# CHAPTER I Introduction to Emergency Response Planning

# 1.1 Introduction

Emergency response planning is the procedure of preparing an airport to cope with an emergency occurring at the airport or in its vicinity. The objective is to minimize the effects of an emergency, predominantly in regard to saving lives and maintaining aircraft operations.

The aim of this Emergency Response Planning is:

- → Highlighting the policies and actions to be implemented in case of a emergency
- → Offering advice to the fellows of the emergency management team in carrying out their responsibilities
- → Communicating appropriate information to members of the public and employees of the organisation



#### 1.2

# Airport Emergency Plan

The purpose of the airport emergency plan is to prepare for emergency services and minimise the effects of emergency, particularly with respect to preservation of life and maintaining aircraft operations. The plan dictates and advises the procedures by establishing a coordinated program between an airport and the surrounding community. The plan should include a set of instructions to ensure immediate response of rescue and firefigthing services, law enforcement, medical services, and other persons

and agencies both on and off the airport.

A few examples of the different types of emergencies are:

- Bomb threats;
- · Disruption of aviation related equipment;
- Serious Aircraft defects and malfunctions that can impede safe flight;
- · Dangerous goods incidents;
- Unlawfully seized aircraft;
- Building fires;
- Natural disasters.



Accident due to Dangerous Goods (Source: firefightingnews.com)

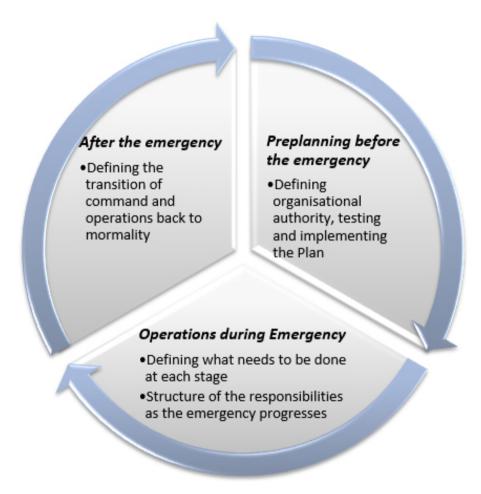
An airport emergency plan exists at all airports that have regular air transport services with 30 or more passenger seats in aircraft.

The plan sets on agreed on and recognised structure of command during the emergency, the plan should include a section of instructions to ensure immediate response of rescue and fire-fighting services, law enforcement, medical services and other persons both on and off the airport.



The airport emergency plan is implemented in similar fashion for incident or accident occurred on-airport or an off-airport aircraft. The airport authority is normally in command for on-airport aircraft accident/incident. In an off-airport aircraft accident/incident, the agency in command will be responsible for mutual aid emergency agreement pre-arranged with the surrounding community. The mutual aid emergency agreement prepared along with the surrounding community will be responsible when an aircraft accident or incident occurs just outside the airport perimeter.

A comprehensive airport emergency plan considers the following:



# 1.2.1 Establishment of Emergency response plan

The main objective of an airport emergency plan is to guarantee the following:

- → Allocation of appropriate airport emergency authority
- → Efficient and orderly changeover from normal to emergency operations
- → Allocation of emergency responsibilities
- → Synchronisation of efforts to manage emergency
- → Delegation of key workforces for actions contained in the plan



- As soon as possible, perform safe continuation of aircraft operations and return to operations

  It is essential that airport authorities arrange mutual aid emergency agreements with jurisdictions defining responsibilities of each party. These agreements should
  - → Clarify the jurisdictional and political responsibilities of different agencies involved in order to avoid problems in case of an emergency
  - → Establish an unambiguous chain of command
  - → Designate the communication priorities at the accident site;
  - > Delegate an emergency transportation coordinator and assign emergency transportation facilities
  - → Predetermine the legal authority and liability of all co-operating emergency workforces
  - → Prearrange for the use of heavy and portable rescue equipment from available sources

# 1.2.2 Responsibility

For co-ordinating the plan with surrounding community authorities and deal with all unusual conditions at the airport, each airport authority should be accountable for establishing emergency plans and actions. They should be responsible for:

- Assigning the emergency equipment and personnel provided by the concerned departments and agencies
- → Providing maximum aircraft and airport emergency services
- → Providing mutual aid



(Source: mbjairport.com)

The plan should consider the co-ordinated response and involvement of all existing agencies which could provide the assistance in responding to an emergency. A few examples of such agencies are:



- Aircraft operators
- Air traffic services
- · Airport administration
- Police and for security services
- Medical services
- ·Rescue and fire fighting services

On the airport



- Mutual aid police
- Mutual aid local fire departments
- Medical services
- Hospitals
- Government authorities
- Military
- ·Harbour patrol or coast guard
- Other participating agencies

Off the airport



It is the responsibility of the airport authority to ensure that all participating agencies are familiar with their assignments, duties and responsibilities as described under the emergency plan. They should also have the knowledge about the duties of other agencies involved.



1.2.3 Examples of Content of emergency response plan

#### Section1: Emergency Telephone Numbers

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

- → Air traffic services
- → Rescue and Fire-fighting services(departments)
- → Police and security
- → Medical services:
  - o Hospitals
  - o Ambulances
  - o Doctors business/residence
- → Aircraft operators
- → Government authorities
- → Civil defence
- → Others



#### Section 2: Aircraft Accident on the Airport

- → Action by air traffic services (airport control tower or airport flight information service)
- → Action by rescue and fire fighting services
- → Action by police and security services
- → Action by airport authority:
- → Vehicle escort
- **→** Maintenance
- → Action by medical services
- **→** Hospitals
- **→** Ambulances
- → Doctors
- **→** Medical personnel
- → Action by aircraft operator involved
- Action by emergency operations centre and mobile command post
- → Action by government authorities
- → Communication network (emergency operations centre and mobile command post)
- → Action by agencies involved in mutual aid emergency agreements
- Action by transportation authorities (land, sea, air)
- + Action by public information officer
- → Action by local fire departments when structures involved
- → Action by all other agencies

#### Section 3: Aircraft Accident off the Airport

- Action by air traffic services (airport control tower or airport flight information service)
- → Action by rescue and fire fighting services
- → Action by local fire departments
- → Action by police and security services
- + Action by airport authority
- + Action by medical services
- **→** Hospitals



- **→** Ambulances
- **→** Doctors
- **→** Medical personnel
- + Action by agencies involved in mutual aid emergency agreements
- → Action by aircraft operator involved
- → Action by emergency operations centre and mobile command post
- → Action by government authorities
- → Communication network (emergency operations centre and mobile command post)
- → Action by transportation authorities (land, sea, air)
- → Action by public information officer
- → Action by all other agencies

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

- → Action by air traffic services (airport control tower or airport flight information service)
- → Action by airport rescue and fire fighting services
- → Action by police and security services
- → Action by airport authority
- + Action by medical services
- **→** Hospitals
- **→** Ambulances
- **→** Doctors
- → Medical personnel
- → Action by aircraft operator involved
- Action by emergency operations centre and mobile command post
- + Action by all other agencies

#### Section 5: Structural Fires

- Action by air traffic services (airport control tower or airport flight information service)
- → Action by rescue and fire fighting services(local fire department)



- → Action by police and security services
- → Action by airport authority
- **→** Evacuation of structure
- → Action by medical services
  - o Hospitals
  - o Ambulances
  - o Doctors
  - o Medical personnel
- + Action by emergency operations centre and mobile command post
- → Action by public information officer
- + Action by all other agencies

#### Section 6: Sabotage including bomb threat (aircraft or structure)

- → Action by air traffic services (airport control tower or airport flight information service)
- → Action by emergency operations centre and mobile command post
- → Action by police and security services
- → Action by airport authority
- → Action by rescue and fire fighting services
- → Action by medical services
  - o Hospitals
  - o Ambulances
  - o Doctors
  - o Medical personnel
- → Action by aircraft operator involved
- → Action by government authorities
- → Isolated aircraft parking position
- **→** Evacuation
- → Searches by dogs and trained personnel
- → Handling and identification of luggage and cargo on board aircraft
- → Handling and disposal of suspected bomb



- → Action by public information officer
- → Action by all other agencies

#### Section 7: Unlawful seizure of aircraft

- → Action by air traffic services (airport control tower or airport flight information service)
- → Action by rescue and fire fighting services
- → Action by police and security services
- → Action by airport authority
- → Action by medical services
  - o Hospitals
  - o Ambulances
  - o Doctors
  - o Medical personnel
- + Action by aircraft operator involved
- + Action by emergency operations centre and mobile command post
- → Action by government authorities
- → Isolated aircraft parking position
- → Action by public information officer
- + Action by all other agencies

#### Section 8: Incident on the airport

- An incident at airport may require actions in Section 2: Aircraft accident on the airport. Examples of such incidents are:
- → Fuel Spill at:
  - o Apron
  - o Passenger loading bridge
  - o Fuel storage area
- → Dangerous goods occurrences at fright handling areas
- → Collapse of structures
- → Vehicle/ aircraft collisions



### Section 9: Persons of Authority-site roles

- → To include but not limited to the following according to local requirements: o On-airport:
- → Airport chief fire officer
- **→** Airport authority
- → Police and security Officer-in-charge
- → Medical co-ordinator o Off-airport:
- → Local chief fire officer
- → Government authority
- → 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:
  - o Red Chief Fire Officer
  - o Blue Police chief
  - o White (Red lettering) Medical Co-ordinator
  - o International orange Airport administration
  - o Lime green Transportation Officer
  - o Dark brown Forensic Chief
- → An on-scene commander should be appointed as the person in command of the over-all emergency operation

# 1.2.4 Agencies included in Emergency Plan

The airport and community agencies to be included in the emergency plan are air traffic services, rescue and firefigthing services, fire departments, police, national aviation security services, airport authority, medical services, hospitals, aircraft operators, government authorities, communication services airport, tenants, transportation authorities, civil defence, military harbour patrol or Coast Guard, clergy, public information office, and other mutual-aid agencies. The flow of control will be on-or off-airport.





Emergency Drill at Tulsa International Airport (Source: newson6.com)

ICAO further recommends that an emergency plan be tested by full-scale emergency exercises using all facilities and associated agencies at intervals not exceeding two years, with partial exercises each year and table-top exercises every six months. The exercises should be followed by a full debriefing and critique in which all involved organizations participate. In fact, emergency drills of this scale are not as common as ICAO recommends. For example, in many countries, there are regulations that all airports must have a written airport disaster plan, but frequently the regulation does not require that the plan be tested. Many full-scale drills are emphasised on three C's of disaster planning: command, communication, and coordination.

#### 1.2.4.1 Command

Following through an on-airport accident, it can be seen that the captain is in command of the aircraft while in the air and immediately after the crash. Command changes as the airport fire trucks arrive and the flight crew evacuates passengers. In most countries, command is assumed by the most senior police officer. This situation holds until all fires are stabilized and all casualties are treated and dispatched to hospital.

The accident site then remains under the control of the airport operations officer until

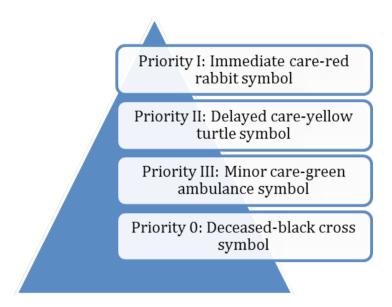


Command during emergency (Source: news.slac.stanford.edu)

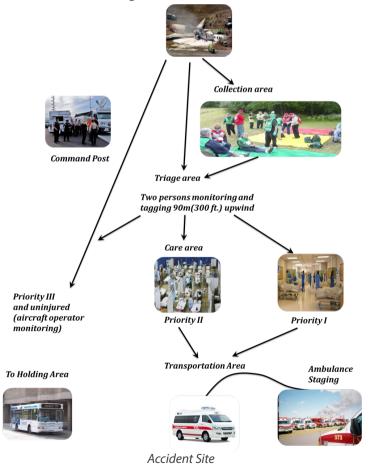


the arrival of the accident investigation team. The "persons in charge" of the various agencies should wear distinctive-coloured vests. Until the arrival of a medical officer, a paramedic should take control of removal of casualties to the triage area. Ideally, the medical coordinator designated under the emergency plan will be a trauma-trained doctor.

Passengers are evacuated initially to the triage area, which is at least 300 feet (100m) upwind of the crash. Here casualties are examined and tagged according to the severity of injury. The tags represent the priority for transportation and care.

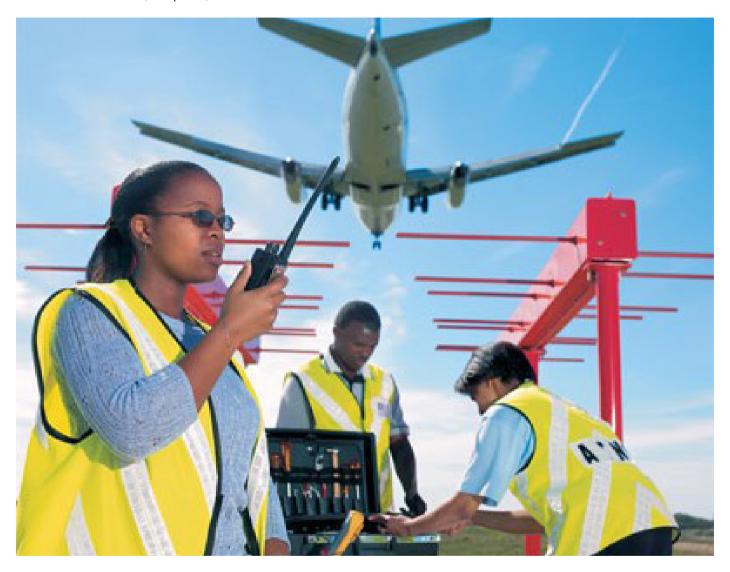


The layout of an accident site is shown is below figure:



# 1.2.4.2 Communications

Communications from the accident site are achieved through the command post at the accident site. At well-equipped airports, this can be a field trailer specially equipped with radio, radiotelephone, loudspeakers, elevated platform, and floodlighting. Experience has shown that there is usually little problem with communication between the fire and police departments and the airport authorities; the main difficulties have been found to lie among the medical coordination, hospitals, and ambulances.



Communication during Emergency (Source: airport-technology.com)

# 1.2.4.3 Coordination

Coordination of many agencies and individuals to be involved in the case of an emergency or an accident requires planning, patience, and teamwork. It is essential that everyone involved, on- and off airport, know what is or her responsibilities are when an emergency is declared. Converted aircraft cargo trailers are used to transport disaster supplies and have been fitted out as a mobile command post and communications trailers.

