problems can be ironed out beforehand.

THE VALUE OF REPORTS

150. Happily the number of major disasters in this country are few and far between. Due to this fact it is terribly difficult for many of us to visualise the large number of problems which each incident produces.

151. The only way we can combat this problem is by giving all forces an opportunity to learn from the experiences of those who have had such incidents in their area. The same mistake or omission must only be allowed to occur once.

152. To the best of my knowledge only once in recent years has a report of a major disaster been freely circulated amongst all forces in the country. My own force learnt many lessons from this report and these have subsequently been catered for in current force instructions.

153. During recent years I have had the privilege to have seen copies of reports on the following incidents, not only the police report but also of other services concerned in the disaster:-

- (a) The Elm Park Train Disaster - 1965
- (b) The Aberfan School Disaster - 1966
- (c) The Stockport Air Disaster - 1967
- (d) The Blackdown Hill Air Disaster - 1967
- (e) The Shelton Fire Disaster - 1968
- (f) The Sion Rail Disaster, Switzerland - 1968
- (g) The St. Albans Train Fire - 1968
- (h) The South-East Floods - 1968
- (i) The Gatwick Air Disaster - 1969
- (j) The M.1 and M.10 Multiple Accidents - 1969
- (k) The South Wales Dam Emergency - 1970
- (l) The Skopje Earthquake.

154. From all these reports there are many common points of interest to police planning officers, not only as background information, but as an aid to planning their own orders for dealing with such emergencies.

155. If such reports could be given a wider circulation, other police officers could gain knowledge in the same way as I have been so privileged to do.

THE VALUE OF THIS STUDY

156. Whilst the original purpose of my study of the forces in this country was to widen my own knowledge, I feel that several forces have also derived benefit from my visits and correspondence. Their officers have had an opportunity of discussing their plans with an individual looking at them from another viewpoint, thereby enabling fresh thought to be given to a subject so often taken for granted.

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