SLCAP 2800

Civil Aviation Authority of Sri Lanka

MANUAL OF GUIDANCE FOR AIRPORT EMERGENCY PLANNING

1st Edition – 2024

Issued under the authority of the Director General of Civil Aviation & CEO

MANUAL OF GUIDANCE FOR AIRPORT EMERGENCY PLANNING

1st Edition 2024

Control No 00

Record of Revision

Rev: No:	Date entered	Entered by

LIST OF EFFECTIVE PAGES

Page No.	Rev. No.	Effective date
ii	00	27/12/2024
iii	00	27/12/2024
iv	00	27/12/2024
v	00	27/12/2024
vi	00	27/12/2024
vii	00	27/12/2024
vii	00	27/12/2024
ix	00	27/12/2024
x	00	27/12/2024
xi	00	27/12/2024
xii	00	27/12/2024
xiii	00	27/12/2024
xiv	00	27/12/2024
xv	00	27/12/2024
1-1	00	27/12/2024
1-2	00	27/12/2024
1-3	00	27/12/2024
1-4	00	27/12/2024
2-1	00	27/12/2024
2-2	00	27/12/2024
2-3	00	27/12/2024
3-1	00	27/12/2024
3-2	00	27/12/2024
3-3	00	27/12/2024
3-4	00	27/12/2024
3-5	00	27/12/2024
3-6	00	27/12/2024
3-7	00	27/12/2024
3-8	00	27/12/2024
3-9	00	27/12/2024
4-1	00	27/12/2024
4-2	00	27/12/2024
4-3	00	27/12/2024
4-4	00	27/12/2024
4-5	00	27/12/2024
4-6	00	27/12/2024
4-7	00	27/12/2024
4-8	00	27/12/2024
4-9	00	27/12/2024
4-10	00	27/12/2024

Page No.	Rev. No.	Effective date
4-11	00	27/12/2024
4-12	00	27/12/2024
4-13	00	27/12/2024
4-14	00	27/12/2024
4-15	00	27/12/2024
4-16	00	27/12/2024
4-17	00	27/12/2024
4-18	00	27/12/2024
4-19	00	27/12/2024
5-1	00	27/12/2024
5-2	00	27/12/2024
6-1	00	27/12/2024
7-1	00	27/12/2024
7-2	00	27/12/2024
7-3	00	27/12/2024
8-1	00	27/12/2024
8-2	00	27/12/2024
8-3	00	27/12/2024
9-1	00	27/12/2024
9-2	00	27/12/2024
9-3	00	27/12/2024
9-4	00	27/12/2024
9-5	00	27/12/2024
9-6	00	27/12/2024
10-1	00	27/12/2024
11-1	00	27/12/2024
11-2	00	27/12/2024
12-1	00	27/12/2024
12-2	00	27/12/2024
12-3	00	27/12/2024
13-1	00	27/12/2024
13-2	00	27/12/2024
13-3	00	27/12/2024
13-4	00	27/12/2024
13-5	00	27/12/2024
14-1	00	27/12/2024
14-2	00	27/12/2024
14-3	00	27/12/2024

Page No.	Rev. No.	Effective date
1	00	27/12/2024
2	00	27/12/2024
3	00	27/12/2024
4	00	27/12/2024
5	00	27/12/2024
6	00	27/12/2024
7	00	27/12/2024
8	00	27/12/2024
9	00	27/12/2024
10	00	27/12/2024
11	00	27/12/2024
12	00	27/12/2024
13	00	27/12/2024
14	00	27/12/2024
15	00	27/12/2024
16	00	27/12/2024
17	00	27/12/2024
18	00	27/12/2024
19	00	27/12/2024
20	00	27/12/2024
21	00	27/12/2024
22	00	27/12/2024
23	00	27/12/2024
24	00	27/12/2024
25	00	27/12/2024
26	00	27/12/2024
27	00	27/12/2024
28	00	27/12/2024
29	00	27/12/2024
30	00	27/12/2024
31	00	27/12/2024
32	00	27/12/2024
33	00	27/12/2024
34	00	27/12/2024
35	00	27/12/2024
36	00	27/12/2024
37	00	27/12/2024
38	00	27/12/2024
39	00	27/12/2024
40	00	27/12/2024

HISTORY OF REVISION

Rev. No	Source	Areas subjected to change	Effective date

TABLE OF CONTENTS

FOREWORD

As per the Implementing Standards 30 (IS 30), which is the aerodrome standards in Sri Lanka published for effective implementation of Annex 14 Volume I Standards and Recommended Practices (SARPs), the aerodrome operator shall establish an aerodrome emergency plan at an aerodrome commensurate with the aircraft operations and other activities conducted at the aerodrome. This manual based on ICAO Doc 9137 Part 7 - Airport Emergency Planning 2nd Edition is to provide assistance to the aerodrome operator for development and implementation of the airport emergency plan as required. This manual does not include material on how an agency is to carry out its particular functions such as those of the rescue and firefighting services or air traffic control service. Such material remains in the regular documents concerning these specialties.

Airport emergency plan is set of procedures for coordinating the response of different aerodrome agencies (or services) and of those agencies in the surrounding community that could be of assistance in responding to the emergency. The objectives of the airport emergency planning are to save lives and minimize the effect on aircraft operations due to an emergency.

Among the others, this manual contains types of emergencies that should be planned for, description of agencies involved in the plan, as well as the responsibility and role of each agency, including the emergency operations centre and the command post, for each type of emergency. It also contains a sample outline of an airport emergency plan document with details of the aspects which should be covered in such documents.

This manual is effective from 27th December 2024.

AVM Sagara Kotakadeniya (Retd)
Director General of Civil Aviation
Civil Aviation Authority of Sri Lanka
No.152/1, Minuwangoda Road, Katunayake
27th December 2024

DEFINITIONS

Terms defined in the ICAO Annexes and Implementing Standards (IS) are used in accordance with the meanings and usages given therein. A wide variety of terms is in use throughout the world to describe facilities, procedures, services, etc., related to airports. As far as possible, the terms used in this manual are those which have the widest international use. When the following terms are used in this manual, they have the following meanings:

Aircraft accident. An occurrence during the operation of an aircraft in which any person involved suffers death or serious injury or in which the aircraft receives substantial damage.

Aircraft incident. An occurrence, other than an accident, associated with the operation of an aircraft, which affects or could affect continued safe operation if not corrected. An incident does not result in serious injury to persons or substantial damage to aircraft.

Aircraft operator. A person, organization or enterprise engaged in or offering to engage in aircraft operations.

Airline co-ordinator. A representative authority delegated by an airline to represent its responsibilities during an emergency involving its aircraft or property.

Airport emergency plan. Procedures for co-ordinating the response of airport services with other agencies in the surrounding community which could assist in responding to an emergency occurring on, or in the vicinity of, the airport.

Airport emergency exercise. A test of the emergency plan and review of the results in order to improve the effectiveness of the plan.

Airport flight information service. Air traffic services units which provide airport flight information service, search and rescue, alerting service to aircraft at non-controlled airports, and assistance to aircraft in emergency situations.

Airport manager. The individual having managerial responsibility for the operation and safety of an airport. The manager may have administrative control over airport rescue and firefighting services, but normally does not exercise authority over operational rescue and fire matters.

Air side. The movement area of an aerodrome, adjacent terrain and buildings or portions thereof, access to which is controlled.

Air traffic service. A generic term meaning, variously, flight information service, alerting service, air traffic advisory service, air traffic control, area control, approach control, or aerodrome control services.

Airport control tower. A facility established to provide air traffic control service for airport traffic.

Alarm and dispatch centre. A facility in use in many metropolitan areas for the rapid dispatch of emergency services. The facility is usually contacted by the general public using a simple three-digit telephone number.

Biological agent. A microorganism which causes disease in man, plants, or animals or causes the deterioration of material.

Blood volume expanders. Sterile solutions administered by intravenous injection to counteract the physiological complications of blood loss.

Care area. Location where first medical care is given to injured.

Collection area. Location where seriously injured are collected initially.

Command post (CP). The location at the scene of an emergency where the on-scene commander is located and where command, co-ordination, control, and communications are centralized.

Crash alarm. A system by which relevant emergency services are notified simultaneously of a pending or actual emergency.

Dangerous goods. This term is used internationally by all modes of transport, but it is synonymous with hazardous materials and restricted articles. The term includes explosives, compressed or liquified gases (which may be flammable or toxic), flammable liquids or solids, oxidizers, poisonous substances, infectious substances, radioactive material or corrosives.

Designated *passenger holding area.* Location to which the apparently uninjured aircraft occupants are transported.

Emergency operations centre. A designated area on the airport used in supporting and co-ordinating operations at airport emergencies.

Exercise. Testing of the airport emergency plan and review of the results in order to improve the effectiveness of the plan.

Forensic doctor. (Medical examiner/coroner) A public officer whose principal duty is to investigate and inquire by an inquest into the cause of any death where there is reason to suppose is not due to natural causes. The data acquired deals with the relation and application of medical facts to legal questions.

Full-scale emergency exercise. Assembling and utilization of all the resources that would be available and used in a real emergency.

Grid map. A map of an area overlaid with a grid system of rectangular co-ordinates that are used to identify ground locations where no other landmarks exist.

Hazardous materials. (See Dangerous goods)

In-flight emergency. An emergency which affects the occupants or operational integrity of an aircraft while in flight.

Inner perimeter. That area which is secured to allow effective command, communication and co-ordination control, and to allow for safe operations while dealing with an emergency, including the immediate ingress and egress needs of emergency response personnel and vehicles.

Investigation. A process conducted for the purpose of accident prevention, which includes gathering and analysis of information, the drawing of the conclusions, including the determination of cause(s) and, when appropriate, the making of safety recommendations.

Medical transportation area. That portion of the triage area where injured persons are staged for transportation to medical facilities under the direct supervision of a medical transportation officer.

Mobile emergency hospital. A specialized, self-contained vehicle that can provide a clinical environment in which a physician may provide definitive treatment for serious injuries at the accident scene.

Mobile quarters. Shelters which are designed to be rapidly conveyed to the accident site and quickly activated to protect casualties from exposure to the elements. Their accessories would include provisions for light and heat. Means of transportation must be considered as an integral element of these shelters.

Moulage. A reproduction of a skin lesion, tumor, wound, or other pathological state which is applied to volunteer victims to simulate realistic injuries in emergency exercises.

Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

Mutual aid emergency agreements. Agreements established with appropriate agencies in the surrounding community, defining initial notification and response assignments.

On-scene commander. Person designated to take charge of the over-all emergency operation.

Outer perimeter. That area outside of the inner perimeter which is secured for immediate support operational requirements, free from unauthorized or uncontrolled interference.

Partial exercise. An exercise of one or more participants of the airport emergency plan as required to improve efficiency.

Rendezvous *point.* A pre-arranged reference point, i.e. road junction, cross-road or other specified place, to which personnel/vehicles responding to an emergency situation initially proceed to receive directions to staging areas and/or the accident/incident site.

Restricted articles. (See Dangerous goods)

Stabilization. Use of medical measures used to restore basic physiologic equilibrium to a patient to insure survival and facilitate future definitive care.

Staging area. A prearranged, strategically placed area where support response personnel, vehicles and other equipment can be held in readiness for use during an emergency.

Tabletop exercise. The simplest and least expensive type of drill stage. Used to test the integration and capability of emergency response resources, it is a simple tool for planning, critiquing, and updating various responses before trying them in the field.

Tagging. Method used to identify casualties as requiring immediate care (Priority I), delayed care (Priority II) minor care (Priority III), or as deceased.

Triage. The sorting of casualties at an emergency according to the nature and severity of their injuries.

Triage area. Location where triage operations are performed.

Triage tag. A tag used in the classification of casualties according to the nature and severity of their injuries.

Tsunami. Extraordinarily large ocean waves produced by seismic activity.

Chapter 1 General

1.1 NEED FOR EMERGENCY PLANNING PROCEDURES

1.1.1 Airport emergency planning is the process of preparing an airport to cope with an emergency occurring at the airport or in its vicinity. The object of airport emergency planning is to minimize the effects of an emergency, particularly in respect of saving lives and maintaining aircraft operations. The airport emergency plan sets forth the procedures for co-ordinating the response of different airport agencies (or services) and those agencies in the surrounding community that could be of assistance in responding to the emergency.

1.1.2 Each airport emergency plan should be a co-ordinated programme between the airport and the surrounding community. This is desirable as the planning and procedures needed to handle major emergency situations on the airport are similar to other types of major emergencies that can strike a community. Inasmuch as the airport may be the transportation hub for any community emergency situation (whether it be an aircraft accident, a natural disaster, an explosion, or even a severe storm), its role in any community emergency situation should be well established. Each airport/community has individual needs and peculiarities, but, in spite of the political, jurisdictional and agency differences, the basic needs and concepts of emergency planning and exercises will be much the same and involve the same major problem areas: COMMAND, COMMUNICATION and CO-ORDINATION.

1.1.3 The airport emergency plan will be implemented similarly whether it is an on-airport or an off-airport aircraft accident/incident. It is only in jurisdiction that changes will be noted. In an on-airport aircraft accident/incident, the airport authority will normally be in command. In an off-airport aircraft accident/incident, the agency in command will be the agency agreed upon in the mutual aid emergency agreement pre-arranged with the surrounding community. When an aircraft accident/incident occurs just outside the airport perimeter, the jurisdictional responsibility will be as agreed upon in the mutual aid emergency agreement pre-arranged with the surrounding community. This, however, should not affect the immediate response by airport personnel or by agencies having roles in the airport emergency plan.

1.1.4 The airport emergency plan should include a set of instructions to ensure prompt response of rescue and firefighting, law enforcement, police/security, medical services, other agencies on and off the airport and other competent, trained, expert personnel, adequate to meet all unusual conditions.

1.1.5 To be operationally sound, a comprehensive airport emergency plan must give consideration to:

a) preplanning BEFORE an emergency;
b) operations DURING the emergency; and
c) support and documentation AFTER the emergency.

1.1.6 “Before the emergency” considerations include planning for the handling of all factors that could bear upon effective emergency response. Preplanning should define the organizational authority and the responsibilities for developing, testing and implementing the emergency plan.

1.1.7 “During the emergency” considerations depend on the stage, nature and location of the emergency. The situation may change as the rescue work progresses. (For example, while the airport fire chief or designee would normally be the first person in command of the emergency forces, this officer may thereafter become one of several staff officers as other responding officers from other agencies assume their specified roles at the command post under the jurisdiction of the designated “on-scene” commander.)

1.1.8 “After the emergency” considerations may not carry the urgency of preceding events, but transitions of authority and responsibility at the scene need to be thoroughly discussed and planned in advance. Some personnel, who in early stages have a direct operational assignment, subsequently may be required to remain on the scene and may assume a supportive role (i.e. police/security personnel, rescue and firefighting personnel, airport authority and public works). Thus, it is also necessary to preplan for such supportive services, and to consider problems related to restoring or maintaining protective services to permit continuation of normal airport/aircraft operations which may have been disrupted by the emergency. The need to communicate the termination of the emergency to supporting agencies (hospitals, ambulances, etc.) so they can return to “normal” operation should also be considered. Documentation of the various operations in an emergency is an aid to the gathering and organizing of data for various post-accident/incident reports. It also can provide the structure for a critique of the emergency and can be used as a format for improving the procedures and arrangements in the emergency plan.

1.1.9 The recommendations set forth in this manual are based on the paramount need for survival of aircraft occupants and other casualties resulting from the aircraft accident/incident. The stabilization and emergency medical treatment of casualties is of equal importance. The speed and skill of such treatment is crucial in situations where life hazards exist. An effective rescue effort requires adequate preplanning for the emergency as well as execution of periodic practice exercises.

1.1.10 The recommendations should take into account operations in all weather conditions such as extreme heat and rain, wind or reduced visibility. They should also allow for potential accident locations in difficult terrain surrounding the airport environment, i.e. bodies of water, roads, depressions and other problem areas.

1.1.11 The principal purpose of this document is to alert participating departments or agencies, which may be called to an aircraft emergency. It is hoped that this information may be useful in resolving problems that actual emergencies have brought to light.

1.1.12 An important consideration of the plan is the identification of all materiel resources that can be utilized to manage the emergencies identified within the airport emergency plan.It is incumbent to include in the planning process the most effective method of acquiring these resources and placing them where needed in a timely manner.

1.2 RESPONSIBILITY

1.2.1 Each airport authority should be responsible for establishing emergency plans and procedures to deal with all unusual conditions at the airport and for co-ordinating the plan with surrounding community authorities. The airport authority also should have the responsibility for assignment of emergency personnel and equipment provided by all concerned departments and agencies, and for providing maximum aircraft/airport emergency services and mutual aid.

1.2.2 The plan should spell out the co-ordinated response or participation of all existing agencies which, in the opinion of the authority, could be of assistance in responding to an emergency. Examples of such agencies are:

a) On the airport
    1) rescue and firefighting services;
    2) medical services;
    3) police, military and security services;
    4) airport administration;
    5) air traffic services;
    6) aircraft operators; and
    7) Government Authorities.

b) Off the airport
    1) mutual aid police;
    2) mutual aid local fire departments;
    3) medical services;
    4) hospitals;
    5) government authorities;
    6) military;
    7) SL Navy, harbour patrol or coast guard; and
    8) all other participating agencies.

1.2.3 The airport authority should ensure that all participating agencies having duties and responsibilities under the emergency plan are familiar with their assignments. They should also be familiar with other agencies' duties in the emergency plan. The responsibility and role played by each agency for each type of emergency are described in Chapter 4.

1.3 ESTABLISHMENT OF AN AIRPORT EMERGENCY PLAN

1.3.1 The purpose of an airport emergency plan is to ensure that there is:

a) orderly and efficient transition from normal to emergency operations;
b) delegation of airport emergency authority;
c) assignment of emergency responsibilities;
d) authorization by key personnel for actions contained in the plan;
e) co-ordination of efforts to cope with the emergency; and
f) safe continuation of aircraft operations or return to normal operations as soon as possible.

1.3.2 It is imperative that the airport authority arrange emergency mutual aid agreements which define responsibilities and/or liabilities of each contributing party with surrounding communities. These agreements should include at least the following:

a) clarification of the political and jurisdictional responsibilities of the several agencies that may be involved in order to avoid problems when an emergency occurs;
b) establishment of the command authority; i.e. a single on-scene commander (with designated alternates if necessary);
c) designation of communication priorities at the accident site;
d) organization of emergency transportation facilities under a predesignated co-ordinator(s);
e) predetermination of the legal authorities and liabilities of all co-operating emergency personnel; and
f) prearrangements for use of portable and heavy rescue equipment from available sources.

1.3.3 Off-airport accidents in adjacent mountains, marshes, or water can present unique and difficult access and logistical problems. It is therefore important that communities so located have adequate plans for rescue in such areas. This could require an analysis of the availability of such special service vehicles as fire boats, rescue boats, helicopters, hovercraft, swamp buggies, half-tracks, forest firefighting equipment, etc., and arrangement for their utilization. Consideration also may need to be given to:

a) the availability of specialized rescue teams such as scuba divers, mountain or ski patrols, search dogs and bomb squads;
b) the handling of radiological incidents or chemical spills; and
c) equipment for the emergency transfer of fuel from the aircraft wreckage, from a water surface, or from pools formed in ground depressions, etc.

Chapter 2 AIRPORT EMERGENCY PLAN DOCUMENT

2.1 PURPOSE AND SCOPE

2.1.1 The purpose of the emergency plan documents is to set out in manual form the responsibilities and required actions/roles of the various personnel/agencies involved in dealing with emergencies affecting the airport.

2.1.2 "During the emergency" considerations depend on the exact nature and/or location of the accident. The location will dictate the agency responsible for management of the emergency. As the nature of the accident changes from emergency operations to the investigation phase, the appropriate accident investigation authority will assume command and responsibility for the accident scene. All agencies responding to the accident must know, in advance, their respective roles, responsibilities, and to whom they report and who reports to them.

2.1.3 "After the emergency" considerations also must be given considerable attention. Transition of authority and other legal factors need to be discussed and preplanned. Consideration needs to be given to the restoration of protective services in order to permit continuation of normal airport/aircraft operations and to public protection that may have been disrupted by the emergency.

2.1.4 The recommendations contained in this document are based on the requirement that survival of aircraft occupants and other related accident victims is the primary operational objective. Effective operations require a great deal of preplanning and regular exercises that provide an opportunity for realistic training of personnel from all agencies which will be involved in the emergency.

2.1.5 It is crucial that planning details by the response agencies consider local weather conditions and night operations. Severe weather conditions may also negatively affect firefighting foam solution.

2.1.6 Precautions must be taken, where necessary, to mitigate weather-induced physical problems such as hypothermia and dehydration. Such considerations apply to emergency personnel as well as to victims of the accident.

2.1.7 The scope of the emergency plan document should include command, communication and co-ordination functions for executing the plan.

2.1.8 An outline of an airport emergency plan is contained in Appendix 1.

2.2 TYPES OF EMERGENCIES

2.2.1 The airport emergency plan shall provide for the co-ordination of the actions to be taken in an emergency occurring at an airport or in its vicinity.

2.2.2 Different types of emergencies which can be anticipated are: emergencies involving aircraft, emergencies not involving aircraft, medical emergencies, or combinations of these emergencies.

a) *Emergencies involving aircraft.* These include:
    1) accident — aircraft on-airport
    2) accident — aircraft off-airport
        i. land
        ii. water
    3) incident — aircraft in flight
        i. severe air turbulence
        ii. decompression
        iii. structural failure
    4) incident — aircraft on ground
    5) incident — sabotage including bomb threat
    6) incident — unlawful seizure

b) *Emergencies not involving aircraft.* These include:
    1) fire — structural
    2) sabotage including bomb threat
    3) natural disaster
    4) dangerous goods
    5) medical emergencies

c) *Compound emergencies.*
    1) aircraft/structures
    2) aircraft/fuelling facilities
    3) aircraft/aircraft

2.2.3 The aircraft emergencies for which services may be required are generally classified as:

a) “aircraft accident”: an aircraft accident which has occurred on or in the vicinity of the airport;
b) “full emergency”: an aircraft approaching the airport is, or is suspected to be, in such trouble that there is imminent danger of an accident; and
c) “local standby”: an aircraft approaching the airport is known or is suspected to have developed some defect, but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing.

This classification has been used in Chapter 4.

2.2.4 In a medical emergency the degree or type of illness or injury and the number of persons involved will determine the extent to which the airport emergency plan is utilized. Everyday, minor first-aid requirements should be dealt with by airport first-aid or medical clinics. (See Appendix 2.) Where airport first-aid or medical clinics are not available, outside medical attention should be obtained. Important factors that determine the need to implement the emergency plan, and if so, the extent of its utilization, include communicable diseases, collective food poisoning, and sudden, serious illness or injury beyond the capability of the airport first-aid or medical clinic.

Chapter 3 AGENCIES INVOLVED

3.1 GENERAL

The first step in a viable emergency plan is to have the co-operation and participation of all the concerned airport/community authorities. Agencies to be considered are:

a) air traffic services;
b) rescue and firefighting services (fire departments)*;

   * Throughout this manual rescue and firefighting service means the main agency designated to provide rescue and firefighting services at an airport. Fire department means the rescue and firefighting service available in the vicinity of an airport. The principal object of the latter is to deal with fires occurring in the community surrounding the airport.

c) police and/or security services;
d) airport authority;
e) medical services;
f) hospitals;
g) aircraft operators;
h) government authorities;
i) communication services;
j) airport tenants;
k) transportation authorities (land, sea and air);
l) rescue co-ordination centre;
m) civil defence;
n) mutual aid agencies;
o) military;
p) harbour patrol, Sri Lanka Navy (SL Navy) or coast guard;
q) clergy;
r) public information office;
s) customs;
t) mental health agencies;
u) public utilities;
v) postal authorities;
w) veterinary services;
x) coroner;
y) volunteer organizations; and
z) international relief agencies (Red Cross, etc.).

3.2 AIR TRAFFIC SERVICES

When the emergency involves an aircraft, the airport control tower (or airport flight information service) is required to contact the rescue and firefighting service and to provide information on the type of emergency and other essential details, such as the type of aircraft, fuel on board and location of the accident, if known. Additionally, the airport emergency plan may specify that air traffic services should initiate the calling of the local fire departments and appropriate organizations in accordance with the procedures laid down in the plan. The initial call should provide the grid map reference, rendezvous point and, where necessary, the airport entrances to be used..Care must be taken, when preplanning initial notification of the accident, to specify clearly the responsibility assignments and to avoid duplication in the calling requirements. Subsequent calls may expand the information given to include the number of aircraft occupants, any dangerous goods on board, and the name of the aircraft operator, if appropriate. If the airport must be closed because of the emergency situation at hand, air traffic services are expected to take action as necessary with respect to aircraft desiring to land or depart,

3.3 RESCUE AND FIRE FIGHTING SERVICES (FIRE DEPARTMENTS)

3.3.1 The prime responsibility of airport rescue and firefighting personnel is to save lives. Property endangered by aircraft incidents and accidents occurring on or near the airport should be preserved as far as practicable. To achieve this objective, fire should be suppressed and any reignition prevented. There are aircraft accidents, however, where fire may not occur, or where the fire may be rapidly extinguished. In every case, the procedures should provide for the most rapid evacuation possible of survivors of the accident.

3.3.2 Unless seriously injured casualties are stabilized rapidly, they may become fatalities. Airport rescue and firefighting personnel should receive training to satisfy locally acceptable, emergency medical standards. They may be the only rescue personnel on the scene during the critical period immediately following an accident and possibly for an extended period of time. On-airport availability of other responding personnel with qualified medical expertise may reduce this need.

3.3.3 Only firefighting and rescue personnel wearing approved protective firefighting clothing and equipment should be allowed in close proximity to an aircraft accident site. Such clothing should be worn within a distance of approximately 100 m from any point on the aircraft or any fuel spillage.

3.3.4 As a means to easily identify and distinguish the fire officer in command, a suitable red hard hat and highly visible red apparel such as a vest or coat should be worn, with “CHIEF FIRE OFFICER” in reflective lettering displayed front and back.

3.4 POLICE AND/OR SECURITY SERVICES

3.4.1 In an airport emergency, it is expected that the police or security officer first to arrive at the scene will secure the site and request reinforcement, if needed. The officer's responsibilities should continue until relieved by the designated law enforcement agency that has jurisdictional authority over the area. The plan should include arrangements for the rapid and effective reinforcement of the security cordon by local police, military or other units under governmental control, wherever required.

3.4.2 Congestion-free ingress and egress roads need to be established immediately for emergency vehicles. The security services, police force, or other appropriate local authorities are expected to ensure that only persons with specific tasks be allowed at the scene of the accident. They should route the normal traffic away from or around the accident site.

3.4.3 The plan should provide for the control of crowds that always collect at an accident site and also for the preservation of the entire area, undisturbed whenever practical, for investigation purposes. (See Appendix 3.)

3.4.4 A mutual aid programme should be instituted between all potentially involved security agencies; e.g. airport, city, local and government security forces, and, where appropriate, military police and customs officials.

3.4.5 A method to easily identify responding emergency personnel should be implemented at security check points to ensure that they have immediate access to the accident site. “Emergency Access” identification can be preissued by the airport authority to emergency personnel for use during an emergency.

3.4.6 In many cases it may not be possible or practicable for vehicles of mutual aid fire departments, ambulances, etc., to proceed directly to the accident/incident site. It is essential that the emergency plan includes procedures for meeting at a designated rendezvous point or points. A rendezvous point can also be used as a staging area where responding units can be held until needed at the accident site. This can help to eliminate traffic jams and confusion. Personnel controlling the rendezvous point also should consider the suitability of vehicles for adverse terrain conditions at the accident site and to prevent obstruction of the access route by disabled vehicles. Staging these vehicles can prevent traffic jams and confusion at the accident scene.

3.4.7 As a means to easily identify and distinguish the security/police officer in command, a blue, industrial hard hat and highly visible blue apparel such as a vest or coat should be worn, with “POLICE CHIEF” in reflective lettering displayed front and back.

3.5 AIRPORT AUTHORITY

3.5.1 The airport authority should be responsible for establishing, promulgating and implementing the plan and designating the person in command of the over-all operation at the command post. The plan may require the airport authority to ensure that the information, such as names and telephone numbers of offices or people involved in an airport emergency, is kept up to date and distributed to all concerned. Co-ordination of all agencies responding to an emergency is expected to be carried out by the airport authority. The airport authority will also arrange necessary meetings of the airport emergency plan co-ordinating committee, composed of key personnel from participating agencies, to critique the plan after it has been tested or implemented. The airport authority should be responsible for closing the airport, or part of it, if circumstances so require. Aircraft operations should be resumed only when circumstances permit aircraft to operate safely without interfering with rescue activities and the airport movement area has been secured.

3.5.2 As a means to easily identify and distinguish the airport operations officer in charge, an international-orange hard hat and highly visible orange apparel such as a vest or coat should be worn, with “AIRPORT ADMINISTRATION” in reflective lettering displayed back and front.

3.6 MEDICAL SERVICES

3.6.1 The purpose of medical services is to provide triage, first aid and medical care in order to:

a) save as many lives as possible by locating and stabilizing the most seriously injured, whose lives may be in danger without immediate treatment;
b) provide comfort to the less seriously injured and to administer first aid; and
c) transport casualties to the proper medical facility.

3.6.2 It is essential that provision of medical services such as triage, stabilization, first aid, medical care, and the transporting of the injured to hospital(s) be carried out in the most expeditious manner possible. To this end, well organized medical resources (personnel, equipment and medical supplies) should be available at the accident site in the shortest time possible. The medical aspects of the emergency plan should be integrated with local community emergency plans as agreed upon in the mutual aid emergency agreement. (See Appendix 4.)

3.6.3 A medical co-ordinator should be assigned to assume control of the emergency medical operations at the accident site. If airport medical services exist, the medical co-ordinator may be designated from the airport medical staff. In some cases, it may be necessary to appoint an interim medical co-ordinator, to be relieved when the designated medical co-ordinator arrives on site.

3.6.4 Medical and ambulance services may be an integral part of the airport services, particularly whenever an ambulance service is a part of the airport rescue and fire fighting service. Whenever medical and ambulance services are not available at the airport, prearrangements with local, private, public or military medical and ambulance services should be made. The plan has to ensure the dispatch of a satisfactory assignment of personnel, equipment and medical supplies. To ensure a rapid response, the plan can include arrangements for land, sea and airborne transportation of medical services to the scene, and subsequent transportation of persons requiring immediate medical care. Prearrangements are necessary for the availability of doctors and other medical personnel for all airport emergencies. The plan should list a sufficient number of doctors to offset any absences at the time an emergency occurs.

3.6.5 The plan should designate a medical transportation officer whose responsibilities would include:

a) alerting hospitals and medical personnel of the emergency;
b) directing transportation of casualties to appropriate hospitals suitable for treatment of the particular injury;
c) accounting for casualties by recording the route of transportation, destination hospital, and casualty's name and extent of injuries;
d) advising hospitals when casualties are en route; and
e) maintaining contact with hospitals, medical transportation, the senior medical officer, on-scene command post, and the command post.

3.6.6 Information on medical services at airport is contained in Appendix 2.

3.7 HOSPITALS

3.7.1 Participating hospitals should have contingency emergency plans to provide for mobilization if necessary of medical teams to the accident site in the shortest possible time. Availability of qualified personnel and adequate facilities at the hospitals to deal with airport emergency situations is vital. In this respect, it is mandatory to establish in advance an accurate list of surrounding hospitals. They should be classified according to their effective receiving capacity and specialized features, such as neurosurgical ability or burn treatment. In most circumstances it is unwise to deplete the most proximate hospital to the accident site of essential medical and nursing personnel.

3.7.2 The distance from the airport and the ability to receive helicopters should be considered. Reliable two-way communication shall be provided between the hospitals and ambulances. The alert of an aircraft accident should be made to a single medical facility which then alert all other facilities according to a local medical communications network.

3.8 AIRCRAFT OPERATIONS

3.8.1 It is important that arrangements be made in the plan to disseminate full details of aircraft related information, such as number of persons aboard, fuel quantity and existence of any dangerous goods, if available. Aircraft operators are expected to be responsible for providing this information. This information is vital to the on-scene commander and will influence the tactics and strategies used to deal with the emergency. Operators also are responsible for making arrangements for any uninjured persons who may require to continue their journey, or need accommodations or other assistance. Additionally, aircraft operators may be responsible for contacting deceased passengers' next of kin. The police and/or international relief agencies (Red Cross, etc.) will normally assist in the accomplishment of this task. Information concerning services provided by aircraft operators following an aircraft accident is contained in Appendix 6.

3.8.2 The airport emergency plan should designate an aircraft operator to respond to an emergency involving a chartered, private, aircraft operator,..etc.

3.8.3 The proper disposition of all cargo, mail and baggage aboard an aircraft involved in an accident is the responsibility of the aircraft operator. Permission to remove these items from the aircraft may be granted by the on-scene commander only after the emergency has been abated and the requirements of the accident investigators have been met.

3.9 GOVERNMENT AUTHORITIES

In order to avoid conflict and confusion between participants, the airport emergency plan should clearly define the obligations, controls and limitations placed on the airport authority by government agencies. Post-accident investigation, unlawful seizure of aircraft, bomb threats and bombings, customs and postal matters, may all fall into jurisdictions other than that of the airport authority.

3.10 AIRPORT TENANTS

Airport tenants and their employees should be considered a prime source of readily available equipment and human resources. With their intimate knowledge of the airport, airport tenants and their employees can have a vital role in the emergency plan especially if their background includes medical training, transportation. It is important that these persons be deployed under supervision and assigned specific functions to void duplication of efforts and disruption of other emergency operations. For their own personal safety, the use of these people should be restricted until the emergency is under control. Employees with first aid knowledge should be known and identified by means of a suitable vest during an emergency.

3.11 TRANSPORTATION AUTHORITIES (LAND, SEA, AIR)

3.11.1 In an emergency, vehicles are needed to carry out rescue operations, to transport personnel and to haul supplies and debris. Responsibility for the control of vehicles to be used during an emergency should be assigned to a designated transportation officer. All of the transportation equipment available at the airport, such as buses, trucks, maintenance vehicles and automobiles, should be inventoried and assignments should be included in the emergency plan. Arrangements in advance also might be made to obtain additional vehicles from bus companies. Also, by prior agreement, the use of vehicles owned by airport employees might be included in the emergency plan.

3.11.2 In airport emergencies, provision shall be made for an easily identifiable guide vehicle, equipped with two-way radio communication, to lead groups of vehicles from the rendezvous point(s) or staging area to the accident site. This should be accomplished without interference with aircraft operations.

3.11.3 Suitable rescue equipment and services shall be available for use whenever the accident site and/or access routes require transportation through water or swampy areas that cannot be fully served by conventional, wheeled vehicles. This is particularly important where a significant portion of approach/departure operations takes place over these areas.

3.11.4 As a means to easily identify and distinguish the transportation officer in charge, a lime-green hard hat and lime-green vest or other apparel should be worn, with “TRANSPORTATION OFFICER” in reflective lettering displayed back and front.

3.12 RESCUE CO-ORDINATION CENTRE

Rescue co-ordination centres may play a significant role when aircraft accidents occur in the vicinity of an airport but the accident site is not known, or rescue facilities additional to those available at or near the airport are required to be brought into action. Rescue co-ordination centres shall have means of immediate communication with all rescue units within their areas of responsibility, including units providing aircraft, helicopters and special rescue teams. Where appropriate, coastal radio stations capable of alerting and communicating with surface vessels must be used. Assistance from some of these units can be essential in responding to an accident in the vicinity of the airport. It is therefore suggested that the potential role of the rescue co-ordination centre be specifically highlighted in a separate paragraph in the airport emergency plan document.a

3.13 CIVIL DEFENCE

The airport emergency plan should be integrated with the local community civil defence emergency plan and with local search and rescue teams. Consideration should be given to the role the airport may have as a result of co-ordination with civil defence officials and in support of any civil defence emergency plan requirements.

3.14 MUTUAL AID AGREEMENTS

3.14.1 Airport emergencies may be of such magnitude that local rescue and firefighting, security, law enforcement and medical services are inadequate to handle the situation. It is therefore strongly recommended that written mutual aid programmes be initiated to ensure the prompt response of adequate rescue and firefighting, security, law enforcement and medical services elsewhere. Such mutual aid agreements are normally co-ordinated by the airport authority as well as the agencies involved and implemented by the airport authority. For further information, see Appendix 4.

3.14.2 All mutual aid agreements shall be reviewed or revised annually. Telephone and personnel contacts shall be reviewed and updated monthly.

3.15 MILITARY

Where a military installation is located on or in the vicinity of an airport, a mutual aid agreement shall be initiated to integrate these personnel within the command, communication and co-ordination functions of the emergency plan.

3.16 SL NAVY, HARBOUR PATROL AND COAST GUARD

SL Navy, harbour patrol and coast guard are services which are vital to airports in proximity to large water environments. Co-ordination of such services should be included in the airport emergency plan where applicable. These services usually interface with rescue co-ordination centres and mutual aid police units. To obtain the immediate response of such services, maintenance of an adequate communication network is an essential ingredient of the plan.

3.17 CLERGY

Arrangements should be made to contact the clergy to provide comfort to casualties and relatives and to perform religious services where and when appropriate.

3.18 PUBLIC INFORMATION OFFICER

3.18.1 A public information officer should be designated. This officer should co-ordinate and release factual information to the news media and also should co-ordinate public information statements between all parties involved.

3.18.2 It is recommended that the television and radio news media be requested to withhold the release of accident information for at least fifteen minutes (or longer, if possible). This delay will allow sufficient time to establish adequate security around the accident site and to establish road blocks on routes providing ingress and egress to the accident site by participating emergency medical agencies and other services.

3.18.3 The public information officer is responsible for escorting the news media to the accident/incident location.

3.19 MENTAL HEALTH AGENCIES

The emergency plan should include local mental health agencies. Therapeutic treatment, as well as follow-up procedures for dealing with the possible long-term effects of the emergency, should be available for survivors, relatives, eyewitnesses, and emergency scene personnel.

Chapter 4 RESPONSIBILITY AND ROLE OF EACH AGENCY FOR EACH TYPE OF EMERGENCY

4.1 AIRCRAFT ACCIDENT ON THE AIRPORT

4.1.1 General

The airport emergency plan shall be implemented immediately upon an aircraft accident occurring on the airport. For this type of emergency, responding agencies are expected to take action as described in 4.1.2 to 4.1.10 below.

4.1.2 Action by air traffic services

4.1.2.1 Initiate emergency response by using the crash alarm communication system (See Figure 8-1).

4.1.2.2 Notify the rescue and firefighting service and provide information on the location of the accident, grid map reference and all other essential details, including time of the accident and type of aircraft. Subsequent notification may expand this information by providing details on the number of occupants, fuel on board, aircraft operator, and any dangerous goods on board, including quantity and location, if known.

4.1.2.3 Close the affected runway and minimize vehicle traffic on that runway to prevent disturbance of accident investigation evidence (See 4.1.5.2) f)).

4.1.2.4 If required, initiate communications to the police and security services, airport authority, and medical services in accordance with the procedure in the airport emergency plan. Provide the contacts with grid map reference, rendezvous point and/or staging area and airport entrance to be used.

4.1.2.5 Issue the following Notice to Airmen (NOTAM) immediately:
“Airport rescue and fire fighting service protection unavailable until (time) or until further notice. All equipment committed to aircraft accident.”

4.1.2.6 Verify by written checklist that the actions above were completed, indicating notification time(s) and name of person completing action.

4.1.3 Action by rescue and firefighting services (fire departments)

4.1.3.1 A request to respond to an aircraft accident on the airport will normally be issued by the air traffic services. When, however, a call is received from any other person, an accident is observed, or there is reason to consider that an accident is imminent, the airport rescue and fire fighting service will take action in the same manner as if the air traffic services had originated the request. The air traffic services will then be informed of the nature of the request/call and of the response initiated.

4.1.3.2 Airport rescue and firefighting services shall:

a) proceed via fastest access routes to the site indicated by air traffic services;
b) advise mutual aid fire department(s) while en route of the following:
    1) rendezvous point;
    2) staging area;
    3) human resources and equipment required for support, if known; and
    4) any other pertinent information; and
c) immediately establish a well identified command post. This is a temporary post until the airport authority mobile command post is available and operative.

4.1.3.3 The senior airport fire officer is the responsible officer in charge until the emergency has been stabilized.

4.1.3.4 An aircraft/structural fire is unique because of the fire control problems with the presence of highly flammable fuel and the high structures normally found on an airport. Control of the combined aircraft/structural fire will be predicated on mutual aid emergency agreements.

4.1.3.5 Prior agreement should be reached between the on-airport rescue and firefighting service and the off airport mutual aid fire departments as to which is best equipped to fight fires in aircraft hangars or other airport structures. Additionally, there should be prior agreement as to which agency will be in command when an accident involves an aircraft and an airport structure.

4.1.4 Action by police and security services

4.1.4.1 The first security/police officer to arrive, in co-ordination with the on-scene commander, will assume security responsibility, immediately establish free traffic lanes on ingress and egress roads for emergency vehicles, and request reinforcements as needed. This officer shall remain in command of security until relieved by the law enforcement authority who has jurisdiction over the area.

4.1.4.2 Security personnel should establish an ambulance route to the triage area to enable those vehicles to proceed to the area, load and depart in an orderly line. The route should provide for the continuous, unobstructed flow of emergency vehicles without blockage or reversal into the casualty pick up area.

4.1.4.3 Security personnel and police will be needed to handle traffic in the vicinity of the accident site, to admit authorized emergency personnel, to keep unauthorized persons from the accident site, and to assume custody of personal effects removed from the aircraft.

4.1.4.4 Normal traffic should be routed away from or around the accident site.

4.1.4.5 The emergency site shall be cordoned off as soon as possible to exclude intruders, press, sightseers, onlookers and souvenir hunters. Appropriate markings shall be prominently displayed to advise all persons of possible hazards which may cause them serious injury should they encroach on the area.

4.1.4.6 Communications between all security check points and the command post and/or emergency operations centre should be implemented as soon as possible.

4.1.4.7 Notification of other agencies as shown in Figure 8-1 should be carried out as soon as possible.

4.1.4.8 Identifying arm bands, site passes, or I.D. tags should be issued by the controlling authority and monitored by the security police officer and the security police team.

4.1.4.9 Special security provisions are necessary to protect the flight data and cockpit voice recorders. Additional security should be effected to protect any mail involved, secure any dangerous goods which may be present, or to protect personnel from exposure to radioactive materials.

4.1.5 Action by airport authority

4.1.5.1 The airport authority will go to the accident site and, when required, set up an easily identifiable mobile command post. The mobile command post should be adequately staffed by senior representatives capable of making decisions involving:

a) airport operations;
b) security operations;
c) medical operations;
d) aircraft operations; and
e) aircraft recovery operations.

4.1.5.2 The airport authority will review the action checklist to verify that:

a) the airport emergency operations centre has been activated;
b) mutual aid police procedures have been initiated and secondary notification calls have been made;
c) mutual aid fire departments have been notified and escort has been provided for their access to the accident site and staging areas designated;
d) medical and ambulance services have been alerted and their arrivals at the designated rendezvous point or staging area have been verified;

e) the affected aircraft operator has been notified and information obtained concerning any dangerous goods on board the aircraft (e.g. explosives, compressed or liquified gases, flammable liquids or solids, oxidizers, poisonous substances, infectious substances, radioactive materials or corrosives), and this information has been passed on to appropriate participants;
f) liaison has been established with air traffic services concerning the closure of airport areas, designation of emergency response corridors, issuing of voice advisories and NOTAM advising of reduced airport rescue and firefighting protection;
g) government aircraft accident investigation authorities have been notified;
h) the meteorological department has been notified to make a special weather observation;
i) arrangements have been made for the immediate survey and photography of the affected runway to identify the location of crash debris;
j) arrangements have been made to secure the crash debris pending release by the investigating agencies;
k) airspace reservation co-ordination offices (air traffic flow control office), if any, have been advised of reduced airport capabilities; and
l) if fatalities are involved, the Medical Examiner has been notified and temporary morgue facilities designated.

4.1.5.3 In conjunction with mutual aid police, the airport authority should:

a) designate rendezvous points and staging areas for the inner and outer perimeters;
b) assign security personnel at the staging area and/or rendezvous point to escort vehicles so as to ensure the orderly flow of emergency vehicles, particularly ambulances, to and from the accident site; and
c) assign staging areas for escort vehicles and ambulances to ensure rapid dispatch.

4.1.5.4 After consulting with the chief fire officer in charge, the airport authority shall co-ordinate the activities of mutual aid rescue personnel and direct their activities to maximize their efforts.

4.1.5.5 The airport authority should also arrange the availability of the following services as required:

a) portable emergency shelter for use by other than medical services;
b) lavatories;
c) drinking water;
d) ropes, barriers, etc.;
e) food service;
f) mobile or portable lighting;

g) cones, stakes, and signs;
h) machinery, heavy equipment, extraction tools;
i) hydraulic extraction tools and shoring materials; and
j) communications equipment, such as megaphones, portable telephones, etc.

4.1.5.6 The airport authority will provide the initial briefing for the airport public information officer and will then co-ordinate with the public information officer of the aircraft operator involved, when appropriate, any press releases and statements to the press.

4.1.5.7 Upon concurrence of the chief fire officer, police/security chief and the medical co-ordinator, the airport authority's on-scene commander will notify all participating mutual aid organizations upon termination of the airport emergency.

4.1.6 Action by medical services

It shall be the responsibility of the medical co-ordinator to supervise the medical services and to:

a) verify the notification of mutual aid medical and ambulance services and their subsequent arrival at the rendezvous point or staging area;
b) organize the necessary actions for triage, treatment of the casualties, and their eventual evacuation by appropriate means of transportation;
c) control the flow of casualties and ensure, together with the transportation officer, the dispatch of the casualties to the appropriate hospitals by all available means of transportation;
d) maintain an accurate list of the casualties including their names and their final disposition;
e) co-ordinate the transportation of the uninjured to the designated holding area with the aircraft operator concerned;
f) provide medical evaluation of ambulatory and uninjured survivors;
g) arrange for the replenishment of medical supplies, if necessary; and
h) organize, with the police, reception facilities for the dead.

4.1.7 Action by hospitals

Appoint a hospital co-ordinator responsible for the following:

a) immediately provide and transport doctors and medical teams skilled in trauma care to the accident site upon notification of the emergency;
b) provide medical care to the casualties when they arrive at the treatment area; and
c) ensure that adequate doctors and nurses, operating rooms, intensive care units, surgical teams, blood and blood volume expanders are available for emergency situations, including aircraft accidents.

4.1.8 Action by aircraft operators

4.1.8.1 The senior aircraft operator representative will report to the mobile command post to co-ordinate the aircraft operator activities with the person in charge. In the event the aircraft operator is not an airport tenant, the airport authority should designate the most capable operator on the airport to handle emergencies involving transient aircraft until such time as the aircraft operator involved can arrive at the scene.

4.1.8.2 The senior representative of the aircraft operator will provide information regarding passenger load, flight crew complement and the existence of any dangerous goods together with their loading position. Dangerous goods include explosives, compressed or liquified gases (which may be flammable or toxic), flammable liquids or solids, oxidizers, poisonous substances, infectious substances, radioactive materials and corrosives. Information concerning dangerous goods should be relayed, as soon as possible, to the chief fire officer and the medical co-ordinator.

4.1.8.3 The senior aircraft operator representative shall make arrangements for transportation of uninjured persons from the accident site to the designated Survivor Reception Centre (SRC). Transportation of the “walking injured” from the scene should be permitted only after consultation with the medical co-ordinator.

4.1.8.4 The aircraft operator staff shall proceed to the designated Survivor Reception Centre (SRC). The senior aircraft operator representative at the Survivor Reception Centre (SRC) will appoint qualified receptionists, registrars, and welfare co-ordinators from the staff.

4.1.8.5 The aircraft operator representative who is in command of the Survivor Reception Centre (SRC) will oversee those operations by making arrangements for additional medical services (if required), commissary items, clothing, telephone facilities, etc.

4.1.8.6 The receptionists should meet the transporting vehicles as they arrive from the scene of the accident and direct the passengers to the registrars' tables where they will be processed. The receptionists should know where toilet facilities are located. Migration from the holding area should be prevented until each person transported to the holding area is identified and processed according to the airport emergency plan.

4.1.8.7 The registrars will record the passenger's name on the manifest and determine desired reservation requirements, i.e. hotel accommodations, air transportation or other modes of transportation, etc. Registrars should list any persons to be notified of the passenger's physical and/or mental condition and potential plans. The registrar will then place an identification tag or sticker (available from the emergency kit, see Appendix 6, paragraph 10) on the passenger. The registrars will direct the passengers to the welfare co-ordinators when registration has been completed.

4.1.8.8 Welfare co-ordinators and mental health specialists trained in stress management should:

a) give support and comfort to relatives and friends of passengers and crew members on board the aircraft;
b) register relatives and friends waiting at the airport for information about persons on board; and
c) provide care, comfort, and assistance to the “walking injured”, uninjured survivors and responding personnel (if required).

4.1.8.9 The aircraft operator or its representative will provide notification of the aircraft accident to:

a) health and welfare agencies;
b) customs, where applicable;
c) immigration, where applicable;
d) post office; and
e) environmental agencies, where applicable.

4.1.8.10 A senior aircraft operator official will be responsible for the initial notification of relatives and friends.

4.1.8.11 News releases by aircraft operators will be prepared in co-ordination with the airport public information officer and liaison officers from other agencies involved in the accident.

4.1.8.12 The aircraft operator is responsible for the removal of the wrecked or disabled aircraft, but only after receiving authorization from Director General of Civil Aviation (DGCA).

4.1.9 Action by government authorities

The following government authorities may be required to take appropriate action as indicated in their emergency plan:

a) government accident investigation personnel;
b) health and welfare;
c) post office;
d) customs;
e) immigration;
f) agriculture;
g) public works; and
h) environmental agencies.

4.1.10 Action by the public information officer

4.1.10.1 All press personnel will be directed to a designated press staging area for press personnel authorized to cover an airport emergency. At this area the following will be provided:

a) briefing;
b) communications; and
c) transportation service to and from the accident site, when permissible

4.1.10.2 Only members of the press, free-lance reporters and photographers wearing a valid press card will be admitted to the briefing area, to the designated press staging area, or transported to the scene of the accident.

4.1.10.3 In general, responsibility for news releases concerning an aircraft emergency should be that of:

a) a public information officer designated by the airport authority; and
b) the representative of the aircraft operator involved.

4.1.10.4 Under no circumstances will the press or any other personnel not involved in life saving or firefighting operations be permitted inside security lines until all rescue operations have been completed. Establishment of security lines should consider the interests of media coverage as much as rescue operations permit.

4.2 AIRCRAFT ACCIDENT OFF THE AIRPORT

4.2.1 General

The airport emergency plan, as well as the mutual aid emergency agreement, shall be implemented immediately upon an aircraft accident occurring off the airport. For this type of emergency, responding agencies are expected to take action as described in 4.2.2 to 4.2.11 below.

4.2.2 Initial notification

Initial notification of an off-airport accident normally will be made by a witness to the local police, fire department, or government established organizations (if available).

4.2.3 Action by air traffic services

4.2.3.1 Initiate emergency response by using the alarm communications system. (See Figure 8-2.)

4.2.3.2 Notify the emergency services having jurisdiction over the area, providing information on the location of the accident, giving grid map reference and all other essential details. These details should include the time of accident and the type of aircraft involved. Subsequent notification may expand this information by giving details on the number of occupants, fuel on board, aircraft operator, if appropriate, and any dangerous goods on board, including quantity and location, if known.

4.2.3.3 Initiate notification of the airport rescue and fire fighting service, police and security services, airport authority, and medical services in accordance with the procedure in the airport emergency plan, giving grid map reference.

4.2.3.4 If required, issue the following NOTAM as soon as possible:
“Airport rescue and fire fighting service reduced to category (indicate category number) until further notice.”

4.2.3.5 Confirm that the actions above were completed, by written checklist, indicating notification time(s) and name of person completing action.

4.2.4 Action by airport rescue and firefighting services

4.2.4.1 Notification of an aircraft accident off the airport will normally be received from the air traffic services, local police or local fire departments. Designated vehicles will be sent in accordance with the existing mutual aid fire department agreement. (See Appendix 4.)

4.2.4.2 Airport rescue and firefighting services shall:

a) proceed via the most suitable access routes to the off-airport accident site in co-ordination with the local police responsible for ingress and egress roads;

b) co-ordinate with mutual aid fire department(s); and
c) while en route, exchange information with the fire department having jurisdiction over the area concerning:

1) rendezvous point and/or staging area
2) human resources and equipment responding; and
3) any other pertinent information.

4.2.4.3 The senior airport fire officer will report to the senior fire officer of the fire department having jurisdiction over the area and will request instructions.

4.2.4.4 Prior agreement should be reached between the airport rescue and firefighting service, the local fire department in command, and mutual aid fire departments as to which is best equipped to fight fires involving aircraft and/or structures. Additionally, there should be agreement as to which agency will act in command when an accident involves both an aircraft and an airport structure.

4.2.5 Action by police and security services

4.2.5.1 The first security/police officer to arrive will immediately assume security responsibility, establish free traffic lanes on ingress and egress roads for emergency vehicles, and request reinforcements as needed. He shall remain in command of security until relieved by the appropriate law enforcement authority who has jurisdiction over the area

4.2.5.2 Traffic flow and site security are the primary responsibility of police and security personnel. They should notify the appropriate communications centre of the location of the accident and available means of access and egress. After consultation with the on-scene commander, they should initiate traffic control measures in order to aid responding emergency vehicles

4.2.5.3 Security personnel and police will be needed to handle traffic in the vicinity of the accident site and to prevent disturbance of material scattered over the accident site.

4.2.5.4 The emergency site shall be cordoned off as soon as possible to exclude intruders, press, sightseers, onlookers and souvenir hunters. Appropriate markings should be displayed prominently, advising all persons of possible hazards that may cause serious injury should they encroach on the area. In order to prevent ignition of fuel vapours, flares should not be used within a distance of approximately 100 m of the accident site.

4.2.5.5 Communications between all security check points and the command post and/or emergency operations centre should be implemented as soon as possible.

4.2.5.6 Notification of other agencies as shown in Figure 8-2 should be carried out as soon as possible.

4.2.5.7 Identifying arm bands, site passes, or I.D. tags should be issued by the controlling authority and monitored by security and police officers.

4.2.5.8 Special security provisions are necessary to protect the flight data and cockpit voice recorders, to protect mail, to secure any dangerous goods which may be present, and to protect personnel from exposure to radioactive materials, if necessary.

4.2.6 Action by airport authority

Agreements for emergency mutual aid with the surrounding community enable the airport authority to take the following actions:

a) respond to the accident site;
b) activate the airport emergency operations centre and the mobile command post (if required);
c) extend as much emergency aid as requested by the jurisdiction agency in command of the off-airport accident/incident;
d) notify the aircraft operator involved;
e) notify other agencies as shown in Figure 8-2; and
f) provide medical equipment and personnel.

4.2.7 Action by medical services

4.2.7.1 Civil defence and local authorities normally will be responsible for organizing the medical response. However, the medical response from the on-airport medical service should also be applicable to mass casualty accidents occurring off the airport.

4.2.7.2 According to the mutual aid emergency agreement with the surrounding community, the airport authority may provide, if requested and if available, a part of its medical equipment, supplies (i.e. first aid equipment, stretchers, body bags, mobile shelters, etc.) and assistance of first-aid personnel at the accident site.

4.2.8 Action by hospitals

4.2.8.1 Ensure that adequate doctors, nurses, and operating room, intensive care, and surgical teams are available for emergency situations, including aircraft accidents.

4.2.8.2 Provide medical care to the injured when they arrive.

4.2.9 Action by aircraft operators

4.2.9.1 The senior representative of the aircraft operator or a designee will report to the command post to co-ordinate the aircraft operator activities with the person in charge.

4.2.9.2 The senior representative of the aircraft operator will provide information regarding passenger load, flight crew complement and the existence of any dangerous goods together with their loading position. Dangerous goods include explosives, compressed or liquified gases (which may be flammable or toxic), flammable liquids or solids, oxidizers, poisonous substances, infectious substances, radioactive material or corrosives. Information concerning dangerous goods should be relayed, as soon as possible, to the chief fire officer and the medical co-ordinator.

4.2.9.3 The senior aircraft operator representative shall make arrangements for transportation of uninjured persons from the accident site to the designated Survivor Reception Centre (SRC). Transportation of the “walking injured” from the scene should be permitted only after consulting with the medical co-ordinator.

4.2.9.4 The aircraft operator staff shall proceed to the designated Survivor Reception Centre (SRC). The senior aircraft operator representative at the Survivor Reception Centre (SRC) will appoint qualified receptionists, registrars and welfare co-ordinators from staff.

4.2.9.5 The aircraft operator representative who is in command of the Survivor Reception Centre (SRC) will oversee those operations by making arrangements for additional medical services (if required), commissary items, clothing, telephone facilities, etc.

4.2.9.6 The receptionists should meet the transportation vehicles as they arrive from the scene of the accident and direct the passengers to the registrars' tables where they will be processed. The receptionists should know where support facilities are located, i.e. toilet facilities, telephones, clothing, drinking water, etc.

4.2.9.7 The registrars will record the passenger's name on the manifest and determine desired reservation requirements, i.e. hotel accommodations, air transportation or other modes of transportation, etc., and any persons to be notified of the passenger's physical and/or mental condition and potential plans. The registrar will use an identification tag or sticker (available from the emergency kit, see Appendix 6, paragraph 10), to place on the passenger. The registrars will direct the passengers to the welfare co-ordinators when registration has been completed.

4.2.9.8 The aircraft operator will provide notification of the aircraft accident to:

a) Civil Aviation Authority and accident investigation authorities, as required;
b) health and welfare agencies;
c) customs, where applicable;
d) immigration, where applicable;
e) post office; and
f) environmental agencies.

4.2.9.9 A senior aircraft operator representative will be responsible for the initial notification of relatives and friends.

4.2.9.10 News releases by aircraft operators will be prepared in co-ordination with the airport public information officer and liaison officers from other agencies involved in the accident.

4.2.9.11 The aircraft operator is responsible for the removal of the wrecked or disabled aircraft, but only after receiving authorization from DGCA.

4.2.10 Action by government authorities

The following government authorities, after being notified, may be required to take appropriate action as indicated in their emergency plan:

a) government accident investigation personnel;
b) health and welfare;
c) post office;
d) customs, immigration and agriculture; and
e) environmental agencies.

4.2.11 Action by the public information officer

4.2.11.1 The responsibility for news releases concerning an off-airport emergency should be that of:

a) the representative of the aircraft operator;
b) a public information officer designated by the particular government authority in command; and
c) a public information representative designated by the airport authority.

4.2.11.2 Only members of the press, free-lance reporters, and photographers wearing a valid press card will be admitted to the briefing area, permitted to the designated press staging area, or transported to the scene of the emergency.

4.2.11.3 In general, responsibility for news releases concerning an aircraft emergency should be that of:

a) a public information officer designated by the airport authority; and
b) the representative of the aircraft operator involved.

4.2.11.4 Under no circumstances should the media or any other personnel not involved in the fire fighting, rescue or emergency medical care be permitted inside security lines until all rescue operations have been completed and the area is declared safe for entry by the on-scene commander/chief fire officer.

4.3 FULL EMERGENCY

4.3.1 General

The agencies involved in the airport emergency plan shall be alerted to “full emergency” status when it is known that an aircraft approaching the airport is, or is suspected to be, in such trouble that there is a possibility of an accident.

4.3.2 Action by air traffic services

4.3.2.1 Notify the airport rescue and firefighting service to stand by at the predetermined ready positions applicable to the planned runway and provide as many of the following details as possible:

a) type of aircraft;
b) fuel on board;
c) number of occupants, including special occupants — handicapped, immobilized, blind, deaf;
d) nature of trouble;
e) planned runway;
f) estimated time of landing;
g) aircraft operator, if appropriate; and
h) any dangerous goods on board, including quantity and location, if known.

4.3.2.2 Initiate notification of the mutual aid fire department(s) and other appropriate organizations in accordance with the procedure prescribed in the airport emergency plan, providing, if necessary, the rendezvous point and airport entrance to be used.

4.3.3 Action by other agencies

The specific responsibilities and roles of the various agencies itemized in 4.1.2 to 4.1.10 corresponding to an aircraft accident on the airport can be paralleled for “full emergency” as required by local operating requirements.

4.4 LOCAL STANDBY

4.4.1 General

The agencies involved in the airport emergency plan shall be alerted to “local standby” status when an aircraft approaching the airport is known or is suspected to have developed some defect but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing.

4.4.2 Action by air traffic services

Notify the airport rescue and fire fighting service to stand by as requested by the pilot, or stand by as local airport agreements require at the predetermined ready positions applicable to the runway to be used. Provide as many of the following details as possible:

a) type of aircraft;
b) fuel on board;
c) number of occupants, including special occupants — handicapped, immobilized, blind, deaf;
d) nature of trouble;
e) planned runway;
f) estimated time of landing;
g) aircraft operator, if appropriate; and
h) any dangerous goods on board, including quantity and location, if known.

4.4.3 Action by other agencies

The specific responsibilities and roles of the various agencies itemized in 4.1.2 to 4.1.10 corresponding to an aircraft accident on the airport can be paralleled for “local standby” as required by local operating requirements.

4.5 NON-AIRCRAFT ACCIDENT RELATED AIRPORT EMERGENCIES

4.5.1 General

4.5.1.1 Procedures and techniques developed for responding to non-aircraft accident related airport emergencies should be similar to the techniques in handling aircraft accident emergencies. It should be recognized that medical and fire emergencies can arise at any location where large numbers of persons work or congregate. This problem can be severe at airports because of the exposure associated with commonplace activities, such as arriving and departing passengers and sightseers, and the use of public service facilities (i.e. automobile movement and parking areas, restaurants, bars, baggage handling and storage areas, etc.). Additionally, airports can be selected by malcontents as locations to demonstrate their anger against any group or activity.

4.5.1.2 The diverse character of persons travelling by air suggests the need for the airport authority to arrange to have available emergency medical services to treat conditions such as cardiac arrest, abdominal pains, burns, cuts, abrasions, and other medical problems. Such conditions may require immediate care facilities and detailed mutual aid plans with outside agencies. (See Appendix 4.)

4.6 UNLAWFUL ACTS AGAINST CIVIL AVIATION

4.6.1 General

4.6.1.1 Detailed information on procedures for dealing with unlawful interference is given in the National Civil Aviation Security Programme (NCASP). The subsequent responsibilities and roles of the various agencies itemized in 4.1.2 to 4.1.10 for responding to an emergency should be developed, as required, in accordance with local operating requirements and procedures described in the National Civil Aviation Security Programme (NCASP).

4.6.1.2 An aircraft which is subjected to a threat of sabotage or unlawful seizure should be parked at an isolated aircraft parking position until the act of unlawful interference is terminated. Such an area should be located at least 100 m away from other aircraft parking positions, buildings or public areas as specified in IS 30. In such cases it may be necessary to evacuate passengers without the aero bridges provided at the passenger terminal. Motorized passenger steps could be driven to the site; otherwise built-in aircraft stairs or the aircraft slides may be used.

4.7 OCCURRENCES INVOLVING DANGEROUS GOODS

4.7.1 General

4.7.1.1 Detailed information on procedures for dealing with Occurrences onboard Involving Dangerous Goods is given in the ICAO Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods (Doc 9481).

4.7.1.2 Many types of dangerous goods can be shipped by air. These include explosives, compressed or liquified gases (which may be flammable or toxic), flammable liquids or solids, oxidizers, poisonous substances, infectious substances, radioactive material or corrosives. Packages containing dangerous goods may be found in airport cargo buildings, on aircraft loading ramps, in aircraft cargo compartments, etc. Rescue and fire fighting personnel need to be aware of the potential hazards of any dangerous goods and be prepared to deal with related emergencies. Accidents involving aircraft carrying dangerous goods present special rescue and fire control problems, although the existence of such cargoes may not be immediately known. Aircraft operators should report without delay the presence, or possible presence, of dangerous goods on board aircraft involved in an accident. Packages containing dangerous goods can be identified by the distinctive diamond-shaped dangerous goods labels. Rescue and fire fighting personnel should familiarize themselves with the various labels.

4.7.1.3 If a package containing radioactive materials ruptures and spillage occurs, the vehicles or persons that come near or cross through the area may become contaminated. If radioactive material is disturbed, winds or a thermal column from an aircraft fire could carry and spread the radioactive material over a great distance, endangering a wide area. Provision for decontamination of responding personnel and equipment should be included in emergency

planning procedures. If packages containing radioactive material are damaged, the assistance of radiological experts will be required without delay. The most appropriate organization able to provide such assistance should be determined. This may well be one of the agencies listed in 3.1.1.

4.7.1.4 Where broken containers are found which could cause injury to or affect the health of exposed aircraft occupants or rescue personnel (particularly from radioactive, aetiological, or toxic materials), special precautions should be taken. Personnel trained to deal with the special problems involved shall be utilized. If damaged packages of dangerous goods are found, especially if they are radioactive, infectious or poisonous materials, precaution should be taken to safeguard the health of exposed aircraft occupants and rescue personnel. Fire fighters and other rescue workers should be trained to deal with the special problems that could arise.

4.7.1.5 In the event radioactive materials are suspected, the following general procedures should be followed;

a) the nearest nuclear energy facility, hospital with a radiological unit, military base or civil defense organization should be required to dispatch immediately a radiological team to the accident site;
b) persons coming in contact with radioactive material should be segregated until examined by radiological team physicians;
c) suspected material should be identified but not handled until it has been monitored and released by authorized personnel. Clothing and tools used at the accident scene should be segregated until released by a radiological emergency team;
d) food or drinking water suspected of contamination should not be used;
e) only properly attired rescue and fire fighting personnel should remain on the scene; all other persons should be kept as far from the scene as possible; and
f) all hospitals shall be notified immediately that radioactive materials are involved so they can establish radioactive decontamination areas in the hospital.

4.7.1.6 The basic regulations for the carriage of radioactive materials by all forms of transport are published by the International Atomic Energy Agency (IAEA). These regulations form the basis for many national regulations.

4.7.1.7 Food or drinking water suspected of contamination by aetiological or toxic materials should not be used. The public health and veterinary authorities should be informed immediately.

4.7.1.8 Any casualty or person exposed to dangerous materials should be removed from the scene of the occurrence and transported to the appropriate medical facilities for suitable treatment as soon as possible.

4.7.1.9 Many publications are available which deal with the handling of dangerous goods. These include ICAO's *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284), the International Air Transport Association's *Dangerous Goods Regulations*, the International Atomic Energy Agency's *Regulations for the Safe Transport of Radioactive Materials* and *Emergency Response Planning for Transport Accidents Involving Radioactive Materials.* Particularly useful to fire departments would be the United States National Fire Protection Association's *Fire Protection Guide on Hazardous Material.*

4.8 NATURAL DISASTER

4.8.1 General

4.8.1.1 The natural disasters to which airports may be subjected include storms, floods, earthquakes, and seismic sea waves. The vulnerability of an airport to any of these will, in good measure, be affected by geography, since the more dangerous occurrences are often defined by certain areas or belts. While nothing can be done to avert them, there are actions that can be taken to minimize damage and expedite restoration of aircraft operations.

4.8.1.2 Development of weather patterns, prediction and tracking of movement of storms, and notification to the public of potential danger will normally be carried out by a meteorological service in the area.

4.8.1.3 The airport emergency plan should provide for initial protective measures, emergency supplies pertinent to local disaster exposure, personnel shelter, and post-storm clean up and restoration. Aircraft operations will usually be impossible for several hours before and after the storm.

4.8.1.4 As soon as severe storm warnings are received, all owners of aircraft based or located at the airport should be notified. Warnings should be issued to all aircraft pilots en route to the airport. Aircraft owners and pilots should be responsible for their aircraft. If possible, all aircraft on the ground should be evacuated to airports outside the storm area. Aircraft in flight should be advised to divert to an alternate destination. Aircraft on the ground that cannot be dispersed should be put under cover or tied down so as to face into the approaching winds.

4.8.1.5 Power interruptions are common during a natural disaster, either by damage to generating plants or by destruction of transmission lines.

4.8.1.6 Specific personnel assignments for building protection to collect or secure all loose objects that may be blown about by the winds should be made in the airport emergency plan. It may be necessary to fill and place sandbags if there is any possibility of flooding.

4.8.1.7 Natural disasters require large quantities of specific equipment for use in earthquakes, floods, tsunamis, etc. A survey of the quantity and type of emergency supplies available from each individual agency should be made to provide a consolidated list of supplies available for the region.

4.9 EMERGENCIES AT AIRPORTS BORDERING WATER AREAS

4.9.1 General

Many airports are located adjacent to large bodies of water which requires additional emergency services. Aircraft may sink rapidly making the danger of drowning or hypothermia a major problem for the occupants. Some aircraft are not equipped with life vests, rafts or inflatable slides. Flotation devices sufficient to carry the number of occupants of the largest aircraft regularly using the airport should be carried on amphibious rescue vehicles capable of rapid deployment. The airport operator may establish a water rescue with specialist rescue and firefighting services. For mor information on aircraft accidents in the water, refer to Appendix 5 of this manual.

Chapter 5 EMERGENCY OPERATIONS CENTRE AND MOBILE COMMAND POST

5.1GENERAL

A fixed emergency operations centre should be available to deal with emergency situations at each airport. Certain emergency situations will require a mobile command post at the scene, normally under the direction of the airport authority's on-scene commander.

5.2EMERGENCY OPERATIONS CENTRE

5.2.1 The main features of this unit are:

a) its fixed location;
b) it acts in support of the on-scene commander in the mobile command post for aircraft accidents/incidents;
c) it is the command, co-ordination and communication centre for unlawful seizure of aircraft and bomb threats; and
d) it is operationally available 24 hours a day.

5.2.2 The location of the emergency operations centre should provide a clear view of the movement area and isolated aircraft parking position, wherever possible.

5.2.3 The mobile command post will usually be adequate to co-ordinate all command and communication functions. The emergency operations centre is a designated area on the airport which is usually used in supporting and co-ordinating operations in accidents/incidents, unlawful seizure of aircraft, and bomb threat incidents. The unit should have the necessary equipment and personnel to communicate with the appropriate agencies involved in the emergency, including the mobile command post, when this is deployed. The communication and electronic devices should be checked daily.

5.3MOBILE COMMAND POST

5.3.1 The mobile command post is a point where co-operating agency heads assemble to receive and disseminate information and make decisions pertinent to the rescue operations. The main features of this unit are:

a) It is a mobile facility capable of being rapidly deployed;
b) it serves as command, co-ordination and communication centre for aircraft accidents/incidents;
c) it is operational during aircraft accidents/incidents; and
d) it is correctly located with respect to wind and terrain conditions.

5.3.2 In the event of any accident/incident, a designated, recognizable and readily visible mobile command post is a high priority item. It should be established as quickly as possible,

preferably at the same time as the initiation of fire control and rescue activities. A continuity of command must be maintained so that each agency reporting to the mobile command post can be adequately briefed on the situation before assuming control of its individual responsibilities.

5.3.3 The unit should contain the necessary equipment and personnel to communicate with all agencies involved in the emergency, including the emergency operations centre. The communication and electronic devices should be checked each month.

5.3.4 In order to eliminate confusion and missed transmissions, since several different agencies are working together in the command post utilizing several radio frequencies and telephones, it is essential that the volume of noise be reduced by utilizing head sets or sound absorbent partitions for each participant.

5.3.5 Maps, charts, and other relevant equipment and information should be immediately available at the mobile command post.

5.3.6 The mobile command post should be easily recognizable by provision of an elevated distinguishing marker, such as a chequered flag, coloured traffic cone, balloon or rotating light.

5.3.7 It may be necessary to establish a sub-command post. When this is required, one location should be designated as a “master” command post with adequate communications to the sub-command post.

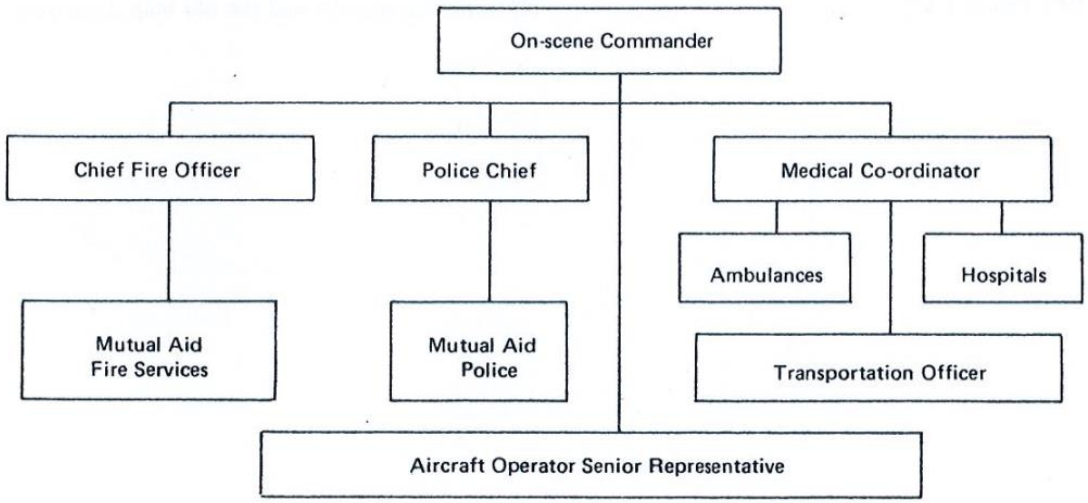
Chapter 6 COMMANDER AND CO-ORDINATOR(S) FOR THE PLAN

6.1GENERAL

6.1.1 Once an accident has occurred, the initial direction and control of rescue and firefighting operations are the responsibility of the airport rescue and firefighting service officer in charge. Rescue and firefighting personnel will be the first to arrive at the accident site; therefore, for a certain period of time this officer will be in command. However, the rescue and firefighting service officer is so involved in the rescue and firefighting operation that as soon as the on-scene commander arrives, the on-scene commander will assume command as outlined in the airport emergency plan. The transition of authority and command responsibility needs to be established previously in the emergency plan and exercised accordingly.

6.1.2 Off-airport accidents are under the direction and control of the agency agreed upon in the mutual aid emergency agreement prearranged with the surrounding community.

6.1.3 The plan should call for the designation of other co-ordinators to accomplish particular functions. A diagrammatic representation is shown below.



Chapter 7 GRID MAP

7.1GENERAL

7.1.1 A detailed grid map(s) of the airport and its vicinity (with date of revision) should be provided in the emergency operations centre. Similar small-size maps should be available in the control tower, fire station, rescue and fire fighting vehicles and all other supporting vehicles responding to an emergency. Copies should also be distributed to the agencies involved in the plan.

7.1.2 It is preferable that two (2) grid maps be provided; one map should depict the confines of airport access roads, location of water supplies, rendezvous points, staging areas, etc (See Figure 7-1). The other map should include surrounding communities and depict appropriate medical facilities, access roads, rendezvous points, etc. within a distance of approximately 8 km from the centre of the airport (see Figure 7-2).

7.1.3 It is absolutely essential that where more than one grid map is used, the grids do not conflict; they must be immediately identifiable to all participating agencies. Use of different colour grids as in Figures 7-1 and Figure 7-2 preclude misinterpretation of grid maps.

7.1.4 The grid map which shows the available medical facilities should contain information on potential bed availability and medical specialities at the different hospitals. Each hospital should be individually numbered and treatment specialty indicated with distinct data such as beds, personnel, etc.

7.1.5 It is essential that whenever the grid map is revised, an updated copy shall be provided to all participating agencies and the old map destroyed.

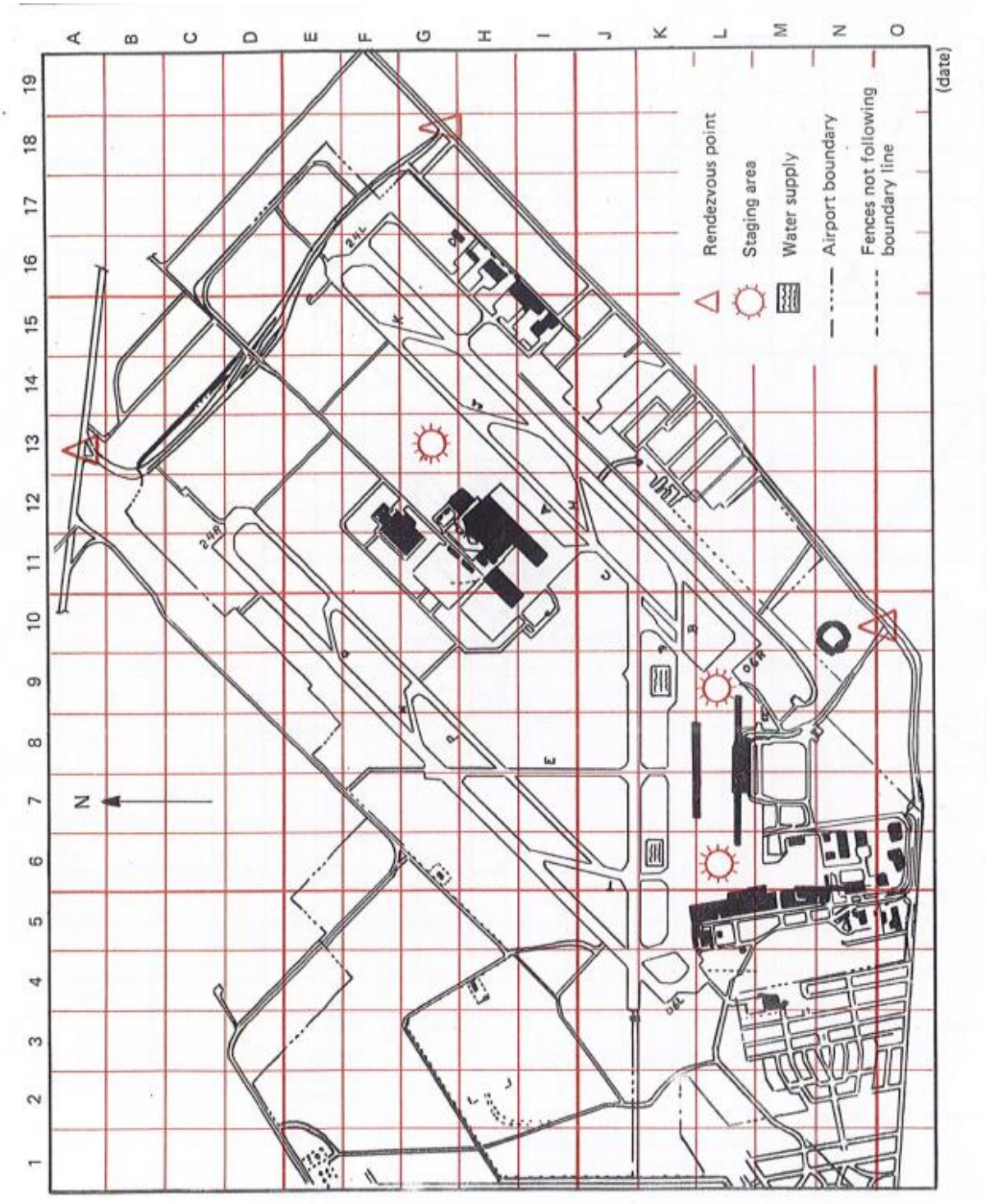


Figure 7-1 Sample grid map – Airport

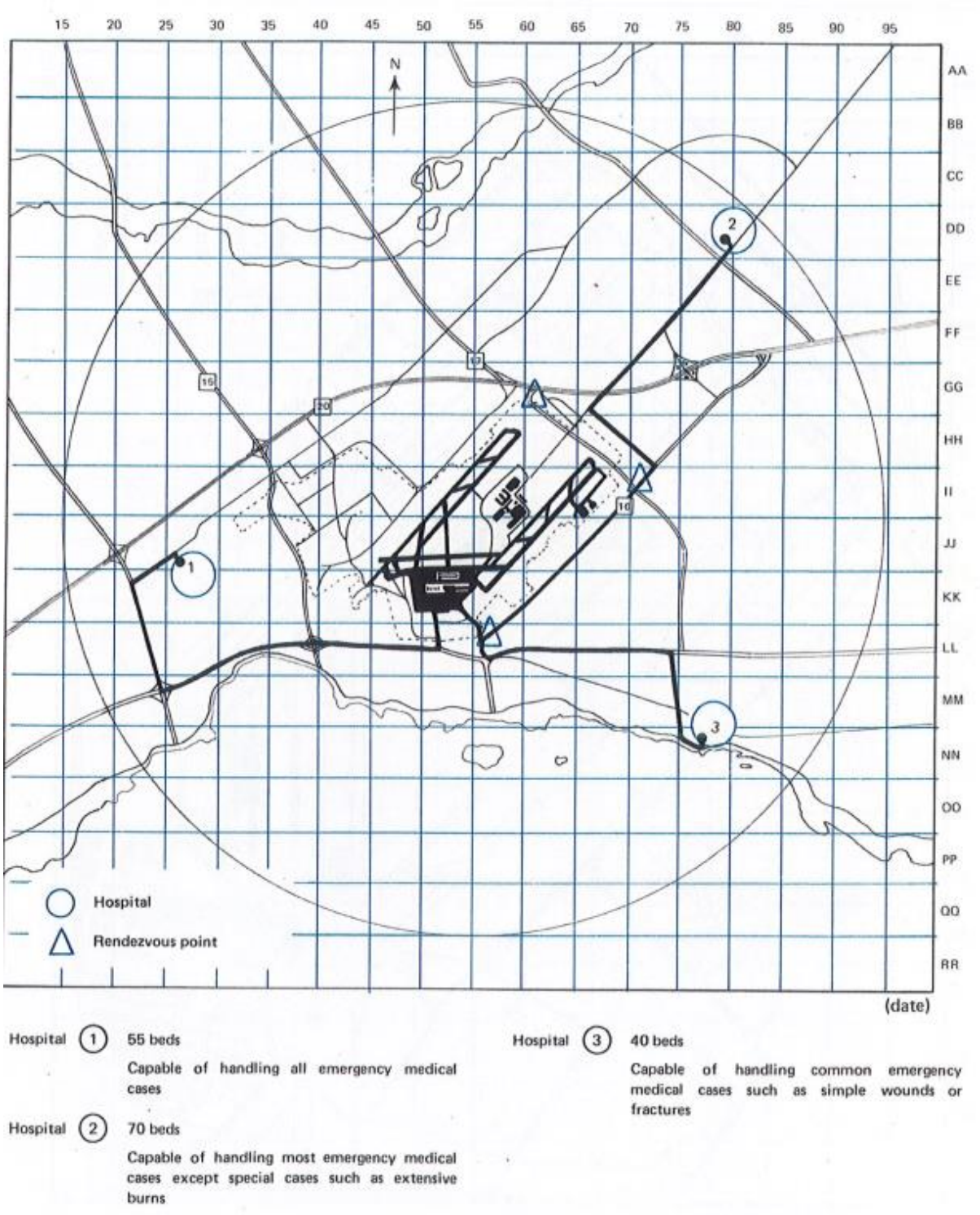


Figure 7-2 Sample grid map – Airport and surrounding community

Chapter 8 INFORMATION ON OFFICES TO BE CONTACTED

8.1GENERAL

8.1.1 Flow control charts, such as the examples illustrated in Figures 8-1 and 8-2, assist in rapid communication in the event of an emergency. Accordingly they should contain all vital telephone numbers. Separate flow control charts should be developed for each type of emergency included in the plan. It is important that the method of notification be clearly outlined in the airport emergency plan.

8.1.2 Telephone numbers should be verified monthly and a revised list issued if any changes have occurred. In order to require only one page to be re-issued when a change occurs, each flow control chart should be printed on one sheet and dated.

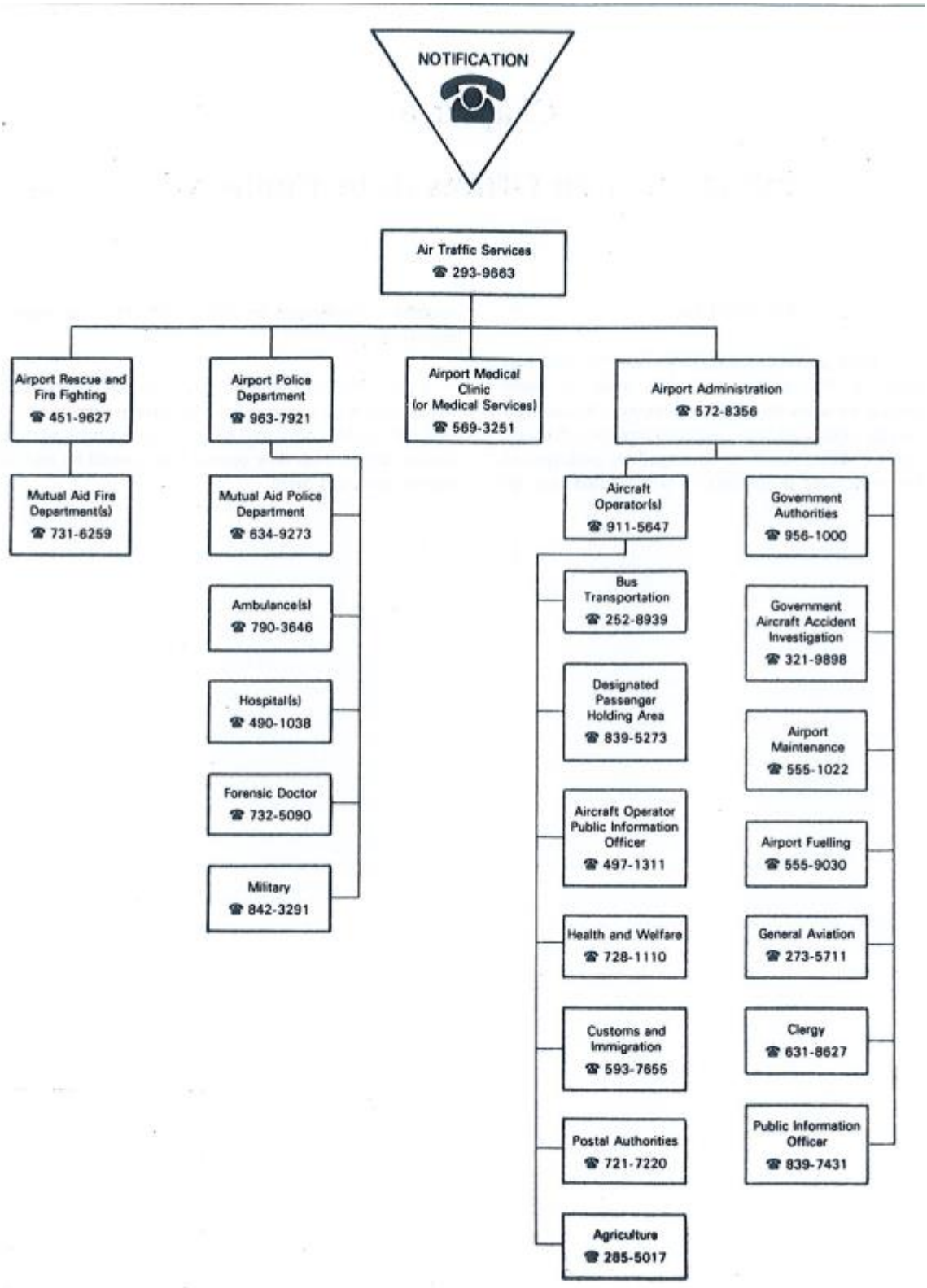


Figure 8-1 Flow Control chart – Aircraft accident on airport

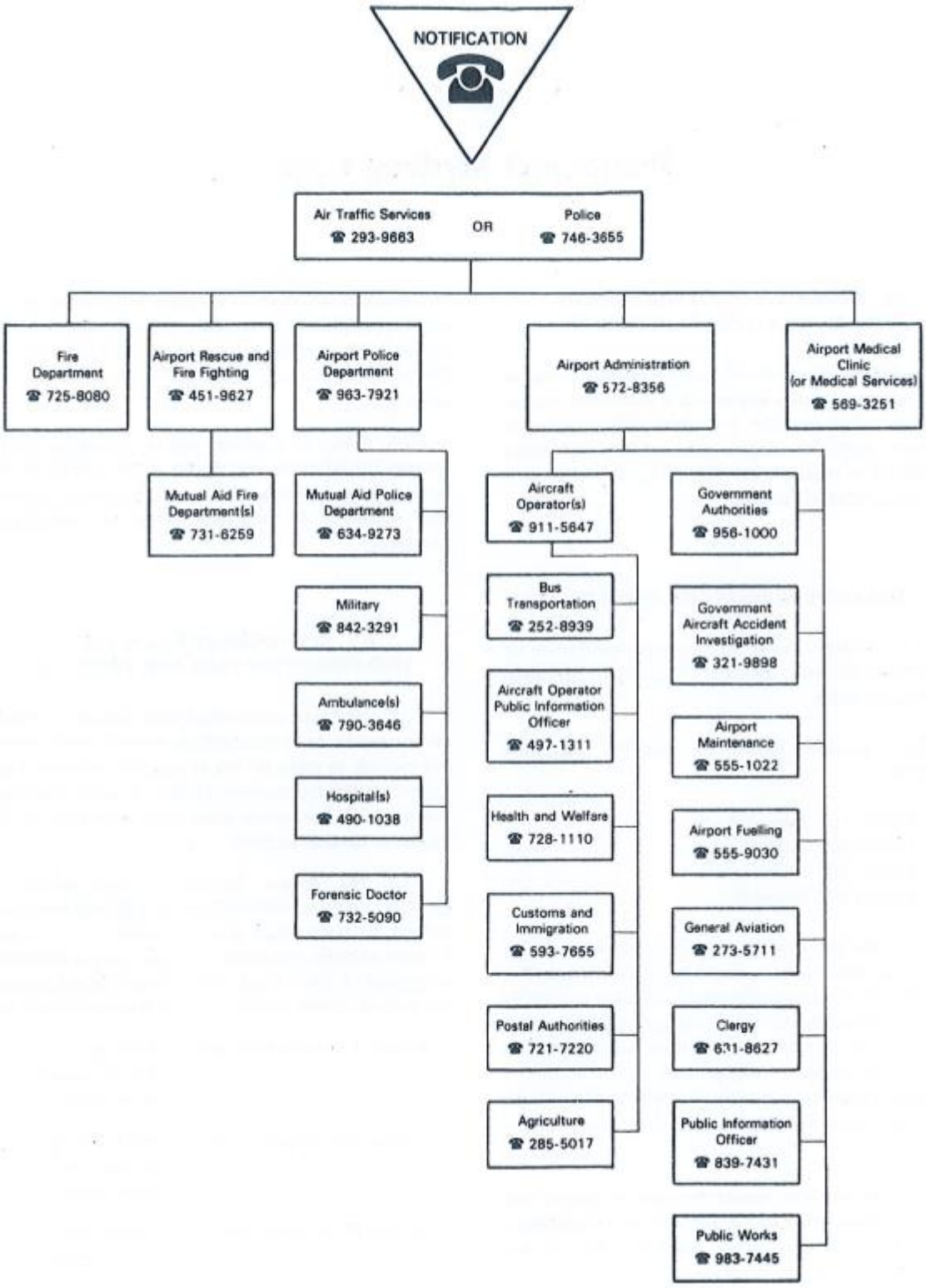


Figure 8-2 Flow Control chart – Aircraft accident off airport

Chapter 9 TRIAGE AND MEDICAL CARE

9.1IMMEDIATE NEED FOR CARE OF INJURED IN AIRCRAFT ACCIDENTS

In the aftermath of an aircraft accident, many lives may be lost and many injuries aggravated if immediate medical attention is not provided by trained rescue personnel. Survivors should be triaged, given available emergency medical aid as required, and then promptly evacuated to appropriate medical facilities.

9.2TRIAGE PRINCIPLES (ALL EMERGENCIES)

9.2.1 "Triage" is the sorting and classification of casualties to determine the order of priority for treatment and transportation.

9.2.2 Casualties should be classified into four categories:

Priority I: Immediate care
Priority II: Delayed care
Priority III: Minor care
Priority IV: Deceased

9.2.3 The first qualified, medically trained person to arrive at the site must immediately begin initial triage. This person(s) will continue performing triage until relieved by a more qualified person or the designated airport triage officer. Victims should be moved from the triage area to the appropriate care holding areas before definitive treatment is rendered. Casualties should be stabilized at the care holding areas and then transported to an appropriate facility.

9.2.4 Every effort should be made to ensure that Priority I casualties are treated first and receive ambulance transportation priority when stabilized. This is the responsibility of the triage officer.

9.2.5 Triage is most efficiently accomplished in place. However, the conditions at an accident scene may demand the immediate movement of casualties before triage can be safely accomplished. In that case, the casualties should be moved the shortest distance possible, well away from firefighting operations, and upwind and uphill from the scene. (See Figure 9-1.)

9.2.6 Triage of casualties should include the use of casualty identification tags to aid in the sorting of the injured and their transportation to a designated hospital. This technique is especially suited to multilingual situations.

9.3STANDARDIZED CASUALTY IDENTIFICATION TAGS AND THEIR USE

9.3.1 Need for standardized tags. Casualty identification tags should be standardized through colour coding and symbols to make the tag as simple as possible. Tags help to expedite the treatment of mass casualties in a triage situation and thus permit more rapid evacuation of the injured to medical facilities.

9.3.2 Tag design. Standardized tags should be designed to require only minimal information to be entered thereon, be usable under adverse weather conditions, and be water resistant. An example of such a tag is illustrated in Appendix 7. In this tag, numerals and symbols indicate the medical priority classification of casualties as follows:

Priority I or immediate care:	RED tag; Roman numeral I; rabbit symbol
Priority II or delayed care:	YELLOW tag; Roman numeral II; turtle symbol
Priority III or minor care:	GREEN tag; Roman numeral III; ambulance with X symbol
Priority IV or deceased:	BLACK tag

9.3.3 Where tags are unavailable, casualties may be classified by using Roman numerals on adhesive tape or by placing marks directly on the forehead or on other exposed skin areas to indicate priority and/or treatment needs. Felt tipped pens are not advisable as they may smear in rain or snow and freeze in low temperatures.

9.4CARE PRINCIPLES

9.4.1 Stabilization of the seriously injured should be accomplished at the accident site. The immediate transportation of the seriously injured before stabilization should be avoided.

9.4.2 In accidents occurring on or adjacent to the airport, rescue and firefighting personnel are generally the first emergency personnel on the scene. These personnel must be aware that it is imperative that seriously injured casualties be located and stabilized as quickly as possible. In cases where fire control or prevention does not require the efforts of all rescue and firefighting personnel, available persons should immediately commence casualty stabilization under the direction of the most qualified trauma-trained individual on the scene. First response rescue vehicles should carry initial supplies of casualty-care equipment, including artificial airways, compresses, bandages, oxygen and other related equipment used for the stabilization of smoke inhalation casualties and severe trauma. Sufficient oxygen should be available for use on rescue and fire fighting personnel. However, oxygen should not

be used in areas where fuel spills or fuel soaked clothing is present due to the explosion hazard.

9.4.3 Actions taken during the first few minutes of medical treatment should stabilize the casualties until more qualified medical care is available. When specialized trauma teams arrive, more sophisticated medical care (i.e. cardiopulmonary resuscitation, etc.) will be provided.

9.4.4 The triage procedure and subsequent medical care should be placed under the command of one authority, the designated medical co-ordinator, upon this officer's arrival. Prior to this, the command of triage should be assumed by the individual designated by the commanding rescue and firefighting chief and should continue until relieved by the predesignated medical co-ordinator.

9.4.5 The medical co-ordinator has responsibility for all medical aspects of the incident and should report directly to the on-scene commander. The medical co-ordinator's primary function will be administrative, not as a participant of the medical team treating the injured.

9.4.6 As a means to easily identify and distinguish the medical co-ordinator, a white hard hat and highly visible white coat or vest should be worn, with “MEDICAL CO-ORDINATOR” displayed front and back in reflective red lettering.

9.4.7 *Care of Priority I (Immediate care) casualties.* This type of casualty includes:

a) major haemorrhages;
b) severe smoke inhalation;
c) asphyxiating thoracic and cervico-maxillo-facial injuries;
d) cranial traumata with coma and rapidly progressive shock;
e) compound fractures;
f) extensive burns (more than 30 per cent);
g) crush injuries;
h) any type of shock; and
i) spinal cord injuries.

9.4.8 The following actions are recommended:

a) first aid (clearing of the wind pipe, stopping of haemorrhages by means of haemostatic pads, and positioning the casualty in the recovery position;
b) resuscitation;
c) oxygen administration, except in areas of fuel or fuel soaked clothing; and
d) placing the injured under shelter pending transportation

9.4.9 *Care of Priority II (Delayed care) casualties.* This type of casualty includes:

a) non-asphyxiating thoracic trauma;
b) closed fractures of the extremities;
c) limited burns (less than 30 per cent);
d) cranial trauma without coma or shock; and
e) injuries to soft parts

9.4.10 Care of casualties sustaining injuries which do not need immediate emergency medical treatment to sustain life can be delayed until Priority I casualties have been stabilized. Transportation of Priority II casualties will be performed following minimum on-site care.

9.4.11 *Care of Priority III (Minor care) casualties.* This type of casualty includes minor injuries only. Certain accidents/incidents will occur where passengers have either minor or no injuries, or appear not to be injured. Because these casualties can interfere with other priorities and operations, it is important that they be transported from the accident/incident site to the designated holding area where they should be re-examined.

9.4.12 It is important that provisions be made for the care, comfort, and identification of Priority III casualties. This should be provided through airport operations, the aircraft operator (where involved), or international relief organization (Red Cross, etc.). Specific treatment areas should be predesignated for this purpose, such as an empty hangar, a designated area in a passenger terminal, a fire station, or other available sites of adequate size (hotel, school, etc.). Any such area selected should be equipped with heating or cooling systems, electric light and power, water, telephones and toilet facilities. A number of such preselected sites should be available so that, when an accident occurs, the most advantageous site can be selected based on both travel distance and space needs (number of casualties involved). All aircraft operator personnel and airport tenants should know the location of such designated facilities.

9.5CONTROL OF THE FLOW OF THE INJURED

9.5.1 The injured should pass through four areas which should be carefully located and easily identified (see Figure 9-1).

a) Collection area — location where initial collection of the seriously injured from the debris is accomplished. Need for the establishment of this area will be dependent upon the type of accident and the circumstances surrounding the accident site. Custody of casualties is normally transferred from the rescue and firefighting personnel to medical services at this point. In most cases, however, this transfer will occur at the triage area.
b) Triage area — The triage area should be located at least 90 m upwind of the accident site to avoid possible exposure to fire and smoke. If necessary, more than one triage area may be established.

c) Care area — Initially, there will be a single care area. Subsequently, this area should be subdivided into three subareas according to the three categories of injured, i.e. Immediate care (Priority I), Delayed care (Priority II) and Minor care (Priority III). Care areas can be colour coded for identification purposes (Red — Immediate, Yellow — Delayed, and Green — Minor). The use of coloured traffic cones, flags, etc., may be used.

d) Transportation area — A transportation area for the recording, dispatching and evacuation of survivors should be located between the care area and the egress road. Only one transportation area is normally required. However, if there is more than one transportation area, it is essential to have communications between them.

9.5.2 Mobile facilities for the stabilization and treatment of Priorities I and II casualties are recommended. Ideally these facilities should be operational in less than thirty (30) minutes. Their design must therefore permit rapid conveyance to the site and rapid activation to receive casualties. These facilities should consist of:

a) conventional or resuscitation ambulances. A resuscitation ambulance is an ideal shelter for a Priority I casualty. The casualty may be treated there and subsequently conveyed directly to a hospital;

b) red tents to accommodate serious or extremely urgent cases. These facilities, with provisions for integrated heating and lighting, can be transported to the scene together with all the necessary medical equipment (see Appendix 2); and

c) yellow tents to accommodate Priority II casualties. Transportable mobile hospitals or ambulances can be used for stabilization treatment for all casualties.

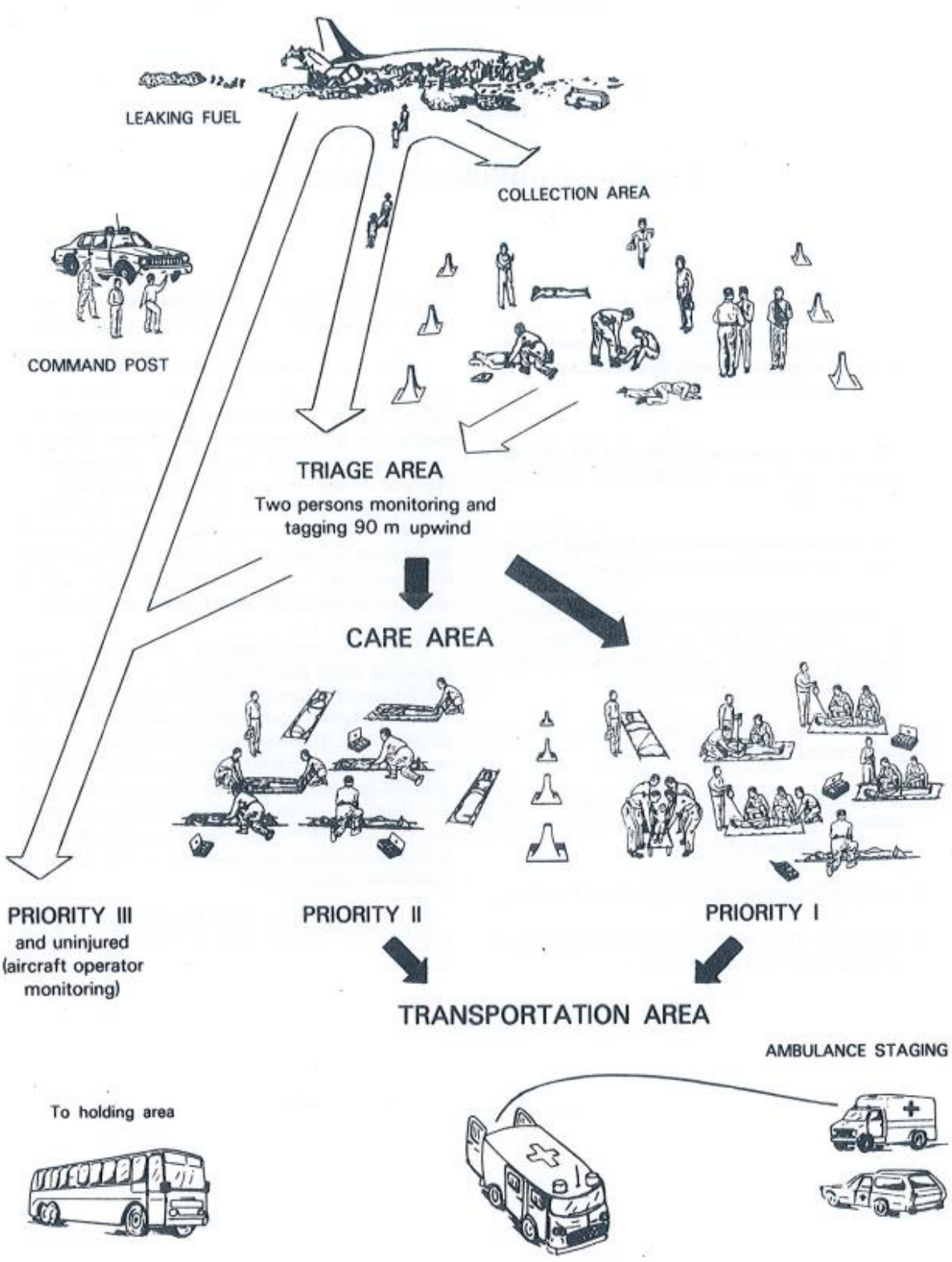


Figure 9-1. Triage and medical care at aircraft accident site

Chapter 10 CARE OF AMBULATORY SURVIVORS

10.1 GENERAL

10.1.1 The airport authority, aircraft operator (where involved), or other predesignated agency selected for the purpose is responsible to:

a) select the most suitable holding area for the particular emergency from those predesignated in the airport emergency plan;
b) provide for the transportation of the uninjured from the accident site to the designated holding area;
c) arrange for doctor(s), nurse(s) or teams qualified in first aid to examine and treat the supposedly uninjured, especially for nervous traumatism (shock) and/or smoke inhalation, where pertinent;
d) furnish a full passenger and crew manifest for accountability purposes;
e) interview the uninjured and record their names, addresses, phone numbers, and where they can be reached for the next 72 hours;
f) notify relatives or next of kin where deemed necessary;
g) co-ordinate efforts with the designated international relief agency (Red Cross, etc.); and
h) prevent interference by unauthorized persons or those not officially connected with the operation in progress.

10.1.2 Prearrangement should be made for the immediate transportation by bus or by other suitable transport of the “walking injured”/ambulatory from the accident site to the designated holding area. This plan should be implemented automatically following notification of the emergency. A nurse or a person trained in first aid should accompany these people to the holding area. Each and every passenger and crew member should be examined for nervous traumatism (shock) and smoke inhalation. Cold or inclement weather may require additional provisions for their protection and comfort.

10.1.3 Occupants departing an aircraft using evacuation slides may be barefoot or without proper wearing apparel. Where the aircraft accident occurred in water or a marshy area, these people may be wet and uncomfortable. These problems should be anticipated by having supplies of clothing, footwear, and blankets readily available. It may be necessary to establish a special holding area which can supply warmth and clothing to prevent hypothermia, and be used for examination purposes, before these persons are transported to the designated ambulatory holding area.

10.1.4 International relief agencies and military establishments provide many of the aforementioned requisites.

Chapter 11 CARE OF FATALITIES

11.1 CARE OF FATALITIES (BLACK TAG)

11.1.1 Evidence must be preserved when caring for the fatalities at an aircraft accident site. It is important to realize that an undisturbed site will produce the most reliable evidence for determining cause and/or future corrective action that may help prevent a similar accident.

The plan should include contingencies that address management of the fatalities at the scene of the emergency. The plan needs to designate the person(s) responsible for contacting and co-ordinating with the forensic doctor. Airport fire fighters and other rescue personnel should understand the basic need for and the techniques and procedures used in aircraft accident investigation. Whenever possible, the wreckage should remain undisturbed until the arrival of the appropriate accident investigation authority.

11.1.2 Areas immediately surrounding the location of the fatality should be completely secured. Areas in which a large number of fatalities or dismembered bodies are located should be left undisturbed until the arrival of the forensic doctor and the aircraft accident investigator or a designee.

11.1.3 An adequate supply of disposable plastic gloves and leather gloves should be available for stretcher bearers removing the remains of the fatalities. Although disposable plastic gloves are acceptable, they are easily cut or torn by aircraft wreckage and debris. Leather gloves do not rip or tear but do absorb body fluids and decrease the sense of touch. it is suggested that one plastic and one leather glove be worn by the individual stretcher bearer or two bearers can work as a team. All gloves should be burned following use in gathering body parts.

11.1.4 If it becomes necessary to move bodies or parts of the wreckage, photographs should be taken showing the relative position of bodies and parts within the wreckage and a sketch of their respective positions should be made prior to removal. In addition, tags should be affixed to each body or body part displaced and corresponding stakes or tags should be placed where the body parts were found in the wreckage. A journal should be kept of all tags issued. Special precautions should be taken to avoid disturbing anything in the cockpit area. Should any flight controls be required to be displaced, photographs, drawings, or notes should be taken before displacement.

11.1.5 The fatalities should be extricated and personal effects removed from the wreckage prior to the arrival of the forensic doctor or appropriate authority only to prevent their destruction by fire or for other similar compelling reasons. When bodies must be moved, previously mentioned precautions should be taken. Provisions should be made to obtain sufficient body bags to contain all bodies as well as personal effects.

11.1.6 Body bags are normally available from major local suppliers of caskets, funeral directors and their equipment and supply firms, and from nearby military facilities. Stocks of body bags at each airport are desirable.

11.1.7 Body identification and determination of cause of death is conducted with the concurrence of the authority designated for this duty. This operation is generally conducted with the co-operation of forensic teams and other specialists.

11.1.8 Accidents which result in a large number of fatalities will overload normal morgue facilities. In areas where delay or temperature may contribute to the deterioration of tissue, refrigerated storage should be available. This may be provided either by a permanently located cooler or refrigerated semitrailers. The area for post-mortem examination should be located near the refrigerated storage and be arranged to provide a high level of security. This should be a suitable working area with electricity and running water, large enough for initial body sorting.

11.1.9 The morgue should be isolated and in an area remote from places where relatives or the general public have access.

11.1.10After identification has been made of the fatality, efforts to contact next of kin should commence. Agencies such as aircraft operators, public service organizations (i.e. international relief agencies and police), or clergy should be utilized.

11.1.11The accident investigation team generally has the authority and the need to require autopsies and toxicological analyses of flight crew members, and in special cases, passengers. The need for these tests should be determined prior to the release of bodies.

11.1.12As soon as practical after the emergency, all participants in the fire fighting and rescue effort should be debriefed. Their observations should be recorded by the proper authorities. Sketches, diagrams, photographs, movie films, tape and video recordings made on the accident site as well as appropriate details on the tagging of bodies and body parts removed from their positions are invaluable tools for investigators.

11.1.13The forensic officer in charge should wear a dark brown hard hat and vest or other apparel, with “FORENSIC CHIEF” displayed front and back in distinctive lettering.

Chapter 12 COMMUNICATIONS

12.1 COMMUNICATION SERVICES

Arrangements for two-way communications must be made for all airport agencies involved in an emergency. The plan also should include the maintenance of an adequate communication network with off-airport agencies responding to an emergency. The plan calls for the command post and emergency operations centre to have the capability of continuous communication with all participating agencies. Backup modes of communication should be identified during the planning process

12.2 COMMUNICATION NETWORK

12.2.1 A co-ordinated communication network is of vital importance to any major operation involving agencies from more than one jurisdiction.

12.2.2 A co-ordinated communication network should consist of a sufficient number of radio transceivers, telephones and other communication devices to establish and maintain a primary and a secondary means of communication. These networks should link the emergency operations centre and the command post with each other as well as with all participating agencies. (See Flow control chart 8-1.)

12.2.3 The operational communication network should provide a primary and, where necessary, an alternate means for effective direct communications between the following, as applicable:

a) The alerting authority (control tower, airport manager, or airline office) and the rescue and firefighting (RFF) units serving the airport.
b) Air traffic control tower and the appropriate fire department alarm room/dispatch centre(s) and the fire fighting and rescue crews en-route to an aircraft emergency and at the accident/incident site.
c) Appropriate mutual aid agencies located on or off the airport, including an alert procedure for all auxiliary personnel expected to respond.
d) The RFF vehicles, including a communication capability between crew members on each RFF vehicle.

12.3 COMMUNICATION EQUIPMENT

12.3.1 It is important to provide serviceable communication equipment in sufficient quantity to ensure rapid response of personnel and equipment to an emergency. The following communication equipment should be available for immediate use in the event of an emergency.

12.3.2 A sufficient number of portable, two-way radios should be available to provide each participating agency with the ability to communicate with the command post.

12.3.3 Strict communication discipline must be employed to prevent jamming of emergency frequencies. Each agency should operate on its own frequency, and there should be a designated command frequency.

12.3.4 Radios should be available at the command post to provide direct communication with the aircraft or ground controllers should it become necessary. These radios should be equipped with headsets to reduce the confusion and noise from multiple frequencies in use at the time.

12.3.5 Direct communications may also be established with the pilot or the aircraft cockpit by use of cockpit-to ground lines. This requires a proper connector, wire, microphone, and headset. Co-operation and co-ordination between the airport rescue and fire fighting service and the individual aircraft operator(s) are needed to establish this type of communication capability.

12.3.6 A sufficient number of telephone lines (both listed and unlisted) or cellular phones should be available at the command post to provide direct communication with agencies outside the airport, as well as within the airport. Direct lines save time and reduce the probability of overloading radio communication channels.

12.3.7 Medical facilities and ambulances need communications capability in order to take advantage of advance life support systems within the medical community.

12.3.8 A dedicated vehicle equipped with necessary communication equipment and self-contained electrical power may be a definite asset to a good communication system. A well-equipped communication vehicle is an indispensable part of an efficient, well-managed command post. Planning should always include a qualified vehicle driver/operator.

12.3.9 It is desirable to install recording devices with time insertion units at the operations centre and/or mobile command post to ensure that all communications are recorded for later analysis. It is also desirable to record all emergency communications, including printed communication.

12.3.10In the event of a temporary lapse of communications, runners should be assigned to the command post to augment other modes of communication. Portable megaphones should also be available.

12.4 APRON AND TERMINAL AREA EMERGENCIES

12.4.1 A communications system should be established by the airport authority, or the aircraft operators, in order to provide rapid response of the emergency equipment to accidents and incidents occurring in the terminal areas. Apron accidents include aircraft cabin fires, refueling spills and fires, aircraft and vehicle collisions and medical emergencies.

12.4.2 As many apron personnel as possible, but at least all supervisory personnel, should be equipped with two-way radios in order to establish direct communication with a central notification facility.

12.4.3 All aircraft loading gates or aerobridges should be equipped with telephones at both boarding and apron levels. Emergency telephone numbers should be prominently displayed by the telephone.

12.5 TESTING AND VERIFICATION

12.5.1 The communication system should be tested each day to verify the operability of all radio and telephone networks.

12.5.2 A complete and current list of interagency telephone numbers should be available to all agencies and to personnel responsible for the airport/community emergency plan. These phone numbers should be verified monthly to ensure they are correct. Updated lists should be distributed to all emergency plan participants on a continual basis.

Chapter 13 AIRPORT EMERGENCY EXERCISES

13.1 PURPOSE

13.1.1 The purpose of an airport emergency exercise is to ensure the adequacy of the following:

a) response of all personnel involved;
b) emergency plans and procedures; and
c) emergency equipment and communications.

13.1.2 It is therefore important that the plan contain procedures requiring that the airport emergency plan be tested. This test should correct as many deficiencies as possible and familiarize all personnel and agencies concerned with the airport environment, the other agencies and their role in the emergency plan.

13.1.3 The airport emergency plan provides the framework which enables airport and community fire protection, security, medical, and other resources to join in an effective, co-ordinated response to airport emergencies. By using any of several types of airport emergency exercises, airport operators and community emergency resource managers can, first, produce an integrated emergency plan with a response based upon need and emergency location and, second, practice the procedures and co-ordination needed to accomplish an effective emergency response in minimum time. In addition, airport operators cannot truly have confidence in the airport's plan until they study it, revise it, study it again, and test it. Testing is crucial for determining where serious gaps may exist in the plan. For example, some individuals involved in the plan may have misconceptions or misunderstandings about it; some of the procedures that seem workable on paper may not work in practice; the written estimates of time, distance or available resources may be sufficiently inaccurate to cause problems. Testing the plan may afford emergency response personnel from the airport an opportunity to get to know each other and to know how other services operate. It may provide emergency response personnel from outside the airport an opportunity to meet airport personnel and to familiarize themselves with airport facilities, resources, traffic pattern, and identifiable hazard areas. The exercises should be conducted in daylight, twilight and darkness and in various conditions of weather and visibility.

13.2 TYPES OF AIRPORT EMERGENCY EXERCISES

13.2.1 There are three methods of testing the airport emergency plan:

a) Full-scale exercises;
b) Partial exercises; and
c) Tabletop exercises

13.2.2 These tests shall be conducted on the following schedule:

Full-scale: At least once every two years:

Partial: At least once each year that a full-scale exercise is not held or as required to maintain proficiency;

Tabletop: At least once each six months, except during that six month period when a full-scale exercise is held.

13.3 TABLETOP EXERCISES

13.3.1 The tabletop exercise is a test of the integration and capability of emergency response resources without the expense and disruption of services incurred by a full-scale exercise. The exercise may be held as a co-ordination exercise prior to the full-scale exercise, or it may be held at intervening times in order to reconfirm procedures, policy, telephone numbers, radio frequencies, and changes in key personnel.

13.3.2 The tabletop exercise is the simplest type of drill to stage, requiring only a meeting room, a large scale map of the airport, and a senior representative of each participating unit in attendance. A probable accident location is selected on the map and each participant describes what actions their unit would take to respond. This exercise will quickly reveal operational problems, such as conflicting communications frequencies, lack of equipment, confusing terminology and areas of jurisdiction. These exercises should be held semiannually, but not coincidental with other exercises.

13.4 PARTIAL EMERGENCY EXERCISES

Partial emergency exercises may be required for some of the participating units in order to train new personnel, evaluate new equipment or techniques, or to comply with mandatory recurrent training requirements. These drills are economical because of their limited scope and can be repeated as often as required in order to maintain a high standard of proficiency. They may involve only one unit, such as rescue and firefighting services or medical, or a combination of several units, as desired. These exercises should be held at least once each year that a full-scale exercise is not held to ensure that any deficiencies found during the full-scale airport emergency exercise have been corrected.

13.5 FULL-SCALE EXERCISES

13.5.1 The airport emergency plan should be given full-scale emergency exercises to test all facilities and associated agencies at intervals not exceeding two years. The exercise should be followed by a full debriefing, critique and analysis. Representatives of all organizations which participate in the exercise should also actively participate in the critique.

13.5.2 The first step in planning full-scale emergency exercises is to have the support of all airport and community authorities concerned. Departments and agency personnel to be considered are those listed in 3.1.

13.5.3

a) *Objectives.* In conducting an airport full-scale emergency exercise, the first and most basic step airport and community emergency response planners and workers must decide is exactly what should be achieved. As funds and personnel are often difficult to obtain, it is prudent for management to make plans to accomplish specific goals.
b) *Selecting an objective.* There are numerous objectives that can be set for an emergency exercise. For example, it may be desirable to hold an exercise at night to test the reactions of response personnel under nighttime conditions. Similarly, it may be desirable to test the ability of local emergency response teams to react to the discovery of hazardous materials in the cargo of an aircraft.
c) *Setting limits on goals.* It is likely that more than one objective could be accomplished during an exercise. The pitfall in combining several objectives is that more may be set than can be achieved. As part of the objective setting effort, planners should limit the scope of the problems that will be explored or they run the risk of confusing and frustrating response personnel. Actual emergencies may create confusion and frustration, but confusion and frustration in training exercises will only produce a negative learning experience. This represents a misspent opportunity for emergency planners and may decrease the ability of the community to respond in real emergencies.
d) *Assessing results.* After the exercise, it should be possible to look back and see specific skills that were learned, new environmental conditions that were explored, communications systems that were tried out, additional mutual aid units that were integrated into the emergency plan, new equipment that was used, as well as other benefits or problems.

13.5.4 All agency heads must be thoroughly familiar with the airport emergency plan and must develop a plan for their individual departments in co-ordination with the general plan. The agency heads should meet regularly to develop an understanding of their agencies' responsibilities and requirements in co-operation with other agencies.

13.5.5 A large passenger aircraft should be sought for the full-scale emergency exercise to add realism to the on-airport exercise and to familiarize participants with the problems of removing casualties from aircraft. If an aircraft is not available, a bus or similar large vehicle may be used.

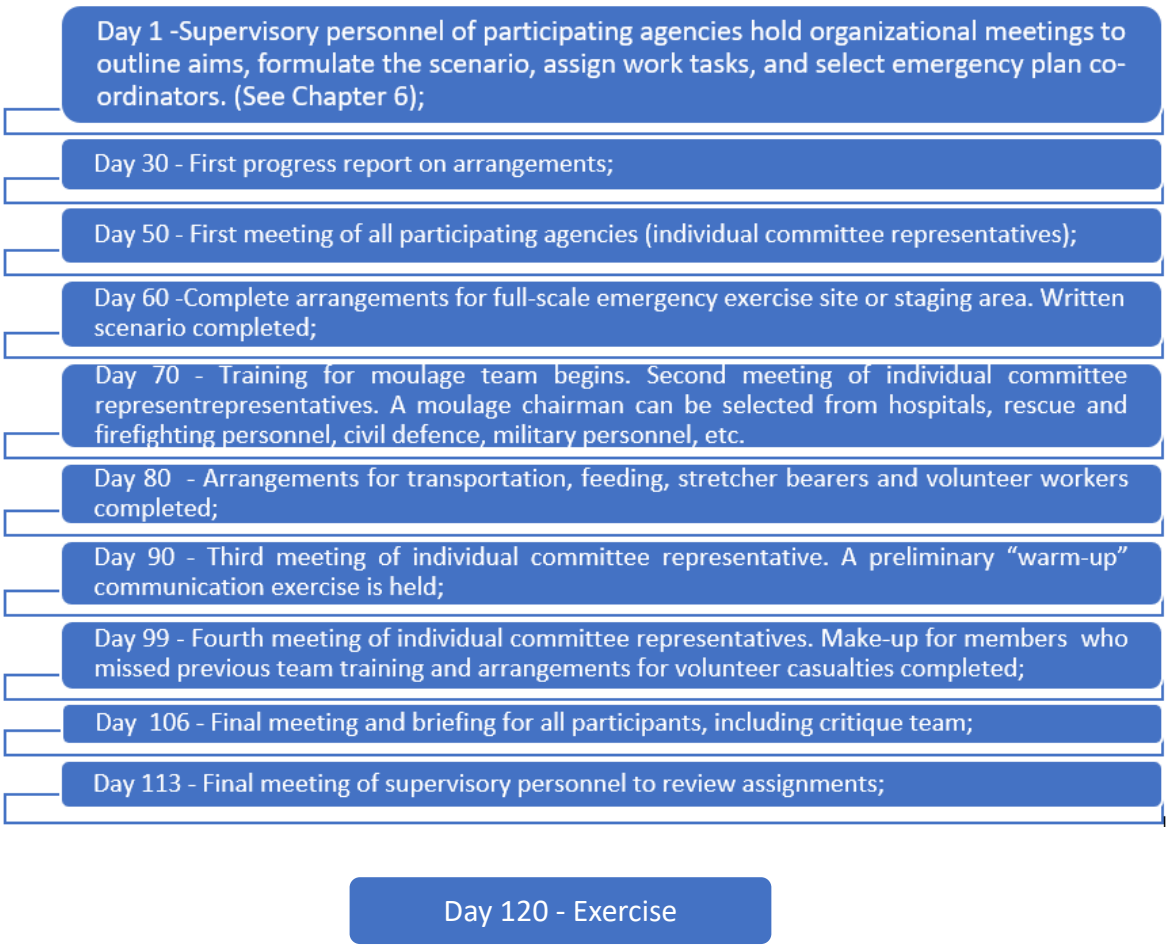
13.5.6 The emergency exercises should be held in locations which will provide maximum realism while ensuring minimum disruption of the airport operations. Various scenarios can

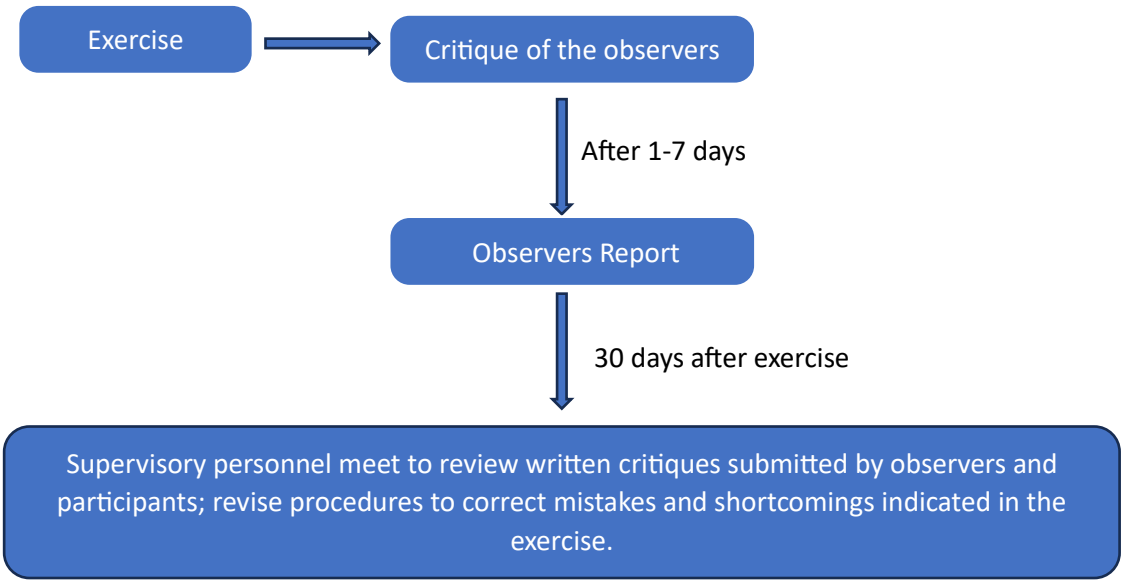
be used. The exercise may be held either during the day or at night on the airport, in the runway end safety area, or in the surrounding community. Scenarios include accidents involving:

a) aircraft/structures;
b) aircraft/aircraft; or
c) aircraft/ground vehicles.

Since about 80 per cent of all aircraft accidents occur on the runway, the runway end safety areas, or the approach or take-off areas, the majority of exercises should be held in the aforementioned locations. Where aircraft are not available, inclusion of small fires in the area can add realism for the fire services. Volunteer casualties should be moulage in order to provide realism for the medical responders.

13.5.7 At least 120 days prior to the scheduled full-scale emergency exercise, the airport authority should hold a meeting of all key supervisory personnel of principal participating agencies. At this time, the aims of the exercise should be outlined, a scenario formulated, work tasks assigned, and duties of all agencies and personnel defined. A suggested time schedule and checklist as follows:





13.5.8 In preparing the scenario, the use of real names of aircraft operators and types of aircraft should be avoided. This will prevent any possible embarrassment to civil aviation companies or agencies.

13.5.9 In order to obtain the maximum benefit from a full-scale emergency exercise, it is important to review the entire proceedings. An observer critique team should be organized, comprised of members who are familiar with mass casualty accident proceedings. A team chairman should be appointed and should be present at all meetings. The team should be present at the final organizational meeting (seven days prior to the drill) and, in co-ordination with the authority in charge, ensure that significant problems are introduced into the exercise. Each member of the critique team should observe the entire exercise and complete the appropriate emergency drill critique forms (see Appendix 8). As soon as convenient after the exercise (not later than seven days), a critique meeting should be held so members of the team can present their observations and recommendations for improvement of the airport emergency plan procedures and associated airport emergency plan document.

Chapter 14 REVIEW OF THE AIRPORT EMERGENCY PLAN

14.1 GENERAL

14.1.1 *Evaluating the plan.* Exercises provide airport operators and exercise planners an excellent opportunity for evaluating the effectiveness and efficiency of the plan. To maximize the usefulness of evaluation, planners should carefully design the system of evaluation.

14.1.2 *Planning.* In accordance with the objectives of the exercise, planners should develop an evaluation system that includes feedback, identifies benefits, and obtains the services of evaluators well before the exercise takes place.

a) "Feedback loop". Figure 14-1 illustrates the classic project management system for project planning and implementation. A project is planned, implemented, and then evaluated (given feedback). The feedback leads to the development of modifications, where needed, after which the cycle begins a new.
b) Benefits. Planning an effective evaluation system for any size airport emergency response exercise is important not only for detecting problems in the exercise itself, but more importantly, for finding areas of the airport or community emergency response plans that may need refinement.
c) Evaluators. The exercise should be totally open to a select group of knowledgeable evaluators, identifiable by distinctive clothing. Normally, government agencies, other airports, and private aviation organizations can provide experienced evaluators which can benefit both the airport holding the exercise and themselves. Evaluators need to be identified well before the exercise and familiarized with the airport plans, including evaluation and reporting guidelines.

14.1.3 Preparation. Evaluators experienced in airport operations, emergency response, and emergency exercises require no training by drill planners. However, a preliminary meeting detailing the scope and objectives of the exercise enables the evaluators to do their jobs effectively and thus yield the greatest benefit to the airport.

a) *Preparing evaluators.* Evaluators should receive information packets and critique sheets well before the exercise takes place. Assigning evaluators to assess command, control, and communications and the emergency response functional areas ensures that the key elements of emergency response are observed in detail. Other evaluators should be assigned to critique the entire exercise. They will move about the site and observe all of the functional areas and response efforts. Outside evaluators often have preferences or certain areas of expertise, such as security or medical, which planners should determine before making evaluation assignments.
b) *Critique sheet.* A critique sheet is a considerable aid in the evaluation of an emergency exercise. It is most effective if it is divided into separate sections addressing each of

the distinct functional areas with sufficient space for taking notes. Questions asked should be general since being too specific may consume evaluators' time with details and prevent them from seeing the drill from a larger perspective. Sample critique sheets are provided in Appendix 8.

c) *Briefings.* Planners should brief evaluators on their functions and last-minute changes the day before the exercise. At that time, planners may give them final copies of exercise information and critique sheets and distribute distinctive vests, apparel, hats, badges, or other means of identification. Evaluators should also attend media and response unit briefings, at which they can raise questions about the plan, identify the exercise participants, and familiarize themselves with the marking or clothing that identifies each emergency response function.

14.1.4 *Feedback*. Three systems of feedback common in exercises are on-site or immediate feedback, critique conferences, and written reports. One or more of these systems should be used.

a) *On-site or immediate feedback.* On-site feedback involves assembling representatives from all participating groups immediately after the exercise to get their comments while the exercise is fresh in their minds. Naturally enough, many details may escape as an evaluator tries to summarize several hours of intense activity in a five minute oral report. Evaluators will overlook other details until later, when they compare notes with other response personnel. The great advantage of on-site feedback is that everyone's interest is at its peak; the most critical problems will likely be discovered immediately. To conduct an on-site feedback session, airport operators and exercise planners should set up rules of order to ensure uninterrupted speaking opportunities. A stenographer or tape recorder should record the session for later review.

b) *Feedback conference.* The feedback conference will usually involve planners and managers of the various emergency response units involved in the exercise and the plan. Planners should schedule it no sooner than one week after the exercise. Managers will probably need at least a week to hold feedback sessions with their own personnel and gather valuable information to share at the conference. Local emergency co-ordinators should attend the feedback conference, both to benefit the airport in its use of community resources and to ensure that the community benefits from the airport's experience.

c) *Written reports.* Evaluators experienced in exercises and critiques should write reports of their observations. Planners may also ask other personnel for written reports. Written reports are often more candid than comments made in the on-site feedback sessions, where participants might be sensitive to outsiders comments.

The airport authority should make every effort to contact other airport authorities who have been involved in actual aircraft accidents and those who have conducted full-scale

emergency exercises to acquire data and procedures to correct and upgrade their airport emergency plan.

14.2 REVIEW FOLLOWING AN ACCIDENT

As soon as practical following an accident, responding agencies should obtain oral or written reports from all of their participating personnel and complete a document covering the entire response operation. A tabletop meeting should then be held to consider these documents and, if required, make changes to the emergency plan considered necessary to improve the response capability for future emergencies.

Figure 14-1. Evaluation system for airport emergency exercises

Appendix 1 OUTLINE OF AN AIRPORT EMERGENCY PLAN

1. This guideline is intended to ensure uniformity in the development of airport emergency plans. The airport authority is responsible for developing a plan and procedures for emergencies applicable to the airport's particular characteristics and operations and, within these guidelines, will perform the following:

a) define the responsibilities of the airport authority and other participating agencies;
b) create effective lines of communication and adequate communication facilities to identify a “cascade” call system to include persons/agencies responsible for “cascade” information. Where possible, a 24-hour coverage shall be maintained;
c) arrange for the availability of a fixed emergency operations centre and a mobile command post at the airport for use during an emergency;
d) integrate assistance from local support services such as fire departments, security, medical, civil defence, government agencies, and local amateur radio organizations;
e) describe the function of air traffic services (airport control tower) relating to emergency actions; and
f) give instructions for response to accident/incidents.

2. The airport emergency plan document must be written to facilitate identification of subject matter pertinent to local airport and community conditions.

3. The emergency plans and procedures should be issued under the airport or appropriate authority, who will define and negotiate responsibilities of all agencies an personnel on or off the airport, who would or could be involved in an emergency affecting the airport.

4. In developing the emergency plan and procedures, it is vital that arrangements be simple and easily understood by all involved in the airport emergency plan. To this end, the flow control charts shown in Chapter 8, Figures 8-1 and 8-2, are of prime importance.

EXAMPLES OF CONTENTS OF EMERGENCY PLAN DOCUMENT

Section 1 — Emergency telephone numbers

This section should be limited to essential telephone numbers according to site needs, including:

a) air traffic services;
b) rescue and fire fighting services (fire departments);
c) police and security;
d) medical services:
    1. hospitals;

2. ambulances; and
3. doctors — business/residence;

e) aircraft operators;
f) government authorities;
g) civil defence; and
h) others.

Section 2 — Aircraft accident on the airport

a) action by air traffic services (airport control tower);
b) action by rescue and firefighting services;
c) action by police and security services;
d) action by airport authority:
   1. vehicle escort; and
   2. maintenance;

e) action by medical services:

   1. hospitals;
   2. ambulances;
   3. doctors; and
   4. medical personnel;

Section 2 — Aircraft accident on the airport

a) action by air traffic services (airport control tower);
b) action by rescue and fire fighting services;
c) action by police and security services;
d) action by airport authority:
   1. vehicle escort; and
   2. maintenance;

e) action by medical services:
   1. hospitals;
   2. ambulances;
   3. doctors; and
   4. medical personnel;

f) action by aircraft operator involved;
g) action by emergency operations centre and mobile command post;
h) action by government authorities;
i) communication network (emergency operations centre and mobile command post);
j) action by agencies involved in mutual aid emergency agreements;

k) action by transportation authorities (land, sea, air);
l) action by public information officer(s);
m) action by local fire departments when structures involved; and
n) action by all other agencies.

Section 3 — Aircraft accident off the airport

a) action by air traffic services (airport control tower);
b) action by rescue and fire fighting services;
c) action by local fire departments;
d) action by police and security services;
e) action by airport authority;
f) action by medical services;
    1. hospitals;
    2. ambulances;
    3. doctors; and
    4. medical personnel.

g) action by agencies involved in mutual aid emergency agreements;
h) action by aircraft operator involved;
i) action by emergency operations centre and mobile command post;
j) action by government authorities;
k) action by communication networks (emergency operations centre and mobile command post);
l) action by transportation authorities (land, sea, air);
m) action by public information officer; and
n) action by all other agencies.

Section 4 — Malfunction of aircraft in flight (Full emergency or local standby)

a) action by air traffic services (airport control tower);
b) action by airport rescue and fire fighting services;
c) action by police and security services;
d) action by airport authority;
e) action by medical services:
    1. hospitals;
    2. ambulances;
    3. doctors; and
    4. medical personnel;

f) action by aircraft operator involved;
g) action by emergency operations centre and mobile command post; and
h) action by all other agencies.

Section 5 — Structural fires

a) action by air traffic services (airport control tower or airport flight information service);

b) action by rescue and firefighting services (local fire department);
c) action by police and security services;
d) action by airport authority;
e) evacuation of structure;
f) action by medical services:
    1. hospitals;
    2. ambulances;
    3. doctors; and
    4. medical personnel;

g) action by emergency operations centre and mobile command post;
h) action by public information officer; and
i) action by all other agencies.

Section 6 — Sabotage including bomb threat (aircraft or structure)

a) action by air traffic services (airport control tower);
b) action by emergency operations centre and mobile command post;
c) action by police and security services;
d) action by airport authority;
e) action by rescue and fire fighting services;
f) action by medical services:
    1. hospitals;
    2. ambulances;
    3. doctors; and
    4. medical personnel;
g) action by aircraft operator involved;
h) action by government authorities;
i) isolated aircraft parking position;
j) evacuation;
k) searches by dogs and trained personnel;
l) handling and identification of luggage and cargo on board aircraft;
m) handling and disposal of suspected bomb;
n) action by public information officer; and
o) action by all other agencies.

Section 7 — Unlawful seizure of aircraft

a) action by air traffic services (airport control tower);
b) action by rescue and fire fighting services;
c) action by police and security services;
d) action by airport authority;

e) action by medical services;
    1. hospitals;
    2. ambulances;
    3. doctors; and
    4. medical personnel;
f) action by aircraft operator involved;
g) action by government authorities;
h) action by emergency operations centre and mobile command post;
i) isolated aircraft parking position;
j) action by public information officer; and
k) action by all other agencies.

Section 8 — Incident on the airport

An incident on the airport may require any or all of the actions detailed in Section 2, "Aircraft accident on the airport". Examples of incidents the airport authority should consider include fuel spills at the ramp, passenger loading bridge, and fuel storage area; dangerous goods occurrences at freight handling areas; collapse of structures; vehicle/aircraft collisions; etc.

Section 9 — Persons of authority — site roles

To include but not limited to the following according to local requirements:

a) on-airport:
    1. Airport chief fire officer;
    2. Airport authority;
    3. Police and security — Officer-in-charge; and
    4. Medical co-ordinator; and
b) off-airport:
    1. Local chief fire officer;
    2. Government authority; and
    3. Police and security — Officer-in-charge;

The on-scene commander will be designated as required from within the pre-arranged mutual aid emergency agreement.

Experience indicates that confusion in identifying command personnel in accident situations is a serious problem. To alleviate this problem, it is suggested that distinctive coloured hard hats and vests or apparel with reflective lettering be worn by command personnel for their easy identification. The following colours are recommended:

Red	-	Chief Fire Officer
Blue	-	Police chief
White (Red lettering)	-	Medical Co-ordinator
International orange	-	Airport administration

Lime green	-	Transportation Officer
Dark brown	-	Forensic Chief

An on-scene commander should be appointed as the person in command of the over-all emergency operation. The on-scene commander should be easily identifiable and can be one of the persons indicated above or any other person from the responding agencies.

Appendix 2 AIRPORT MEDICAL SERVICES

GENERAL

1. Adequate medical services and supplies should be available at an airport. Provision of medical services will generally not present great difficulties at a large airport or airports near a large city, as the human resources and material will normally be available. It is necessary to develop the co-ordination with the emergency medical assistance system in the region. The medical co-ordinator appointed to the airport should be responsible for the provision and checking of medical supplies.

2. Provision of medical services may present some difficulties at small airports not located near populated areas. These airports, however, should have available emergency medical services to provide adequate medical care in the event of an aircraft accident, taking into account the largest aircraft using the airport.

3. A medical inventory of the airport community area should be part of the airport emergency plan. Consideration should be given to:

a) human resources on and off the airport, i.e. doctors, teams qualified in first aid, stretcher bearers and nurses; and
b) medical equipment and services on and off the airport, i.e. hospitals and ambulances

4. At airports where the above resources are only available from areas beyond the immediate airport community, the airport emergency plan should be integrated with wider emergency plans to obtain the necessary response, possibly using helicopters to transport medical services and equipment to the crash site.

EMERGENCY MEDICAL SERVICES AT AIRPORTS

5. Basis for recommendations. Emergency medical services at airports are based on the concept that medical personnel and a medical facility commensurate with the size of the airport have been established at the airport and that mutual aid emergency agreements have been developed. Sufficient medical supplies should be maintained at the airport facility to deal with routine medical emergencies which normally occur at the airport (on-the-job injuries, heart attacks, etc.) plus possible aircraft accidents.

6. Emergency medical training of airport personnel. All personnel assigned to rescue duties and “public-contact” airport employees should be given first aid and CPR (cardiopulmonary resuscitation) training.

7. Rescue and firefighting personnel should have the ability to stabilize seriously injured casualties. At least two full-time members per shift of the airport rescue and firefighting service or other on-airport personnel should be trained to an emergency medical treatment level as determined by the local medical authority. In addition, it is recommended that as many rescue and firefighting personnel as is practicable receive training to meet minimum standards of medical proficiency and preferably to the level of personnel highly qualified in first aid or the equivalent. Accordingly, they should have sufficient medical equipment at their immediate disposal to initiate stabilization until full medical services are available at the site or until transportation of casualties to adequate medical facilities is provided.

8. As many airport rescue and firefighting personnel as practicable also should be trained in CPR (cardiopulmonary resuscitation) as taught by the appropriate medical authority. Periodic exercises and drills in CPR techniques are mandatory to maintain proficiency.

9. The everyday medical problems at an airport can serve to promote and ensure an adequate level of medical proficiency of airport-based emergency personnel. It should be noted, however, that proficiency in emergency medical techniques can be maintained only through constant practical application. Unless operations include providing advanced life-support systems on a day-to-day basis, proficiency will decline or disappear.

10. Airports may enlist volunteers from airport employees other than rescue and firefighting personnel to provide an immediate response to assist casualties resulting from emergencies. Volunteers should be trained by accredited agencies in first aid and rescue response duties. In case of an emergency, they should initially be under the supervision of the first commander at the scene, i.e. the chief fire officer, until the arrival of the medical co-ordinator. Each appropriate authority must address the issues of compensation and liability.

11. Emergency medical supplies and equipment. The airport authority should arrange to have sufficient medical supplies, available on or in the vicinity of the airport, to treat the passenger and crew capacity of the largest aircraft normally using the airport. Experience has shown, however, that more than one aircraft can be involved in an aircraft accident. Consequently, medical supplies to handle this possibility should be considered. The type and quantity of such supplies should be determined by the principal medical authority for the airport using the statistical information given in Table 3-1 of this Appendix.

Aircraft occupants	*Number of casualties*	*20 per cent casualties Immediate care Priority I*	*30 per cent casualties Delayed care Priority II*	*50 per cent casualties Minor care Priority III*
500	375	75	113	187
450	338	68	101	169
400	300	60	90	150
350	263	53	79	131
300	225	45	68	112
250	188	38	56	94
200	150	30	45	75
150	113	23	34	56
100	75	15	23	37
50	38	8	11	19

These figures are based on the assumption that the maximum number of surviving casualties at an aircraft accident occurring on or in the vicinity of an airport is estimated to be about 75 per cent of the aircraft occupants.

Table 3-1. Estimated maximum number of casualties at an aircraft accident at an airport

12. Statistical data collected from aircraft accidents indicates that about 75 per cent of the aircraft occupants are expected to be surviving casualties. It can be expected that requirements for care of these will be distributed as follows:

20 per cent - Immediate care (Red — Priority I)

30 per cent - Delayed care (Yellow — Priority II)

50 per cent - Minor care (Green — Priority III)

A table of the estimated maximum number of casualties resulting from an aircraft accident occurring at an airport is given in Table 3-1 of this Appendix.

13. The airport should have available stretchers, blankets, backboards and/or immobilizing mattresses, preferably stored on a suitable vehicle (e.g. trailer) which can be transported to the accident site. Blankets are needed to alleviate casualties' exposure to shock and possible adverse weather conditions. Since trauma victims in an aircraft accident sometimes sustain severe spinal injuries, backboards and cervical collars should be used when removing such casualties from the aircraft in order to minimize the possibility of further spinal injury. The backboards should be of a type designed to fit through access ways and aisles of commercial and business aircraft. They should have restraining straps available so that the patient can be secured to the board. A cleat should be attached to the underside of the backboard to facilitate lifting by carrying personnel (See Figures A3-1A and A3-1B).

14. Sufficient emergency oxygen and respiratory equipment should be available to treat smoke inhalation victims.

15. Since the majority of non-accident related medical emergencies at airports involve coronary difficulties, advanced life support systems should be readily available.

16. Mobile emergency hospitals or inflatable tents (See Figure A3-2) or shelters can be used for on-site treatment of immediate care (Priority I — Red) and delayed care (Priority II — Yellow) casualties. These units should be readily available for rapid response. The casualties can be treated at the scene, stabilized and be available for transportation to the appropriate hospital.

17. A resuscitation type ambulance can be used as an ideal shelter for an immediate care (Priority I — Red) casualty.

18. Inflatable tents should have adequate heating and lighting when possible. A large tent can normally accommodate about ten (10) serious cases and can be carried on a large all-purpose vehicle along with other necessary medical equipment.

19. To cope with an emergency involving a large aircraft, it is recommended that the general emergency medical supplies and equipment described in List 3-1 be available at the airport or be available from outside sources. List 3-1 has been prepared to cope with the largest type of aircraft at present being used for commercial air transport operations, i.e. B747, , Airbus, etc. If only operations by smaller aircraft are planned for the foreseeable future, the specified medical supplies and equipment should be adjusted to comply with reasonable requirements for the largest aircraft expected to operate at the airport.

20. The following material describes some of the items included in List 3-1:

Immobilizing mattresses (also called vacuum mattresses): This apparatus consists of a plastic bag designed like a mattress and filled with very small balls. An aspirator (mechanical or other) is used to take out the air so that the mattress is crushed by atmospheric pressure and becomes as rigid as plaster. A human body, partly enveloped before compressing the mattress, is completely wrapped. Head, limbs and backbone thus become immobilized, allowing any type of transpsssssortation through the use of lateral rope loops. The apparatus is permeable to x-rays. Although the dimensions are variable, its length varies generally between 1.80 and 1.90 m and its width between 0.80 and 0.90 m.

Backboards. These are classified as long and short backboards. The approximate dimensions for a long backboard are shown in Figure A3-1A. Although a backboard of 1.90 m is shown, some backboards of 1.83 m length should be available to manoeuvre through the smallest aircraft emergency exits of 51 cm wide and 91.5 cm high. A 7.5 cm wide velcro retaining strap is normally required for legs. hips, upper torso and head.

The appropriate dimensions for a short backboard are shown in Figure A3-1B. A 7.5 cm wide velcro retaining strap is normally required for lower and upper torso.

List 3.1 — General emergency supplies and equipment

Quantity	*Description*
500	triage labels
100	stretchers, adaptable to the most commonly used ambulances
10	immobilizing mattresses for backbone fractures
50	splints, either conventional or inflatable, for the various types of fractures
50	first-aid kits, each containing a set of 10 tags, haemostatic pads, tourniquets, respiratory tubes, scissors, dressings, sterile burn packs
20	resuscitation chests containing material for on-site intubation, infusion and oxygenation for about 20 casualties (See Figure A3-2)
2 or 3	electrocardiographic or electrocardioscopic apparatuses
2 or 3	manual or mechanical respirators
10	intravenous infusion packs (normal saline or haemacell) with giving sets
2 or 3	suction devices
2	entonox analgesic cylinders
300-500	plastic bags or coffins for the deceased

21. *Emergency medical communication system.* Communications is a primary requisite of an airport emergency medical plan. The airport medical service communication system should ensure adequate communication during emergencies to disseminate warning information and obtain support operations. Without communications the hospital cannot know the number and type of casualties it will be receiving, ambulances cannot be directed to the facilities most capable of rendering the needed care, supplies available from outside sources cannot be called for, and medical personnel cannot be directed to the point where they are needed most.

22. The participating hospitals should have the capability of communicating with one another by means of a two-way communication network. Ideally, each hospital should have the capability of either calling other individual hospitals or, if the occasion arises, calling all other hospitals simultaneously. This capability is invaluable for hospitals experiencing an emergency such as a requirement for a certain blood type or an item of equipment in short

supply. It is also recommended that the medical co-ordinator be able to communicate with participating hospitals directly.

23. *Emergency medical transportation facilities.* The dispatch of casualties to hospitals from the accident site should take into consideration the hospital(s) medical personnel on staff, medical specialties and beds readily available. Ideally, each airport should have available at least one on-call ambulance for routine medical emergencies. Written agreements with off-airport based ambulances should be prepared to provide for emergency transportation services.

24. Airborne transportation equipment, i.e. helicopters and fixed wing aircraft, should be considered for emergency evacuation or for transport of medical services and equipment from hospitals to the accident site.

25. Since it may be necessary to transport many casualties to appropriate off-airport medical facilities, ambulances arriving at the scene should report to the rendezvous point or staging area and then to the designated transportation officer. This officer will be responsible for ascertaining the number of casualties who will need transportation, the number and type of ambulance units necessary, and the availability and capacity of each medical facility receiving casualties. In the event of a multi-casualty accident, the transportation officer (or members of the team) will also supervise the actual loading, recording of names and injuries of casualties, and routing of the individual vehicles and casualties to hospitals.

26. In major emergency situations, other means of transportation may be substituted for ambulances. Vans, buses, automobiles, station wagons or other suitable airport vehicles may be used. Immediate transportation for moving of the uninjured or apparently uninjured to a designated holding area should be available.

27. A grid map (with date of latest revision) of the airport and surrounding area should be provided for all rescue vehicles. All medical facilities should be depicted prominently on the grid map (See Chapter 7 — Grid Map).

AIRPORT MEDICAL CARE FACILITIES (MEDICAL CLINIC AND/OR FIRST-AID ROOM)

28. General factors influencing need. There are many general factors which influence the need for an airport first-aid room or an airport medical clinic. Factors to be taken into consideration include:

a) the number of passengers served annually and the number of employees based on the airport;
b) the industrial activity on the airport property and in the surrounding community;
c) the distance from adequate medical facilities; and
d) mutual aid medical services agreements.

29. Generally, it may be recommended that an airport medical clinic be available when the airport employees number 1 000 or more and that a first-aid room be available at every airport. The airport medical care or first-aid room personnel and facilities should be integrated with the airport emergency plan.

30. The airport medical clinic, in addition to providing emergency medical care to the airport population, may extend emergency care to communities surrounding the airport, if these communities have no emergency facilities of their own.

31. The airport medical clinic may be included in the community emergency services organization and planning. In the event of a large-scale non-airport local emergency, the airport medical clinic may function as the co-ordination site for direction of incoming medical assistance.

32. Location of airport medical care facilities. The facilities should be readily accessible to the airport terminal building, to the general public and to emergency transportation equipment (i.e. ambulances, helicopters, etc.). Site selection should avoid the problem of having to move injured persons through congested areas of the airport terminal building, while providing access to the facility by emergency vehicles by a route that as far as is feasible can bypass normal public access roadways to and from the airport. This suggests that the medical care facility be located so that access can be gained from the air side of the airport terminal building as this provides control over unauthorized vehicles interfering with emergency equipment.

33. *Airport medical care facility personnel.* The number of trained personnel and degree of expertise needed by each individual will depend on the particular airport's requirements. The staff of the airport medical clinic should form the nucleus for the medical services planning for the airport emergency plan (and be responsible for implementation of the medical portion of the plan). It is recommended that the airport first-aid room be staffed with at least highly qualified first-aid personnel.

34. In general it is recommended that during the principal hours of airport activity at least one person trained to deal with the following be on duty:

a) cardiopulmonary resuscitation (CPR);
b) bleeding from a traumatic source;
c) Heimlich manoeuvre (choking);
d) fractures and splinting;
e) burns;
f) shock;
g) emergency childbirth and immediate care of newborn, including prematures;
h) common medical conditions which may influence the outcome of injury (allergies, high blood pressure, diabetes, pace-maker, etc.);

i) basic measures for treatment and protection subsequent to spills or leaks of radioactive materials, toxic, or poisonous substances;
j) treatment of emotionally disturbed persons;
k) recognition and first aid for poisons, bites, and anaphylactic shock; and
l) transportation techniques for injured persons.

This person should have authority to order hospitalization if necessary and to arrange any needed transportation.

35. The airport authority should obtain the advice and direction of a consulting emergency medical care physician as to the allotment and design of equipment for the first-aid room commensurate with the anticipated needs of the particular airport.

36. The airport medical clinic equipment and the medical supplies have to be determined by the physician or the group of physicians in charge of the clinic. It should be remembered that responding to an aircraft emergency may be the main problem.

37. The airport medical care facility should be adequately equipped to handle cardiac arrest and other types of injuries and illnesses associated with industrial medicine. If drugs are maintained, provision should be made to ensure full security.

38. Sufficient emergency oxygen and respiratory equipment should be available to treat smoke inhalation victims.

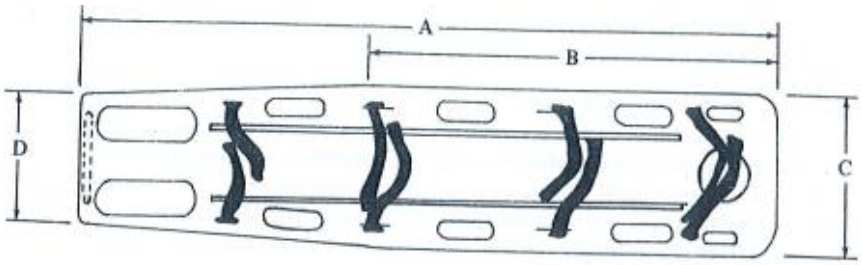
39. Since the majority of non-accident related medical emergencies at airports involve coronary problems, advance life support systems including oxygen, oxygen regulators, and other elements for cardiopulmonary care should be readily available. In addition, first-aid kits (containing drugs, a wide selection of bandages and splints, blood transfusion equipment, and burn and maternity kits), chains, ropes, crow-bars, and metal cutters should be available.

AIRPORTS WITHOUT A MEDICAL CARE FACILITY

40. At airports without a medical care facility (medical clinic or first-aid room), the airport authority should make arrangements to have available sufficient personnel trained in advanced first aid to cover all active hours of airport operation. Equipment for first aid work at these airports should consist, at minimum, of an emergency medical care bag. This bag should be readily available to be carried on a designated airport emergency vehicle and should contain at least:

one plastic sheet (1.80 m × 1.80 m) with four spikes;
— seven haemostats (one package of three, one package of four);
— two field dressings (one 45 cm × 56 cm, one 56 cm × 91 cm);
— ten abdominal pads (five packages of two);
— forty 10 cm × 10 cm gauze pads (four packages of ten);
— two tourniquets;

— one artificial airway;
— three disposable airways (one each No. 2, No. 4, No. 5);
— one bulb syringe with two catheters (No. 12, No. 14 FR);
— two large bandage scissors;
— twenty disposable syringes with No. 25 GA 1.6 cm needle;
— twelve ace bandages (two 15 cm, four 7.5 cm, six 5 cm);
— twelve alcohol sponge packages;
— four rolls of gauze bandage (two 7.5 cm, two 5 cm);
— two rolls of adhesive tape;
— four vaseline gauze dressings (15 cm × 91 cm);
— box of 100 band-aids;
— one blood pressure cuff and gauge;
— two clipboards (22 cm × 28 cm);
— six pencils;
— sufficient supply of casualty identification tags (see Appendix 7);
— one set of inflatable splints;
— one resuscitube;
— one short spine board;
— one flashlight;
— two cervical collars;
— one bite-stick wedge;
— one disposable obstetric kit; and
— one immobilizing mattress.

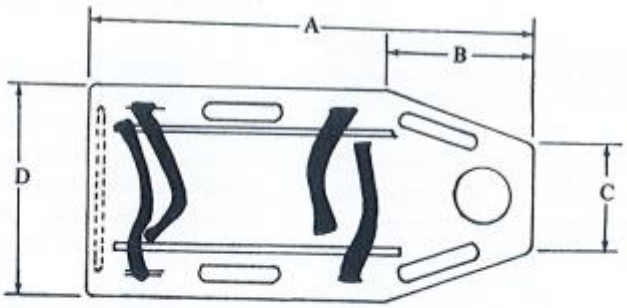


A — 1.90 m
B — 1.10 m
C — 0.46 m
D — 0.25 m

Thickness: 19 mm plywood
Head hole: 14 cm diameter
Hand holes: 25 cm × 5 cm
Foot holes: 25 cm × 7.5 cm

Note : 2.5cm cleats should be placed longitudinally on the under side of the backboard to facilitate lifting

Figure A3-1A. Long backboard



A — 0.91 m
B — 0.30 m
C — 0.20 m
D — 0.41 m

Thickness: 16 mm plywood
Head hole: 11.4 cm diameter
Hand holes: 15 cm × 3.8 cm

Note : 2.5cm cleats should be placed longitudinally on the under side of the backboard to facilitate lifting

Figure A3-1B. Short backboard

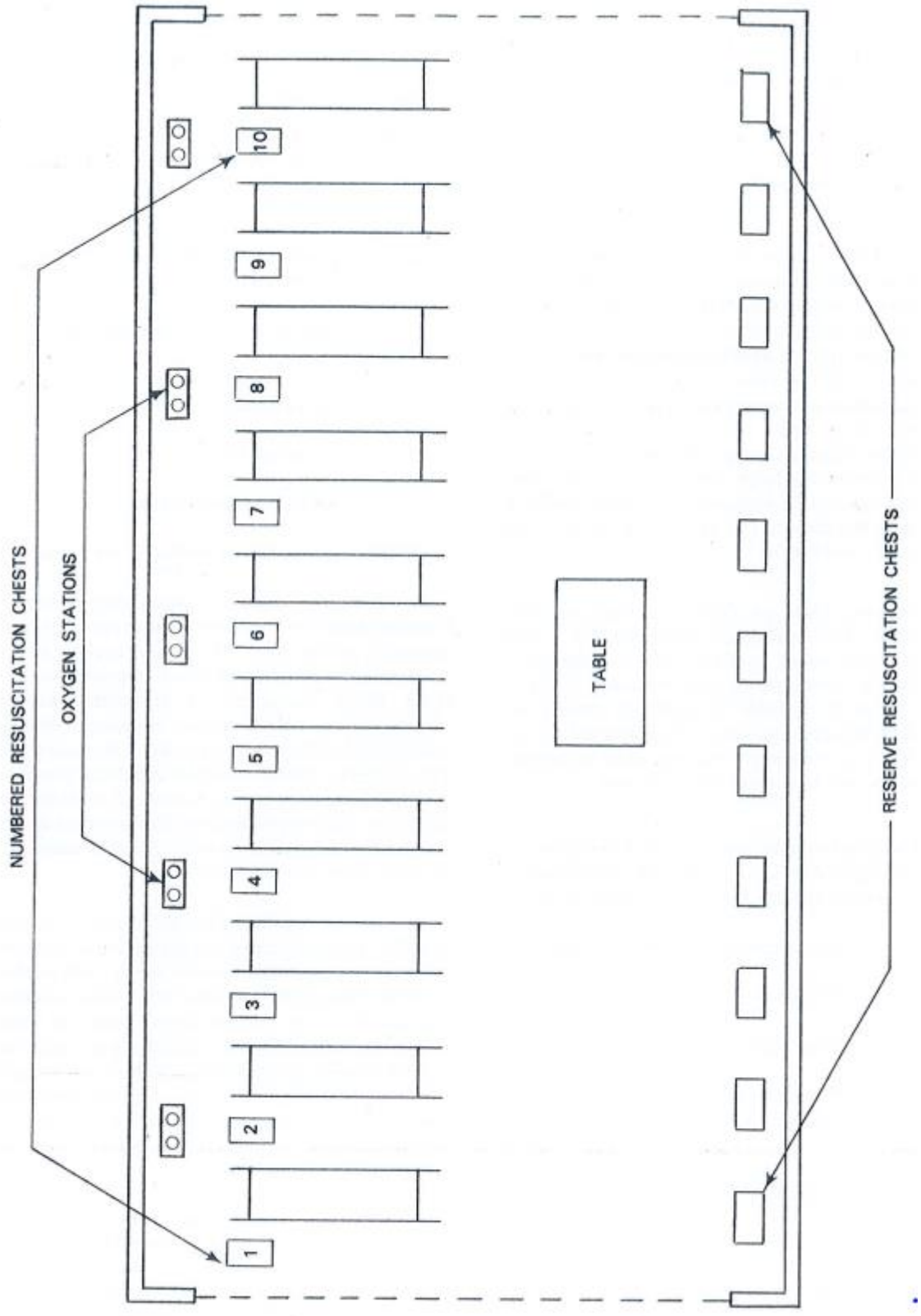


Figure A3-2 Schema of an inflatable tent

Appendix 3 PRESERVATION OF EVIDENCE FOR AIRCRAFT ACCIDENT INVESTIGATIONS

1. Airport fire fighters and other rescue personnel should understand the basic need for and the techniques and procedures used in aircraft accident investigation. Whenever possible the wreckage should remain undisturbed until the arrival of the first aircraft accident investigator. However, when absolutely necessary for the rescue or fire suppression activities, the wreckage may be disturbed. Disturbance should be kept to a minimum.

2. The bodies of the deceased should remain in the position they were found. If it becomes necessary to move bodies or parts of the wreckage, a sketch plan of their respective positions prior to removal should be made as soon as possible. Photographs from four separate angles, if possible, should be taken showing the relative position of bodies and parts within the wreckage. In addition, tags should be affixed to each body or part displaced and corresponding stakes or tags should be placed where they were found in the wreckage. Special precautions should be taken to prevent disturbance of anything in the cockpit area. Should any control be displaced voluntarily or accidentally, the occurrence must be recorded and brought to the attention of the accident investigation authority.

3. Isolation of and security measures within the wreckage area should be established as soon as possible. All authorized personnel should possess and display proper “Emergency Access” identification as required by the airport emergency plan.

4. All security personnel should be briefed on proper identification procedures. Two-way radio communication with appropriate authorities on the site can help identify any person seeking entry whose credentials are questionable.

5. Accident sites can be exceptionally dangerous areas, owing to the possible presence of flammable fuels, dangerous goods and scattered pieces of wreckage. All necessary safety precautions in the emergency area should be carried out rigidly. These include exercising good judgement during fire control and throughout all rescue efforts. Safety equipment and protective clothing must be worn by all personnel involved.

6. As soon as practical after the emergency, all participants in the fire fighting and rescue efforts should be debriefed and their observations recorded by the proper authorities. Sketches, diagrams, photographs, movie films, and tape and video recordings made on the accident site as well as appropriate details on the tagging of bodies and parts removed from their locations are invaluable tools for investigators and should be handed to the investigator-in-charge upon this officer's arrival.

Appendix 4 MUTUAL AID EMERGENCY AGREEMENTS

1. The close proximity of an airport to surrounding communities and the possibility of an off-airport aircraft accident give rise to the need for mutual aid emergency agreements.

2. A mutual aid emergency agreement should specify initial notification and response assignments. It should not specify the responsibilities of the agency concerned as this will be contained in the emergency plan.

3. Mutual aid emergency agreements must be prearranged and duly authorized. A sample of a letter of agreement is included in Figure 5-1 of this Appendix. The airport authority may have to act as co-ordinating agency if more complicated jurisdictional or multi-agency agreements are necessary. Paragraphs 4 and 5 of this Appendix contain guidelines compiled to assist the preparation of mutual aid emergency agreements with local fire departments for accidents occurring on and off the airport.

4. Procedure for local fire department(s) — aircraft accident on-airport:

   a) When a response is initiated, mutual aid fire department(s) shall proceed directly to the rendezvous point or staging area at the airport. An escort will be provided by airport police/security from the rendezvous point or staging area to the accident site.
   b) It is imperative that mutual aid fire department(s) members recognize that unless the airport is closed to flight operations, unescorted movement on airport property is extremely dangerous and may result in conflict with aircraft movements.
   c) Upon arrival at the accident site:
      1. the senior officer of the airport rescue and firefighting service receiving mutual aid shall have full authority at the scene;
      2. fire department mutual aid communications shall be carried out on the pre-designated communication channel; and
      3. communication transmissions will be prefaced by airport rescue and firefighting/local fire department call number.

5. Procedure for local fire department(s) — aircraft accident off-airport:
   a) A call to an off-airport aircraft accident will normally be received from air traffic services or police. Should that not be the case, the local fire department shall notify air traffic services or police via radio or telephone that an accident has occurred and give the approximate location (on the grid map if available).
   b) Upon arrival at the accident site, the local fire department shall:
      1. ensure that the mutual aid emergency agreement is initiated;
      2. establish a command post (This may be a temporary post until the airport authority mobile command post is available and operative.); and

3. ensure that all communications are on the designated aircraft accident channel.

c) The local fire department shall advise air traffic services or police of the following:

1. exact location of the accident site;
2. location of the command post;
3. specific location/rendezvous points on the grid map if availabele to which fire units should respond; and
4. any request for specialized equipment if necessary.

ALFA International Airport

Date issued

ALFA INTERNATIONAL AIRPORT

EMERGENCY PLAN

LETTER OF EMERGENCY AGREEMENT

Agency: (Name and address)

.....

.....

.....

Endorses the ALFA International Airport Emergency Plan, associated airport emergency plan document dated (*insert date*), and attached procedures (*included as paragraphs 4 and 5 of the Appendix*), and agrees to comply with all the procedures and instructions, and fulfill all applicable responsibilities contained therein.

.....

Signature of Authorized Representative

Figure 5-1. Sample of emergency agreement

Appendix 5 AIRCRAFT ACCIDENTS IN THE WATER

1. Where airports are situated adjacent to large bodies of water (such as rivers, lagoons or lakes) or where they are located on coastlines, special provisions should be made for rescue and firefighting operations in the event of an aircraft accident/incident in the water. Specialized equipment for rescue and firefighting may include fire/rescue boats, aircushion vehicles, helicopters, coastal patrol boats, or amphibious vehicles.

2. Consideration of unusual terrain and water conditions such as tidal flats and swamps dictates the choice of the unique types of vehicles most suitable to these conditions. Helicopters, air-cushion, and amphibious vehicles as well as conventional watercraft may be found to provide this specialized service.

3. In developing the water rescue service, consideration should be given to public services (such as military search and rescue units, SL Navy, coast guard or fire departments) and private rescue services (such as rescue squads, power and communication companies, or shipping and waterway operators) that may be available and are capable of rendering assistance. A signal system for alerting private or public services in time of emergency should be prearranged.

4. Many aircraft do not carry personnel flotation devices on board, especially those not engaged on extended flights over water. Such flotation devices should be available in numbers sufficient to meet the needs of the maximum passenger capacity of the largest aircraft normally using the airport. Where the largest aircraft are equipped for scheduled over-water operation, the airport may reduce the amount of personnel flotation devices.

5. Probability of fire. Where accidents occur in the water, the possibility of fire is normally reduced because of the suppression of ignition sources by the water contact and the cooling of heated surfaces. In a situation where fire is present, control and extinguishment will require the availability of specialized equipment.

6. Spillage of fuel on water surfaces. It should be anticipated that the impact of the aircraft hitting the water might rupture fuel tanks and lines. It is thus reasonable to assume that quantities of fuel will be found floating on the surface of the water. Boats having exhausts at the waterline may present an ignition hazard if operated where this conditions is present. Where fire is present, approach should be made after considering wind direction and velocity and water current. Fire may be moved away from the area by using a sweeping technique with hose streams. Foam and other extinguishing agents should be used where necessary. Wind and water currents should be considered to deal effectively with floating fuel and to prevent it from moving into areas where it would be hazardous to rescue operations. As soon as possible, pockets of fuel should be broken up or moved with high volume nozzles, neutralized by covering them with foam or a special inert material, or boomed to contain the fuel in a safe area prior to absorption, dilution, or removal. With preplanning, the water pollution control authorities may provide emergency assistance during this operation.

7. Rescue boats. Rescue boats should be capable of shallow water operations. Boats powered by jet-type propulsion eliminate the dangers of propellers puncturing inflatable

equipment or injuring survivors during rescue operations. Boats powered by conventional propellers may prevent the hazards of puncture and injury by being equipped with fan-type guards or cowls. Inflatable boats may be punctured by wreckage or barnacles.

8. Boats and other rescue vehicles should be so located that they can be brought into action in minimum time. Special boathouses or launching ramps should be provided in order to reduce response time

9. Boats should be of such size as to efficiently carry the flotation equipment required with adequate space for the crew. Sufficient working space should be provided to permit rapid dispersal of the flotation devices. Inflatable life rafts should be the prime flotation equipment carried; there should be a sufficient quantity on hand to accommodate the maximum passenger load of the largest aircraft normally using the airport. Once this flotation equipment has been distributed, there should be sufficient space to accommodate a limited number of litter cases brought aboard in the rescue process.

10. Adequate two-way radio equipment should be provided in all rescue boats in order to permit communications with other rescue units, such as helicopters, air cushion or amphibious equipment, and water-land based units.

11. A minimum of two floodlights should be provided for night operations.

12. Radar reflectors should be used to facilitate navigation and rendezvous efforts.

13. Even though occupied sections of the aircraft may be submerged, the possibility remains that enough air may be trapped inside to maintain life. Entry by divers should be made at the deepest point possible.

14. Organizing diving units/use of divers. Diving units should be dispatched to the scene. When available, helicopters can be used to expedite the transportation of divers to the actual area of the crash. All divers who may be called for this type of service should be highly trained in both scuba diving and underwater search and recovery techniques. In areas where there are no operating governmental or municipal underwater search and recovery teams, agreements may be made with private diving clubs. In all operations where divers are in the water, standard diving flags should be flown and boats operating in the area should be warned to exercise extreme caution.

15. It should be anticipated that victims are more apt to be found downwind or downstream from the accident site. This should be taken into consideration in planning the operation. Where only the approximate location of the crash is established upon arrival, divers should use standard underwater search patterns and mark the locations of the major parts of the aircraft with marker buoys. If sufficient divers are not available, dragging operations should be conducted from surface craft. In no instance should dragging and diving operations be conducted simultaneously.

16. A command post should be established at the most feasible location on an adjacent shore. This should be located in a position to facilitate implementing the airport/community emergency plan in accordance with guidelines established by the authority having jurisdiction.

Appendix 6 AIRCRAFT OPERATORS

GENERAL

1. The following material describes the action which is expected to be taken and the services which are expected to be provided by the aircraft operator involved following an aircraft accident.

2. Aircraft operator personnel often make up the only force available for responding to the needs of aircraft occupants in an emergency.

3. The aircraft operator emergency plan should be co-ordinated with the airport emergency plan so that aircraft operator personnel know which responsibilities the airport will assume and what response is required by the aircraft operator. A checklist form should be developed by the aircraft operator for the company co-ordinator's use. This form should document time of notification of the accident, company communications, personnel assignments, response and other actions taken. From this log of events, a critique of aircraft operator and airport emergency plans can be analyzed for future improvement.

4. Training should be initiated by the aircraft operator to prepare all company personnel for emergencies. In all emergencies, the passengers involved are subjected to stresses of a severity not generally encountered. It is vital for all emergency workers to be familiar with common responses by passengers to unusual stress and apprehension and to be able to cope effectively with disturbed persons. The best possible preparation for behaving effectively under emergency conditions is education and practice. Education should include instruction in the nature and actions of disturbed individuals and the general types of reactions to be expected. Aircraft operator personnel should participate in simulated emergency drills to help establish effective patterns of behaviour under emergency conditions and practice the basic principles of “psychological first aid”.

5. The aircraft operator involved should make arrangements to adequately handle incoming emergency telephone inquiries. Provision of information to public media should be considered to avoid numerous telephone calls.

6. A holding area for uninjured persons should be designated in order to assemble and process passengers not injured or apparently not injured in the emergency. The area selected should provide for both passenger stabilization and security from the news media.

7. Upon notification of an accident, designated aircraft operator personnel should immediately report to the designated holding area to receive the passengers evacuated from the accident scene. The aircraft operator personnel should be at this station before the passengers arrive. Emergency kits (see 10 to 12 in this Appendix for kit contents) should be prepared and be readily available so that passenger service representatives may effectively

carry out their duties. While waiting for the evacuees, an organizational meeting should be held by the aircraft operator's person in command, delegating:

a) a receptionist(s);
b) registrars; and
c) a welfare co-ordinator for the survivors.

8. The following organization and description of required duties are suggested.

a) *The person in command.* Normally this will be the senior representative for the operator whose aircraft was involved in the accident. In the event of a charter or a diverted flight, the representative of the aircraft operator designated to provide ground services for that flight should take command. In the case of an overflight or of an aircraft operator without personnel based at the airport, the command authority should be the airport authority. The person in command should have radio communications with the aircraft operator's operations and emergency operations centres. Telephones should be available in the passenger holding areas. The aircraft operator's person in command should oversee the over-all operations and make arrangements for additional medical services if required, commissary items, etc.

b) *Receptionist(s).* The receptionist(s) should meet the buses as they arrive from the scene of the accident and direct the passengers to the registrars' tables where they will be processed. The receptionist(s) should know where the toilet facilities are located.

c) *Registrars.* The registrars should have emergency kits available. Two people will constitute one registrar team. Several teams will be required to swiftly and efficiently process the passengers. One member will enter the passenger's name on the registrar's form (see Figure 7-1) and determine what arrangements are desired; i.e. hotel accommodation or reservations for another flight, transportation, clothing, etc., and any persons to be notified of the passenger's condition and future plans. The other member of the registrar team will make out an identification tag or sticker (available from the emergency kit) and place it on the passenger. This will assist in identifying the passenger when accommodations have been arranged. More importantly, this will indicate that the passenger has been processed. The registrars will then direct the uninjured survivors to the welfare co-ordinators.

d) *Welfare co-ordinator.* Welfare co-ordinators are the nucleus of “psychological first aid.” They should attempt to stimulate passenger conversation. Special attention should be given to those who do not join in the group. In giving psychological first aid, it will be noted that some persons become more disturbed than others. Giving sympathetic understanding can be the first step

towards helping a person. Overwhelming persons with pity will only make them feel more helpless and might confirm their worst fears concerning their condition. A person who exhibits bodily trembling, rapid breathing, shortness of breath, etc., should be engaged in conversation and professional medical attention requested as soon as available.

9. A staff force of the size indicated can be provided by most aircraft operators; however, there may be a problem at airports with a small operation. As a result, a mutual aid assistance programme of all aircraft operator personnel and (if necessary, other airport tenants based at the airport) should be established. Training can be acquired from local international relief agencies (Red Cross, etc.). This training is not extensive but would provide education for passenger service in an emergency.

EMERGENCY KITS

10. Each aircraft operator should prepare an emergency kit which can be readily available to all aircraft operator personnel during all hours of operations. All company personnel should have knowledge of the location of the emergency kit. The kit must contain writing pads or forms (see Figure A7-1) on which to list the following information:

a) name, address, and home telephone number of passenger;
b) name and telephone number of person to be notified of passenger's condition;
c) arrangement requests of passenger (i.e. future flight, hotel, transportation within the local area, etc.); and
d) where person can be contacted during the next 72 hours.

The kit should also contain adhesive type name tags to identify passengers who have been processed and those for whom arrangements have been made.

11. Telephone numbers for the following should be available in the emergency kit:

a) doctors to attend to minor injuries. Each aircraft operator should have a letter of agreement with a physician(s) who will respond to a designated holding area;
b) hotels where passengers can be billeted. It is beneficial to place passengers in the same hotel or at least in groups at hotels;
c) linguists, who should be available on a 24-hour basis (preferably people who work on the airport for quick response). Local schools and private language departments can also be contacted;
d) caterer (if commissary items are required);
e) all local aircraft operator reservations offices;
f) ambulance companies in case a passenger unexpectedly requires transportation;
g) taxicab companies; and
h) emergency telephone numbers to be disseminated on radio and television so that families of the casualties may telephone and receive information.

12. A current copy of a recognized airline guide should be available in the emergency kit. (Local airline schedules would be most helpful for registrars who will be making arrangements on future flights).

REGISTRAR'S FORM

Passenger

Name: .....

Address: .....

.....

.....

Phone number: .....

Accommodation/
Hotel (name): .....

Future flight (no.): .....

Local transportation: .....

Where can be contacted
during next 72 hours: .....

.....

Person to be notified

Name: .....

Relationship: .....

Phone number(s): .....

.....

Figure A7-1. Sample of registrar's form

Appendix 7 CASUALTY IDENTIFICATION TAG

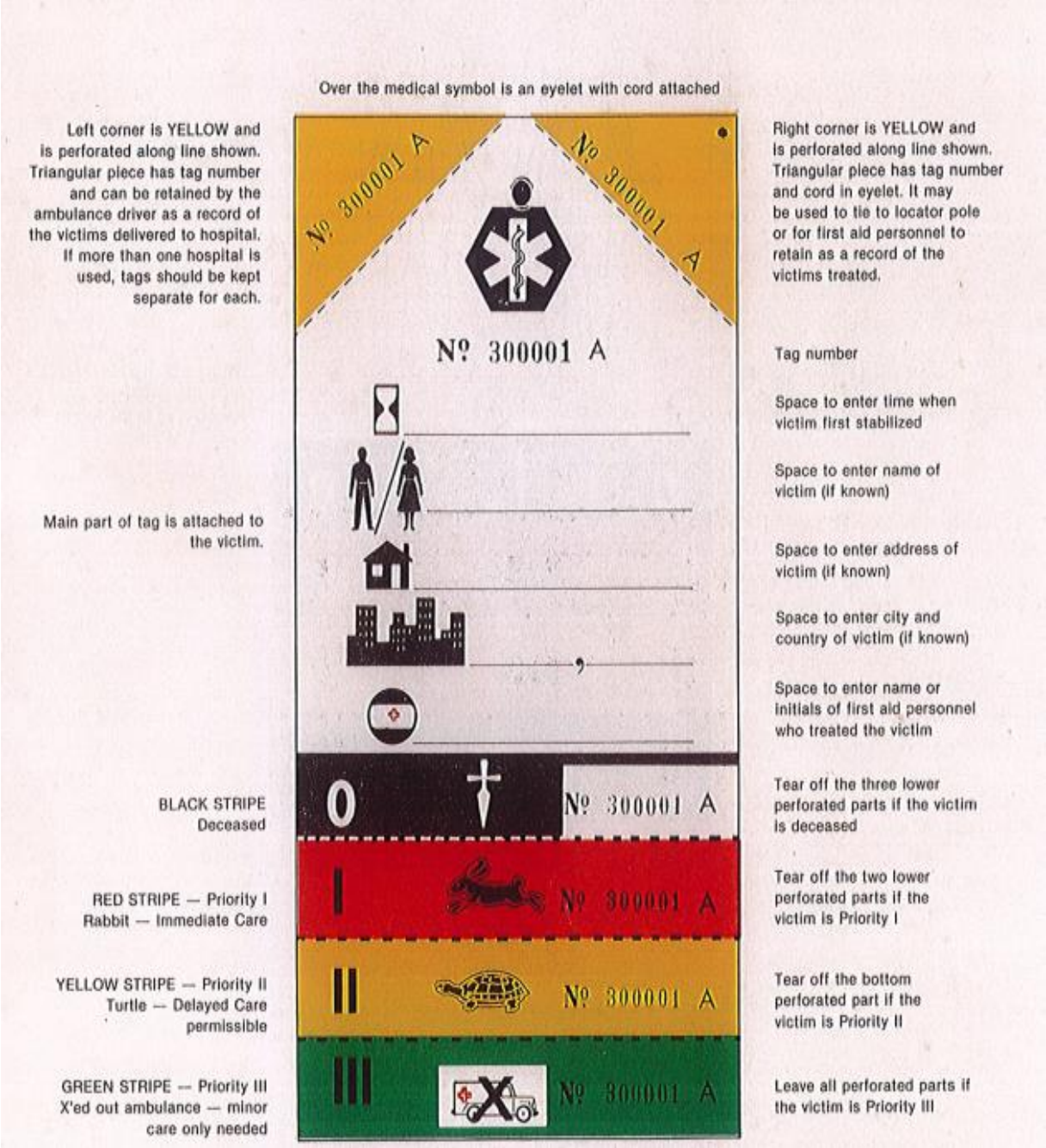


Figure A8-1 Casualty identification tag (recto)

Note – if the condition of the victim deteriorated, the indication should be changed accordingly.

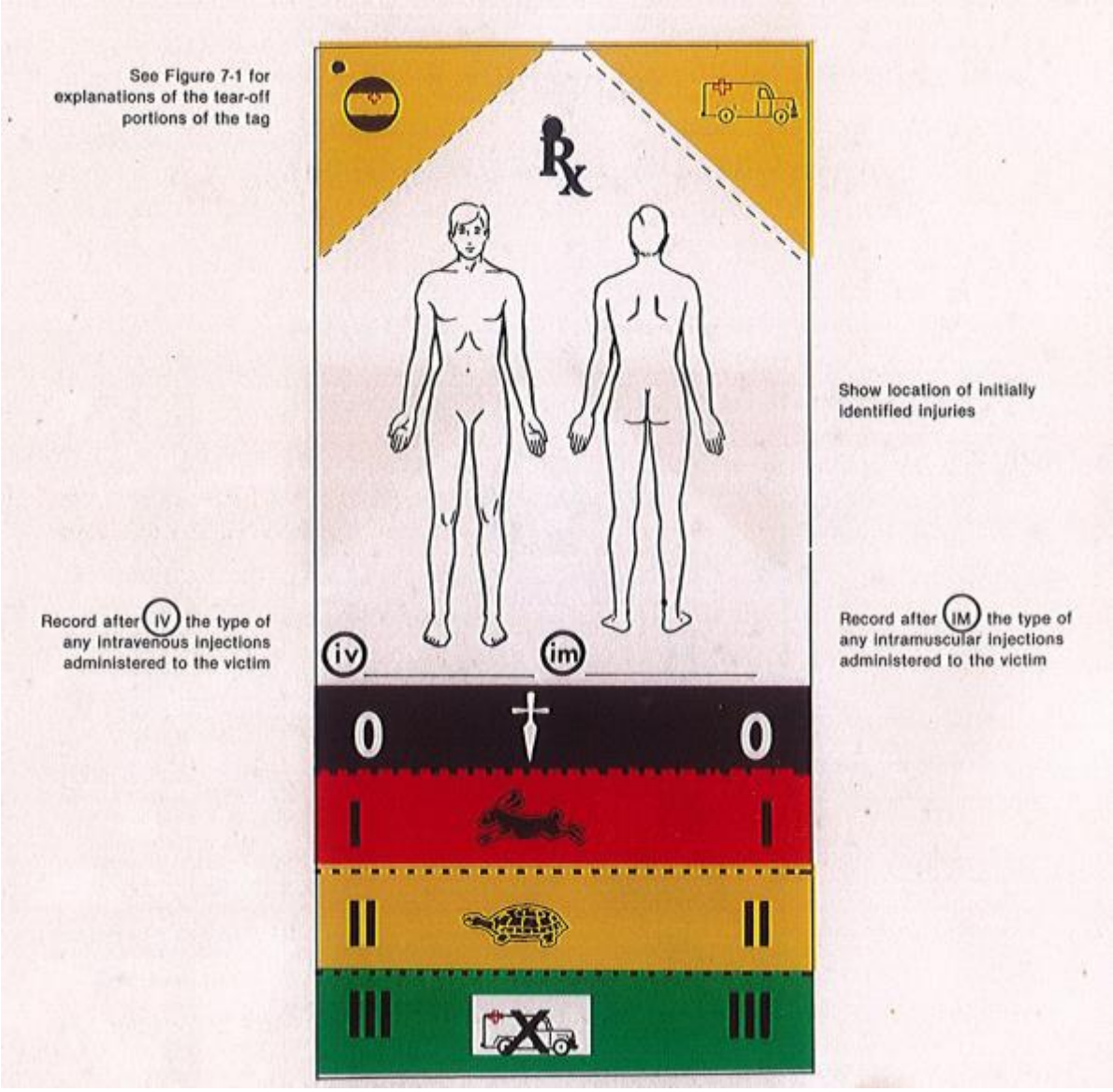


Figure 8-2 Casualty identification tag (verso)

Appendix 8 EMERGENCY EXERCISE CRITIQUE FORM

Name of person performing critique		……
GENERAL		
1.	Date and time of emergency	…… (Day/Month/Year) …… (Local time — 24-hour clock)
2.	Location of emergency	…… ……
3.	Type of emergency	…… ……
RESCUE FIRE FIGHTING OPERATIONS		
4.	Time of emergency notification	…… (Local time — 24-hour clock)
5.	a) First agency or individual to arrive at emergency b) Time of arrival	…… …… …… (Local time — 24-hour clock)
6.	a) Arrival time of airport rescue firefighting service at emergency b) Approximate number of fire personnel at site	…… (Local time — 24-hour clock) ……

	c) Time and type of first protection action (foam, dry chemical, etc.)	…… (Local time — 24-hour clock) …… (Type)
7.	a) Time first casualty evacuated from aircraft b) How evacuated c) Number of casualties evacuated from inside aircraft d) Time last casualty evacuated from aircraft Comments:	…… (Local time — 24-hour clock) …… …… …… …… …… (Local time — 24-hour clock) …… …… …… …… …… …… ……
8.	a) Number of injured b) Number of non-injured c) Number of dead	…… …… ……

9.	a) Time first casualty transported to triage area	…… (Local time — 24-hour clock)
	b) Time last casualty transported to triage area	…… (Local time — 24-hour clock)
10.	a) Name of other services participating in first aid …… …… ……	
	b) Who was in charge of these services? …… ……	
	c) How many persons involved? ……	
	a) Name of other organizations participating in rescue operations …… …… …… ……	
	b) Number of persons involved ……	
12	Was the moulage realistic? YES NO	
	SECURITY	
13.	a) Time of emergency notification to police/security	…… (Local time – 24 hour clock)
	b) Who was first police/security officer to arrive at emergency site?	

	…… ….			
	…… ….			
	c) Time arrival			
	…… … . (Local time – 24 hour clock)			
14.	a) Number of persons involved			
	b) Did command of security at emergency site change at any time?	YES NO		
	If so, give sequence of command change and agency represented			
15.	Was the traffic satisfactorily controlled? YES NO			
16	Was there any provision for the security of personal effects?	YES	NO	
17.	Any special problems at accident site with security (spectators, etc.)?			
18.	a) Who was first medical official to arrive at emergency site? b) Time of notification (Local time – 24 hour clock) c) How notified?			

	d) By whom? e) Arrival time at emergency site
19.	a) Who was the medical co-ordinator in charge of medical care and evacuation of casualties? b) Time of notification (Local time — 24-hour clock) c) How notified? d) By whom e) Arrival time at emergency site (Local time — 24-hour clock)
20.	a) Number of physicians responding b) Number of nursing personnel responding
21.	a) Was a triage area designated at emergency site? YES NO b) Was the triage area located to expedite the flow of casualties?

	c) Were the casualties properly classified and tagged?
22.	How were medical and first aid personnel identified?
23	a) What time were international relief agencies (Red Cross, etc.) notified? (Local time 24 hour clock)
	b) How notified?
	c) By whom?
	d) Arrival time . (Local time — 24-hour clock)
	e) Which agencies were participating?
	f) Number of personnel participating
AMBULANCES	
24.	a) Time of notification to ambulances (Local time — 24-hour clock)
	b) How notified?

	c) By whom?
	d) Name of ambulance company.
	e) Time of arrival at accident site of first ambulance (Local time — 24-hour clock)
25.	a) How many casualties did ambulance handle?
	b) Time of departure. (Local time — 24-hour clock)
	c) Hospital
	d) Arrival time at hospital (Local time — 24-hour clock)
26.	a) Was ingress or egress to accident site a problem? YES NO If yes, explain
	b) Were there any special problems driving from accident site to hospital?

	YES NO…. If YES, explain.
HOSPITALS	
27.	Number of physicians responding
28.	Number of nursing personnel responding
29.	Number of other hospital personnel responding
30.	Number of casualties received
31.	Kind of casualties received
32.	a) Time first alert was received (Local time — 24-hour clock)
	b) Time disaster message authenticated (Local time — 24-hour clock)
	c) Time last casualties arrived (Local time — 24-hour clock)
33.	Did leadership by on-scene commander cause people to take effective action?

	YES NO
34.	Were there any problems in the co-ordination of medical, fire, police or other services? YES NO If yes, explain:
35.	Was the general spirit of the participants conducive to the success of the exercise? YES NO
36.	Who demonstrated leadership?
PUBLIC INFORMATION	
37.	a) Time of notification to airport public information officer (Local time — 24-hour clock)
	b) How notified?
	c) Arrival time (Local time — 24-hour clock)

38.	a) Who was the Public Relations Officer?		
	b) From what organization?		
39.	What special problems were indicated?		
COMMUNICATIONS AND CONTROL			
40.	Did the Command Post perform effectively?	YES	NO
41.	Did the emergency operations centre perform effectively?	YES	NO
42.	Was the personnel call system effective?	YES	NO
43.	Was the physician call system effective?	YES	NO
44.	Was the emergency message accurately received?	YES	NO
45.	Were communications with the hospitals effective?	YES	NO
46	Were there any problems with internal communications?	YES	NO
	If yes explain:		

47.	What kinds of communications systems were used? a) two-way radio b) telephone c) walkie-talkie d) messenger e) e) other (Specify:……)

NARRATIVE

Make any comments that may be helpful in evaluating this exercise.