

# **AIRPORT SERVICES MANUAL**



## **PART 7**

# **AIRPORT EMERGENCY PLANNING**

**SECOND EDITION — 1991**

*Approved by the Secretary General  
and published under his authority*

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

## Foreword

In accordance with the provisions in Annex 14, Volume I, States are required to establish at every airport an emergency plan commensurate with the aircraft operations and other activities conducted at the airport. The purpose of the material in this manual is to assist States in the implementation of these specifications and thereby help to ensure their uniform application.

The material in the manual relates principally to matters concerning pre-planning for airport emergencies, as well as co-ordination between the different airport agencies (or services) and those agencies in the surrounding community that could be of assistance in responding to the emergency. It does not include material on how an agency is to carry out its particular functions such as those of the rescue and fire fighting services or air traffic control service. Such material remains in the regular documents concerning these specialties. Detailed complementary guidance material dealing with emergencies involving unlawful interference of aircraft is contained in the *Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference*.

This manual includes, *inter alia*, material concerning 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. A glossary is presented in Appendix 1 for use by those who may not be familiar with a particular technical term used in this manual.

The first edition of this manual was produced in 1980. It has been updated in 1990 as a result of comments received from States and international organizations concerning problems encountered during actual emergencies and those experienced while conducting emergency exercises. Accidents in the water have necessitated the inclusion of a new Appendix concerning this subject.

It is intended that the manual be kept up to date. Future editions will most likely be improved on the basis of experience gained and of comments and suggestions received from users of this manual. Therefore, readers of this manual are invited to give their views, comments and suggestions on this edition. These should be directed to the Secretary General of ICAO.

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# 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 fire fighting, 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 fire fighting 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 cold, snow, 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 material contained herein should not be in conflict with local or State regulations. A principal purpose of this document is to alert participating departments or agencies, which may be called to an aircraft emergency, that conflicts can exist because of overlapping or non-existent local regulations. 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 fire fighting services;
  - 2) medical services;
  - 3) police and/or security services;
  - 4) airport administration;

- 5) air traffic services; and
- 6) aircraft operators.
- 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) 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, deserts, 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, snowmobiles, half-tracks, forest fire fighting 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 desert squads, 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.
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## 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 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. For example, low temperatures may freeze medical solutions or tubing during protracted extrication operations. Severe weather conditions may also negatively affect fire fighting 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 2.

### 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: