

NFPA® 424

Guide for Airport/Community Emergency Planning

2013 Edition



NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
An International Codes and Standards Organization



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NFPA® 424

Guide for

Airport/Community Emergency Planning

2013 Edition

This edition of NFPA 424, *Guide for Airport/Community Emergency Planning*, was prepared by the Technical Committee on Aircraft Rescue and Fire Fighting. It was issued by the Standards Council on May 29, 2012, with an effective date of June 18, 2012, and supersedes all previous editions.

This edition of NFPA 424 was approved as an American National Standard on June 18, 2012.

Origin and Development of NFPA 424

The Subcommittee on NFPA 424 started work on this document in 1976. It was submitted to the NFPA at the 1978 Fall Meeting and released as the first edition on January 25, 1979.

The complete text was rewritten in 1986 in an informational format. The document was again rewritten in 1991. The 1996 and 2002 editions were partial revisions.

The 2008 edition was also a partial revision. For the revision of Chapter 14, assistance was provided by Paul Sledzick, NTSB; Fred Tilton, FAA; Ken Hermsen, Creighton University Medical Center, Omaha, NE; Lyle Streeter, FAA; and Charles De John, FAA.

For the 2013 edition, the Committee made several changes to conform with the *NFPA Manual of Style* and updated many of the referenced documents. The committee also updated several photos and reworked the diagram for triage and medical care at an accident site. Along with an overall update, the Committee also incorporated NIMS and all relevant positions within NIMS into this document.



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Committee Scope: This Committee shall have primary responsibility for documents on aircraft rescue and fire-fighting services and equipment, for procedures for handling aircraft fire emergencies, and for specialized vehicles used to perform these functions at airports, with particular emphasis on saving lives and reducing injuries coincident with aircraft fires following impact or aircraft ground fires. This Committee also shall have responsibility for documents on aircraft hand fire extinguishers and accident prevention and the saving of lives in future aircraft accidents involving fire.



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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in advisory sections of this document are given in Chapter 2 and those for extracts in the informational sections are given in Annex H. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text should be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex H.

Chapter 1 Administration

1.1 Scope. This guide describes the elements of an airport/community emergency plan that require consideration before, during, and after an emergency has occurred. The scope of the airport/community emergency plan should include command, communication, and coordination functions for executing the AEP. Throughout this document, the airport/community emergency plan will be referred to as the “AEP”

1.2 Purpose. This guide was written to inform airport and adjacent community authorities of current emergency planning techniques and procedures that result in the efficient utilization of personnel from all involved organizations and agencies to provide effective delivery of emergency services in the event of an aircraft-related emergency. Jurisdictional problems previously identified in actual emergencies or emergency plan exercises point out the necessity of resolving the conflicts as part of the development of the AEP. Recommendations contained herein are not intended to conflict with any local or state regulations. One of the principal purposes of this document is to alert all participants to conflicts that can exist due to multijurisdictional factors, such as conflicts between state and local regulations. Additional criteria for assessing the AEP can be found in *NFPA 1600, Standard on Disaster/Emergency Management and Business Continuity Programs*.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this guide and should be considered part of the recommendations of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1600®, *Standard on Disaster/Emergency Management and Business Continuity Programs*, 2010 edition.

2.3 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Advisory Sections.

NFPA 402, *Guide for Aircraft Rescue and Fire-Fighting Operations*, 2013 edition.

NFPA 403, *Standard for Aircraft Rescue and Fire-Fighting Services at Airports*, 2009 edition.

NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 2013 edition.

NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*, 2009 edition.

Chapter 3 Definitions

3.1* General. The definitions contained in this chapter apply to the terms used in this guide. Where terms are not defined in this chapter or within another chapter, they should be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, is the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.3 General Definitions.

3.3.1* Airborne Emergency. Those emergencies that affect the operational integrity of an aircraft while in flight.

3.3.2 Aircraft Accident. An occurrence associated with the operation of an aircraft that takes place between the time any person boards the aircraft with the intention of flight and until all such persons have disembarked and in which any person suffers death or serious injury or in which the aircraft receives substantial damage. [403, 2009]

3.3.3 Aircraft Emergency Exercise. Testing of the emergency plan and review of the results in order to improve the effectiveness of the AEP.

3.3.4* Aircraft Incident. An occurrence, other than an accident, associated with the operation of an aircraft, that affects or could affect continued safe operation if not corrected.

3.3.5 Aircraft Operator. A person, organization, or enterprise engaged in, or offering to engage in, aircraft operation.

3.3.6 Airline Coordinator. A representative authority delegated by an airline to represent its interests during an emergency covered by this guide.

3.3.7 Airport/Community Emergency Plan (AEP). Established procedures for coordinating the response of airport services with other agencies in the surrounding community that could be of assistance in responding to an emergency occurring on, or in the vicinity of, the airport.

3.3.8* Airport Manager. The individual having managerial responsibility for the operation and safety of an airport.

3.3.9 Airside (Airport Operational Area). The movement area of an airport, adjacent terrain, and buildings or portions thereof, access to which is controlled.

3.3.10 Air Traffic Control Provider. A service established to provide air and ground traffic control for airports. (This includes airport control tower and airport flight information services.)

3.3.11 Area.

3.3.11.1 Care Area. Location where initial medical care is given to injured.

3.3.11.2 Collection Area. Location where seriously injured are collected initially.

3.3.11.3 Holding Area. Location where the apparently uninjured aircraft occupants are transported.

3.3.11.4 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.

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

3.3.12 Emergency Medical Technician. A person trained and certified to appraise and initiate the administration of emergency care for victims of trauma or acute illness before or during transportation of victims to a health care facility.

3.3.13 Emergency Operations Center. A fixed, designated area to be used in supporting and coordinating operations during emergencies.

3.3.14 Grid Map. A plan view of an area with a system of squares (numbered and lettered) superimposed to provide a fixed reference to any point in the area.

3.3.15 Incident Command Post (ICP). The location at the scene of an emergency where the incident commander is located and where command, coordination, control, and communications are centralized.

3.3.16 Incident Command System (ICS). The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure that has responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident or training exercise. [1670, 2009]

3.3.17 Incident Commander (IC). The individual responsible for all incident activities, including the development of strate-

gies and tactics and the ordering and the release of resources. [472, 2013]

3.3.18 Investigation. A systematic inquiry or examination.

3.3.19 Mobile Emergency Hospital (MEH). A specialized, self-contained vehicle that can provide a clinical environment that enables a physician to provide definitive treatment for serious injuries at the accident scene.

3.3.20 Moulage. A reproduction of a skin lesion, tumor, wound, or other pathological state. Applied for realism to simulate injuries in emergency exercises.

3.3.21 Mutual Aid. Reciprocal assistance by emergency services under a prearranged plan. [402, 2013]

3.3.22* Paramedic. A medical technician who has received extensive training in advanced life support and emergency medicine.

3.3.23 Perimeter.

3.3.23.1 Inner Perimeter. That area that is secured to allow effective command, communication, and coordination control and to allow for safe operations to deal with an emergency, including the immediate ingress and egress needs of emergency response personnel and vehicles.

3.3.23.2 Outer Perimeter. That area outside of the inner perimeter that is secured for immediate-support operational requirements, free of unauthorized or uncontrolled interference.

3.3.24 Rendezvous Point/Staging Area. A prearranged reference point, that is, a road junction, a crossroad, or other specified place, where personnel/vehicles responding to an emergency situation initially proceed to receive directions to staging areas or the accident/incident site or both.

3.3.25 Stabilization. The medical measures used to restore basic physiologic equilibrium to a patient, to facilitate future definitive care, in order to ensure survival.

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

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

Chapter 4 Elements of Emergency Planning

4.1 General. (See Annex C.)

4.1.1 It is the function of the airport operator to develop an airport/community emergency plan (AEP) and procedures for all perceived emergencies applicable to the airport's characteristics and operation. The AEP should describe the coordination of the actions to be taken in an emergency occurring at an airport or in its vicinity. It should be built around an Incident Command System (ICS) compatible with the locally adopted emergency management system.

4.1.2 "During-the-emergency" considerations depend on the exact nature or location of the incident, or both. The location should dictate the agency responsible for management of the emergency. As the nature of the incident changes from emergency operations to the investigative phase, the appropriate investigative agency should assume command and responsibility for the incident scene. All agencies responding to the inci-



dent should know in advance their respective roles and the established lines of authority.

4.1.3 “Post-emergency” considerations also should be given considerable attention. Transition of authority and other legal factors should be discussed and preplanned. Consideration should be given to the restoration of protective services in order to permit continuation of normal airport/aircraft operations and public protection that were disrupted by the emergency. Due to specialized training and equipment, aircraft rescue and fire fighting (ARFF) units should be made available for response as expeditiously as possible.

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

4.1.5 It is crucial that response agencies consider local weather conditions and nighttime operations while developing details of the AEP. For example, low temperatures can freeze medical solutions or tubing during protracted extrication operations. Severe weather conditions also can negatively affect fire-fighting foam solution. Precautions should be taken where necessary to mitigate weather-induced physical problems such as hypothermia and dehydration. Such considerations should apply to emergency personnel, as well as victims of the accident.

4.1.6 Amendment of the AEP.

4.1.6.1 The airport operator should maintain the master records of the AEP and transmit to each participating agency amendments, additions, and revisions as appropriate.

4.1.6.2 The scope of the AEP should include command, communication, and coordination functions for executing the AEP. The AEP should be constructed using a modular and severable format in order to facilitate revisions of specific elements without having to rewrite the entire AEP. The AEP should be reviewed on an annual basis by all participants. The review should include a comprehensive analysis of lessons learned from training sessions, incidents, geographical and physical changes, legal and technical changes, and other factors that can influence the adequacy of the AEP.

4.1.7 Training Costs. The costs of a major training exercise can be a considerable factor for even the smallest of airports. Budgetary planning for training costs should include salaries for personnel; consumables such as fuel, extinguishing agent, and medical supplies; legal advice; and other necessary items, such as food for all participants.

4.2 Types of Emergencies and Emergency Alerts. (*See Annex D.*)

4.2.1 Many different types of emergencies can strike a community. However, when creating the AEP, the focus should be on aircraft-related incidents. Preparation, including risk assessment for other types of emergencies, should be addressed in the pre-emergency planning documents built around the special nature of those incidents.

4.2.2 Most aircraft accidents occur within the airport operational area. However, experience has shown that the most devastating aircraft accidents have been those that occur off-airport, involving structures. Therefore, it is necessary to design a plan that provides for the needs of both.

4.3 Essential Elements of the AEP. The following elements should be considered essential to the AEP:

- (1) Establishment of formal instruments/agreements/joint powers, and so forth, to initiate development and implementation of the AEP
- (2) Detailed planning for 24-hour response, communications, accountability, logistics, and so forth
- (3) Agreement for incident command and control systems and procedures (All agencies involved in the AEP should be aware of each other's defined duties.)
- (4) Funding for practice exercises
- (5) Regular and “as needed” AEP updates
- (6) Public relations efforts that bring popular and political support to maintaining readiness

Chapter 5 Agencies Involved

5.1 Agencies.

5.1.1 The AEP should have an up-to-date list of all agencies involved. In addition to agency identification, the list should include current telephone numbers, e-mail addresses, and names of primary contact persons. This list should be reviewed, revised as necessary, and distributed to all agencies on a regular basis.

5.1.2 The first step in a viable AEP is to have the cooperation and participation of all concerned airport/community authorities and agencies. The authorities and agencies that should be involved are as follows:

- (1) Air Traffic Control (ATC) services
- (2) ARFF services (departments)
- (3) Agency tasked for personnel decontamination and HAZMAT response
- (4) Police/security services
- (5) Airport operator
- (6) Emergency medical services, including ambulance services and hospital coordination center
- (7) Hospitals
- (8) Aircraft operators
- (9) Government services
- (10) Communications services
- (11) Airport tenants
- (12) Transportation authorities (land, sea, and air)
- (13) Rescue coordination center
- (14) Civil defense
- (15) Mutual aid agencies
- (16) Harbor Patrol and/or Coast Guard
- (17) Military
- (18) Clergy
- (19) Public information office/news media
- (20) Mental health agencies
- (21) Customs
- (22) Public utilities
- (23) Postal authorities
- (24) Veterinary service
- (25) Coroner
- (26) Volunteer organizations (e.g., International Red Cross)
- (27) Civil engineering contractors

5.2* ATC Services. For emergencies involving aircraft, the ATC provider is required to contact the ARFF service and provide information on the type of emergency, such as the type of aircraft, number of persons on board, fuel quantity, and location of the

accident, if known. After the initial call, mutual aid agencies should be provided the airport grid map reference, rendezvous point/staging area, and, where necessary, the airport entrances to be used. Alternately, this function can be assigned by the AEP, either in whole or in part, to another organization or unit. The AEP also can specify that ATC services is responsible for initiating the notification of local fire departments and other appropriate agencies in accordance with procedures established in the AEP. The AEP can assign this function to another agency, such as the local fire department dispatching center, but it is very important that this extremely crucial function be well documented and understood by all concerned. It will be the responsibility of the ATC provider to restrict airport operations on the depletion of fire cover and/or if the runways are obstructed. This will be communicated by a Notice to Airmen (NOTAM).

5.3 ARFF Services (Departments).

5.3.1* The primary responsibility of ARFF personnel is to save lives. Property endangered by aircraft incidents and accidents occurring on or near the airport should be preserved as far as is practical. To achieve this objective, fire control normally is defined as “securing” the area to prevent any re-ignitions. However, there can be aircraft accidents where fire does not occur or where the fire is rapidly extinguished. In every case each action taken is aimed at providing the most immediate attention possible to survivors of the accident, with special emphasis on the initial care, decontamination, and timely transportation of the immediate care (Priority I) victims to the appropriate trauma center.

5.3.2 ARFF personnel should receive emergency medical training that meets the minimum standards of their state and local jurisdictions. The stabilization of seriously injured victims can depend entirely upon these first-arriving personnel. Coordination with other responding personnel having advanced medical expertise (paramedics and medical doctors) should be addressed in the AEP.

5.3.3 The fire-fighting officer in command should be identified by a standard distinctive uniform. In addition, the AEP should provide a highly visible vest or other apparel with reflective lettering, front and back, that reads, “INCIDENT COMMANDER.”

5.3.4 Only fire-fighting and rescue personnel wearing approved fire-fighting protective clothing and equipment should be allowed in close proximity to an aircraft accident site until the Incident Commander (IC) determines it is safe for others to enter [100 m (300 ft) from any point on the aircraft or any fuel spillage is usually considered a safe distance].

5.3.5 As part of the interagency planning process, health and safety risks associated with an aircraft accident/incident should be communicated to other agencies that could become involved. The IC of the ARFF response should ensure that other agencies working within the immediate crash site are aware of the potential hazards and the appropriate personnel protective clothing/equipment that could be required.

5.4 Police/Security Services.

5.4.1 In an airport emergency, it should be expected that the first police or security officer to arrive at the scene will initiate site security procedures and request reinforcement as needed. It should be expected that these responsibilities will be spelled out in the AEP, identifying the responsible law enforcement agency for the accident site and providing for a smooth tran-

sition of command, should responsibility for site security shift from one agency to another.

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

5.4.3 The AEP should provide for the prevention of unauthorized access to the accident site and for preserving the site undisturbed for investigation purposes.

5.4.4 A mutual aid program should be instituted between all potentially involved security agencies, for example, airport, city, local, and governmental security forces; mail inspectors; and, where appropriate, military police and customs officials.

5.4.5 A method of easy identification of responding emergency personnel should be implemented at security checkpoints to ensure that appropriate emergency personnel have immediate access to the accident site. “Emergency Access” identification can be preissued by the airport operator to emergency personnel for use during an emergency.

5.4.6 In many cases it is not possible or practicable for vehicles of mutual aid fire departments, ambulances, and so forth, to proceed directly to the accident/incident site. It should be essential that the emergency plan include procedures for meeting at a designated rendezvous point or points. A rendezvous point also can be used as a staging area where responding units can be held until needed at the accident site. Suitable accommodation should be provided at the rendezvous point(s)/staging area for the rendezvous point/staging area manager to facilitate the briefing of incoming officers in charge of supporting services. Adequate telephone and radio provisions should be available. The rendezvous point-staging area office(s) should also consider the suitability of vehicles to adverse terrain and conditions at the accident site in order to prevent obstruction of the access route by disabled vehicles. Staging of vehicles can prevent traffic jams and confusion at the accident scene.

5.4.7 To easily identify and distinguish the security/police officer in command, a distinct colored vest with reflective lettering displayed front and back should be utilized.

5.5 Airport Operator.

5.5.1 The airport operator is responsible for establishing, promulgating, and implementing the AEP and designating a person to take charge of the overall operation at the ICP. (Incident command should rest with the agency having jurisdiction [AHJ].) The AEP should call for the airport operator to ensure that the information on names, e-mail addresses, and telephone numbers of offices or people involved in an airport emergency is kept up to date and distributed to all concerned. The AEP also should include necessary meetings of the airport emergency plan coordinating committee, composed of key personnel from participating agencies, for a critique of the AEP after it has been tested or implemented. The airport operator should be responsible for closing the airport, or part of it, and ensuring that aircraft operations are resumed only when circumstances permit aircraft to operate safely without interfering with rescue activities.

5.5.1.1 The removal of disabled aircraft should be part of the AEP.



5.5.1.2 It is incumbent on the airport operator to ensure that airlines using the airport have made adequate plans and arrangements either separately or conjointly to ensure prompt arrival of recovery equipment and qualified personnel.

5.5.2 To easily identify and distinguish the airport operations officer, a distinctive colored vest with reflective lettering displayed front and back should be utilized.

5.6 On-Scene Medical Services.

5.6.1 The purpose of medical services is to provide triage, medical care, decontamination, and transportation for accident victims. The optimal goal should be decontamination and transportation of the immediate (Priority I) victim to the appropriate trauma center.

5.6.2 It is essential that the medical aspects of the AEP be integrated with other local community emergency plans and agreements.

5.6.3 A medical group supervisor should be assigned to assume command of the emergency medical operations at the accident site. In some cases, it might be necessary to appoint an interim medical group supervisor who will be relieved when the designated medical group supervisor arrives. An interim medical group supervisor should be assigned by the airport ARFF command personnel.

5.6.4 Medical and ambulance services can be an integral part of the airport services, particularly whenever an ambulance service is a part of the airport's ARFF service. Whenever medical and ambulance services are not available at the airport, prearrangement with local, private, public, or military medical and ambulance services should be made. The AEP should ensure the dispatch of a satisfactory assignment of personnel, equipment, and medical supplies. To ensure a rapid response, the AEP can include arrangements for land, sea, and airborne transportation of medical services to the scene and the subsequent transportation of persons requiring immediate medical care. Prearrangements are necessary to ensure the availability of doctors and other medical personnel for all airport emergencies.

5.6.5 The AEP should designate a medical transportation leader whose responsibilities would include all of the following:

- (1) Alerting hospitals and medical personnel to the emergency
- (2) Directing transportation of casualties to hospitals suited to the particular injuries
- (3) Accounting for casualties by recording the route of transportation, the hospital, and each casualty's name and extent of injuries
- (4) Advising hospitals when casualties are en route
- (5) Maintaining contact with hospitals, medical transportation, the senior medical officer, on-scene command post, and the ICP

5.7 Hospitals.

5.7.1 Participating hospitals should have contingency emergency plans that provide for blood donations and mobilization of necessary medical trauma teams to the accident site in the shortest possible time. Availability of qualified personnel and adequate facilities at the hospitals are vital. Therefore, it is important to establish in advance an accurate list of surrounding hospitals classified according to their effective receiving capacity and specialized features, such as neurosurgical ability or burn treatment.

5.7.2 The hospital's distance from the airport and its ability to receive helicopters should be considered. Reliable two-way communication between the ICP and these entities is important. An aircraft accident alert should be made to a single medical authority/agency, which then alerts all appropriate facilities according to a local medical communications network.

5.7.3 It is essential that hospitals continually communicate through a central control point to facilitate distribution of critically injured patients. Information regarding the availability of a specific trauma center, operating room, and ward space should be collected at a central control point, designated in the AEP, and disseminated to the medical transportation officer at the scene.

5.8 Aircraft Operators. (See Annex E.)

5.8.1* The aircraft operator/company of an aircraft involved in an accident should dispatch a liaison to the ICP to provide full details of aircraft-related information, such as the number of persons on board, fuel, and cargo information (i.e., Dangerous Goods/HAZMAT). This information is vital to the IC and can influence the tactics and strategies used to deal with the emergency.

5.8.2 Aircraft operators also should be responsible for first providing arrangements for any uninjured survivors who need to continue their journey or require accommodation or other assistance. Next, they might be responsible for contacting deceased passengers' next of kin. Clergy, police, international relief agencies (Red Cross, etc.), and mental health agencies normally will assist in the accomplishment of this task.

5.8.3 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 can be granted by the IC after the emergency has been abated and the requirements of the accident investigators have been met.

5.8.4 The AEP should designate an agreed resource to respond to emergencies that involve a chartered, private, military, or other nontenant aircraft operator.

5.9 Government Agencies. In order to avoid conflict and confusion between participants, the AEP should clearly define the obligation, controls, and limitations placed on the airport operator by government agencies. Post-accident investigation, unlawful seizure of aircraft, bomb threats, and bombings can fall into a jurisdiction other than that of the airport operator. The environmental or rivers protection agency or both should be aware of the potential hazards from an aircraft accident to ensure that measures are in place to prevent contamination through fuel spillage, fire-fighting media, airborne particulates, and oxidization of metals. The AEP should include procedures for informing these agencies of an accident.

5.10 Communication Services. Arrangements should be made to provide all airport agencies involved in an emergency with two-way communication capabilities. The AEP also should provide an adequate communication network to be maintained with the off-airport agencies responding to an emergency. The AEP should call for the ICP and emergency operations center to have the capability of freely communicating with all participating agencies. Cellular telephones can be extremely effective. Amateur, military, and civil defense radio networks are worth considering as a backup.

5.11 Airport Tenants. Airport tenants and their employees should be considered a prime source of readily available

equipment and manpower who might have intimate knowledge of the airport and aircraft. These people can be invaluable, especially if their backgrounds include medical training, food preparation, or transportation. It is important that they be deployed under supervision and assigned specific functions to avoid duplication of efforts and the possibility of disrupting other emergency operations.

5.12 Transportation Authorities (Land, Sea, Air).

5.12.1 In an emergency, vehicles are needed to carry out rescue operations, transport personnel, and haul supplies and debris. Responsibility for the control of vehicles to be used during an emergency should be assigned to a designated transportation officer. The AEP should include an inventory and assignment of transportation and mechanical equipment held at the airport, such as transportation vehicles, trucks, diggers, cranes, and cars, with contingency plans for staff to be called to operate the equipment.

5.12.2 In airport emergencies, provision should be made for an easily identifiable guide vehicle(s) equipped with two-way radio communication to lead groups of vehicles from the rendezvous point(s) or staging area to the accident site, to avoid interference with aircraft operations.

5.12.3 To easily identify and distinguish the transportation IC, a distinct colored vest with reflective lettering displayed front and back should be utilized.

5.12.4 Suitable rescue equipment and services should be available for use at an airport where the area to be covered by the appropriate services includes water, swampy areas, or other difficult terrain that cannot be fully served by conventional wheeled vehicles. This suitability is particularly important where a significant portion of approach and departure operations takes place over these areas.

5.13 Rescue Coordination Center. Rescue coordination centers can play a significant role in an aircraft accident occurring in the vicinity of an airport, if the site of the accident is not known or if rescue facilities in addition to those available at or near the airport are required to be brought into action. Rescue coordination centers should have means of immediate communication with all rescue units within their areas of responsibility, including units able to provide aircraft, helicopters, and special rescue teams and, where appropriate, with coastal radio stations capable of alerting and communicating with surface vessels. Assistance from these units can be essential in responding to an accident in the vicinity of the airport. Therefore, it is suggested that the potential role of the rescue coordination center be highlighted in the proposed AEP document in a separate paragraph.

5.14 Civil Defense. The AEP should be integrated with the local community civil defense emergency plan and with local search and rescue teams. Consideration should be given to the role the airport may have as a result of coordination with civil defense officials and in support of any civil defense emergency plan requirements.

5.15 Mutual Aid Agencies.

5.15.1* Airport emergencies can be of such magnitude that local ARFF, security, law enforcement, and medical services are inadequate to handle the situation. Therefore, it is strongly recommended that written mutual aid agreements be initiated to ensure the prompt and orderly response of these agencies.

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

5.16 Harbor Patrol and Coast Guard. Harbor Patrol and Coast Guard services are vital to airports adjacent to large bodies of water. Coordination of such services should be included in the AEP where applicable. Communication requirements to obtain the immediate response of such services (and the ability to communicate during the emergency) should be an essential ingredient of the AEP. If the area where the boats are to be operated is subject to freezing, vehicles suitable for operation on ice (i.e., hovercraft, swamp boats, etc.) should be available. (See Annex F.)

5.17 Military. Where a military installation is located on or in the vicinity of an airport, a mutual aid agreement should be initiated to integrate personnel with command, communication, and coordination functions of the AEP.

5.18 Clergy. The AEP should include advance agreements with clergy of all faiths to provide comfort to casualties and their relatives.

5.19 Public Information Officer (PIO). A PIO should be designated as part of the AEP. This officer should coordinate and release factual information to the news media and also should coordinate public information statements between all parties involved. It is recommended that the television and radio news media be requested to withhold the release of accident information to allow sufficient time for adequate security to be established.

5.20 Mental Health Agencies. The AEP should include the 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.

5.21 Customs. The AEP should include agreed procedures required by the customs authority for the examination of baggage and freight to ensure that dutiable goods and contraband are not being brought into the country illegally.

5.22 Public Utilities. An airport relies heavily on the supply of public utilities; the AEP should include agreed procedures in the event of a potential emergency, which affects the supply of gas, electricity, water, and communications.

5.23 Post Office. Postal services include the transportation of mail by air; the AEP should include procedures for the retrieval of official post, which might be carried on aircraft that have been involved in an accident.

5.24 Veterinary Service. Procedures should be in place within the AEP to ensure that in the event of an aircraft accident, veterinary services respond immediately.

5.25 Coroner. The AEP should reflect agreed-upon procedures for temporary mortuary arrangements, which should be located remote from public view and be large enough for its intended use, with electricity, running water, and suitable screening. Fire department facilities or any facility used by responding emergency personnel should not be used for this purpose.

5.26 Volunteer Organizations. Within the airport envelope, many volunteer organizations exist that support the local community and that in a time of crisis have contingency plans in place to render assistance. When a plan is being compiled, it is important that these organizations be approached regarding



facilities or support they may be able to offer to complement the AEP (e.g., International Red Cross, trained volunteers).

5.27 Additional Support Services. Where necessary, airport operators should ensure that the AEP reflects additional support through the use of external civil engineering contractors.

Chapter 6 Functions of Each Agency for an Aircraft Accident On-Airport

6.1* General. The AEP should be implemented immediately upon an aircraft accident occurring on-airport. Responding agencies should comply with Sections 6.2 through 6.10.

6.2 Action by ATC Services.

6.2.1 ATC services should initiate emergency response by using the alarm communications system. (See Figure 6.2.1.)

6.2.2* Information on the location of the accident, giving grid-map reference or identifying terrain or landmark features should be immediately provided by ATC services. Initial details should include the type of aircraft. Subsequent infor-

mation should include details such as the occupants, fuel on board, aircraft operator (if known), and the presence or absence of any dangerous goods, including the type, quantity, and location.

6.2.3 ATC should initially restrict aircraft operations to the degree necessary to prevent expansion of the accident scenario and facilitate emergency response.

6.2.4 An appropriate NOTAM should be initiated by the airport; for example, "Airport ARFF protection reduced/unavailable until [insert time] or until further notice due to aircraft accident." (Note that this notice may be automatic if so delineated in the AEP.)

6.2.5 ATC should confirm that the actions in 6.2.1 through 6.2.4 were completed, utilizing pre-established checklists, indicating notification time(s) and name of the person(s) completing action(s).

6.2.6 ATC should immediately establish restricted airspace over the immediate vicinity of the accident to facilitate evacuation of casualties by helicopter and preclude interference with emergency operations by nonemergency flights.

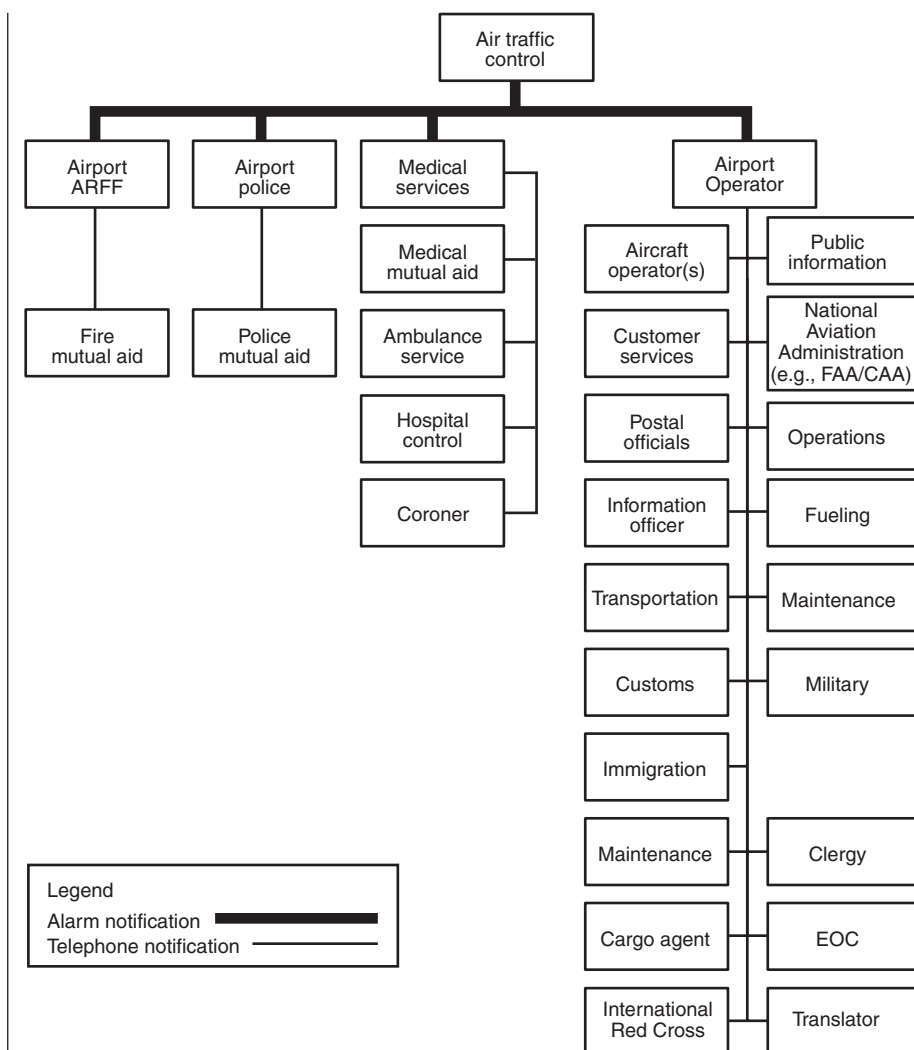


FIGURE 6.2.1 Sample Notification Chart — Aircraft Accident On-Airport.

6.3 Action by Aircraft Rescue and Fire-Fighting Services.

6.3.1 An alarm for an aircraft accident on the airport will normally be received from the ATC services. However, when an alarm is received from any other source, or when an accident is observed or there is reason to consider that one is imminent, the airport ARFF services should initiate immediate action. The ATC services should be informed by the responding fire-fighting services as to the nature of the alarm, its location, and the response initiated.

6.3.2 Airport ARFF services should carry out the following steps:

- (1) Proceed via established access routes to the incident as indicated by ATC services
- (2) Advise mutual aid fire departments of the following while en route:
 - (a) Rendezvous point
 - (b) Staging area(s)
 - (c) Manpower and equipment required for support, if known
 - (d) Any other pertinent information
- (3) Immediately establish an on-scene ICP

6.3.3 Command authority at any accident site should be predetermined according to the jurisdictional responsibilities of the agencies involved and as designated in the AEP.

6.3.4 Prior agreement should be reached between the on-airport ARFF service and the off-airport mutual aid fire departments as to who 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 or an airport structure or both.

6.4 Action by Police/Security Services.

6.4.1 The first security/police officer to arrive should coordinate with the IC and, to the extent possible, immediately establish free traffic lanes on ingress and egress roads for emergency vehicles, initiate security responsibility, and request reinforcements as needed. Traffic flow and site security should be the primary responsibilities of police and security personnel. They should notify the appropriate communications center of the location of the accident and available means of access and egress. After consulting with the IC, police and security personnel should initiate traffic control measures in order to aid responding emergency vehicles. They should notify the airport security communications center or the IC (where appropriate) of the location of the accident; access, ingress, and egress roads available; and where responding security personnel should make initial response and recommendations for setting up roadblocks away from the accident site to aid responding emergency vehicles. Responding police vehicles should not proceed directly to the accident site, but set up appropriate roadblocks at least two to three blocks away, as directed by supervisory authority to prevent road congestion.

6.4.2 Security personnel and police should handle traffic in the vicinity of the accident site, admit only authorized emergency personnel to the scene, keep unauthorized persons away from the accident site, and be responsible for preservation of the accident scene.

6.4.3 All unnecessary traffic should be routed away from and around the accident site.

6.4.4 The accident site should be cordoned off as soon as possible to exclude intruders, media, sightseers, onlookers,

and souvenir hunters. Appropriate markings should be prominently displayed to advise all persons of possible hazards that could cause serious injury should they encroach on the area.

6.4.5 Communications between all security checkpoints and the ICP or emergency operations center or both should be established as soon as possible.

6.4.6 Identifying armbands, site passes, ID tags, or other indication of empowerment should be issued by the authority having jurisdiction (AHJ) and monitored by the security services.

6.4.7 Special security provisions should be instituted for the protection of the flight crew, flight data recorders and cockpit voice recorders, any official post involved, and any dangerous goods that could be present.

6.4.8 Responding emergency units should meet with authorized persons at the staging area for escort to the accident site.

6.5 Action by Airport Operator.

6.5.1 The airport operator representative should respond to the accident site and, as needed, set up an easily identifiable mobile command post. The mobile command post should be adequately staffed by senior representatives who are able to make decisions involving the following types of operations:

- (1) Airport
- (2) Security
- (3) Medical
- (4) Aircraft
- (5) Aircraft recovery
- (6) Aircraft fueling

6.5.2 The airport operator should commence pre-established checklist procedures that verify the following:

- (1) The airport emergency operations center has been activated.
- (2) Mutual aid police procedures have been initiated and secondary notification calls have been made.
- (3) Medical and ambulance services have been alerted and their arrivals verified at the designated rendezvous point or staging area.
- (4) Mutual aid fire departments have been notified and escort has been provided for their access to the accident site.
- (5) The affected aircraft operator has been notified and information obtained on any dangerous goods or hazardous materials on board the aircraft, such as explosive substances, flammable gases and liquids, combustible solids, oxidizing substances, poisonous substances, radioactive materials, or corrosives; and on the total number of occupants (passengers, crew, non-revenue-generating passengers, infants).
- (6) Liaison has been established with ATC services concerning the closure of airport areas, designation of emergency response corridors, and issuing of voice advisories and NOTAM advising as to the status of airport ARFF protection.
- (7) Government aircraft accident investigation authorities, such as the National Transportation Safety Board (NTSB), have been notified. (If military aircraft is involved, the appropriate military organization should be notified.)
- (8) The meteorological department has been notified to make a special weather observation.



- (9) Arrangements have been made for the affected runway to be surveyed immediately by the appropriate personnel to identify the location of crash debris and to ensure that the debris be secured pending release by investigating agencies.
- (10) Airspace reservation coordination offices (Air Traffic Flow Control Office), if any, have been advised of airport capabilities.
- (11) Medical Examiner's/Coroner's Office has been notified to assist with fatalities, if necessary.
- (12) Mortuary annex facilities have been identified and designated.

6.5.3 In conjunction with mutual aid police, the airport operator should carry out the following:

- (1) Designate rendezvous points and staging areas for the inner and outer perimeters
- (2) Assign security personnel at the staging area or rendezvous point or both to escort vehicles to ensure the orderly flow of emergency personnel to the accident site, particularly the provision of escort for ambulances responding to the rendezvous point and from the staging area
- (3) Assign parking areas for escort vehicles and ambulances, giving consideration to the need for rapid deployment when dispatched
- (4) Prophylactic (preventative) medical treatment for all personnel engaged in response, investigation, and recovery
- (5) Protective clothing for those involved in investigation and recovery

6.5.4 The airport operator also should, to the extent possible, arrange to have available the following services as could be required:

- (1) Portable emergency shelter for use by other than medical services
- (2) Lavatories
- (3) Drinking water
- (4) Ropes, barriers, and so forth
- (5) Food service
- (6) Mobile or portable lighting
- (7) Portable heating system
- (8) Cones, stakes, flags, and signs
- (9) Machinery, heavy equipment, and extraction tools
- (10) Communications equipment such as megaphones, portable telephones, and so forth
- (11) Fuel removal equipment

6.5.5 The airport operator should provide the initial briefing for their airport PIO. The airport operator should then coordinate, as appropriate, with the PIOs of all agencies involved to provide the following:

- (1) A joint information center (JIC)
- (2) Media releases for the various media officers from the agencies involved
- (3) Briefings and statements that will be released to the media

6.5.6 Upon concurrence of the chief fire officer, police/security chief, and the medical group supervisor, the airport operator's IC should notify all participating mutual aid organizations of termination of the airport emergency. Note that this notification might not terminate all actions and responsibilities of participating agencies.

6.5.7 The aircraft operator representative should make arrangements for bus transportation from the accident site to

the designated traumatized holding area. Transportation of the walking wounded from the scene should be permitted only after consultation with the medical group supervisor. Passengers should be under medical supervision while awaiting transportation, during transport, and at the receiving processing site.

6.6 Action by Medical Services. The medical group supervisor should coordinate with the medical transportation officer and medical services to perform the following actions:

- (1) Verify that mutual aid medical and ambulance services have been alerted and their subsequent arrival at the rendezvous point or staging area, and that a medical communication network is established
- (2) Determine the necessity for patient decontamination and set up a decon area if required
- (3) Organize the necessary action for triage and treatment of the casualties and their eventual evacuation by appropriate means of transportation
- (4) Provide control and dispatch of the casualties to the appropriate hospitals by land, sea, or air
- (5) Maintain an accurate list of the casualties including names, as available, and their destination for treatment
- (6) Coordinate with the airport operator and the aircraft operator concerning the transportation of the apparently uninjured to the designated holding area
- (7) Arrange for the restocking of medical supplies, if necessary
- (8) Provide medical analysis of the walking wounded or traumatized

6.7 Action by Hospitals. Hospitals listed in the AEP should be prepared to do the following:

- (1) Provide medical care to the casualties when they arrive
- (2) Provide doctors and trauma teams in accordance with the AEP
- (3) Ensure that adequate doctors and nurses, blood, operating rooms, intensive care, and surgical teams are available for emergency disaster situations, including aircraft accidents

6.8 Action by Aircraft Operators.

6.8.1 An aircraft operator representative should report to the ICP to coordinate the aircraft operator activities with the IC.

6.8.2 The aircraft operator representative should provide information regarding occupants and dangerous goods or hazardous materials on the aircraft. These materials include explosive substances, flammable liquids or gases, combustible solids, oxidizing substances, poisonous substances, radioactive materials, and corrosives. Information of this nature should be relayed as soon as possible to the chief fire officer and the medical group supervisor to assist them in determining that the appropriate personal protective equipment (PPE) is utilized and that personnel decontamination assets are deployed if needed.

6.8.3 The aircraft operator staff should proceed to the designated uninjured holding area. The aircraft operator representative at the uninjured holding area should appoint a receptionist, registrars, and welfare coordinators from staff who have been previously trained in these functions.

6.8.4 The aircraft operator representative who is in command of the uninjured holding area should oversee the overall operations by making arrangements for commissary items, clothing, telephone facilities, and additional medical services if required.

6.8.5 The receptionist should meet the transportation vehicles as they arrive from the accident scene and direct the passengers to the registrars' tables where they will be processed. The receptionist also should explain where toilet facilities, telephones, and other amenities are located. However, migration outside the holding area should be prevented until each person transported to the holding area is identified and processed according to the AEP.

6.8.6 The registrar should record the passenger's name on the manifest and determine what reservation requirements are desired; that is, hotel accommodation, air transportation, or other modes of transportation, and so forth, and any persons to be notified of the passenger's physical or mental condition and potential plans. The registrar then should make out an ID tag or sticker and place it on the passenger. When their registration is completed, the registrars should direct passengers to the welfare coordinators.

6.8.7 Welfare Plan.

6.8.7.1 Welfare coordinators and mental health specialists trained in stress management should proceed with the following:

- (1) Give support and comfort to relatives and friends of persons on board the aircraft involved with the incident
- (2) Register relatives and friends waiting at the airport for information about persons on board
- (3) Provide care, comfort, and assistance to the walking injured and uninjured survivors and responding personnel (if required)
- (4) Assist in the provision and serving of refreshments to waiting relatives and friends

6.8.7.2 The welfare plan should provide for a suitable location to carry out the functions as well as procedures for alerting and coordinating welfare organizations.

6.8.8 The aircraft operator should provide notification of the aircraft accident to the following:

- (1) Health and welfare agencies
- (2) Customs, where applicable
- (3) Immigration, where applicable
- (4) Post office
- (5) Environmental protection agencies, where applicable

6.8.9 A senior aircraft operator official should be responsible for the initial notification of relatives and friends at the airport. The aircraft operator should work closely with the hospitals and/or coroner to make notification to friends and/or family on the status of persons involved with the incident.

6.8.10 News releases by aircraft operators should be prepared in conjunction with JIC.

6.8.11* The aircraft operator is responsible for the removal of the wrecked or disabled aircraft as soon as authorized by the Accident Investigation Board or its designee.

6.9 Action by Government Agencies. The following government agencies could take appropriate action as indicated in their AEP:

- (1) Accident Investigation Agency (e.g., NTSB, AAIB, TSB)
- (2) National Aviation Administration (e.g., FAA and CAA)
- (3) Health and welfare
- (4) Post office
- (5) Customs
- (6) Immigration
- (7) Agriculture

- (8) National Transportation Security Agency
- (9) Military

6.10 Action by the PIO.

6.10.1 All media personnel should be directed to a designated news media staging area for news media personnel authorized to cover an airport emergency. Selection of staging areas should take into consideration media needs for photography and video transmission. In this area, the following should be provided:

- (1) Latest briefing
- (2) Communications (telephones)
- (3) Transportation service to and from the scene of the emergency, where permissible and where it will not interfere with rescue, medical treatment of casualties, and the accident investigation

6.10.2 Only members of the news media, freelance reporters, and photographers wearing valid press-news media credentials should be admitted to the briefing area, permitted in the designated news media staging area, or transported to the scene of the emergency.

6.10.3 In general, the official authority for news releases concerning an aircraft emergency should be one of the following:

- (1) JIC
- (2) A PIO designated by the airport operator
- (3) A representative of the aircraft operator involved
- (4) Upon assumption of jurisdiction, the lead investigative agency

6.10.4 Under no circumstances should the news media or any other personnel not involved in life-saving or fire-fighting operations be permitted inside security lines until all rescue operations have been completed and the area has been declared safe by the chief fire officer. When establishing security lines, the interests of news coverage should be taken into account insofar as rescue operations permit.

6.11 Organization Charts.

6.11.1 Organization charts should be prepared for each anticipated type of emergency situation, off-airport incident, on-airport incident, earthquake, or flood.

6.11.2 These charts should depict the relationships and duties of all components of the AEP in such detail that each participating agency has a full understanding of its duties and responsibilities.

Chapter 7 Functions of Each Agency for an Aircraft Accident Off-Airport

7.1* General. The AEP should be implemented immediately upon an aircraft accident occurring off the airport. Responding agencies should comply with Sections 7.2 through 7.10.

7.2 Action by ATC Services.

7.2.1 ATC services should initiate emergency response by using the alarm communications system as shown in Figure 7.2.1.

7.2.2* ATC should alert the ARFF service, police and security services, airport operator, and medical services in accordance with the procedure in the AEP, giving grid map reference. Information on the location of the accident, giving grid map reference or other identifying terrain/landmark features,



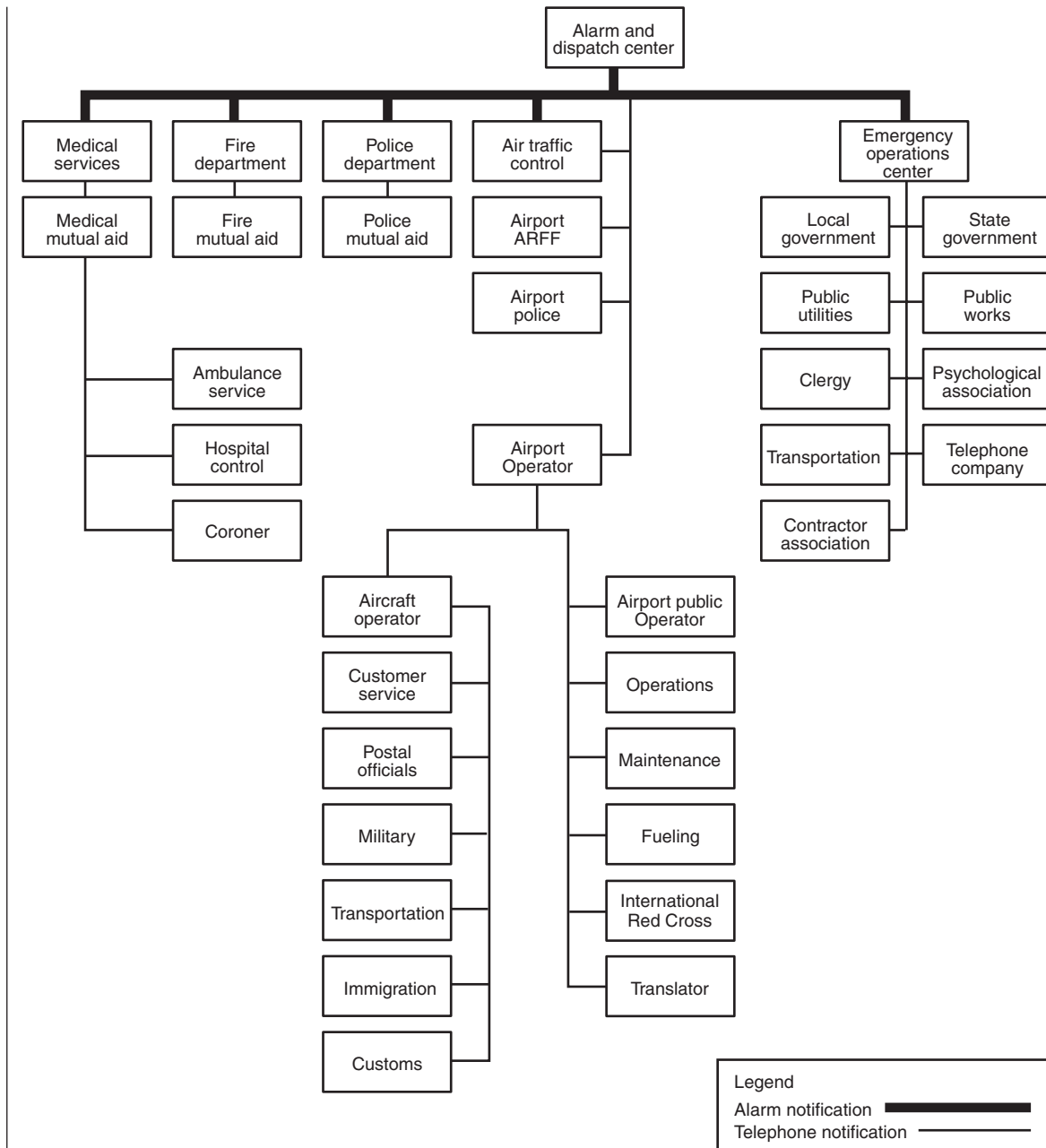


FIGURE 7.2.1 Sample Notification Chart — Aircraft Accident Off-Airport.

should be provided immediately by the ATC provider. Subsequent calls can expand this information by providing details on the number of occupants; fuel on board; aircraft operator (if known); and the presence or absence of any dangerous goods, including type, quantity, and location.

7.2.3 If the accident location is beyond pre-established ARFF response protocols, and the fire department having jurisdiction so requests, dispatch of the ARFF service should be in accordance with the AEP and any mutual aid agreements. An appropriate NOTAM should be issued immedi-

ately if the fire-fighting protection of the airport is reduced or unavailable.

7.2.4 The ATC provider should immediately establish restricted airspace over the immediate vicinity of the accident to facilitate evacuation of casualties by helicopter and preclude interference with emergency operations by non-emergency flights.

7.2.5 ATC should confirm that the actions in 7.2.2, 7.2.3, and 7.2.4 were completed, utilizing preestablished checklists indicating notification time(s) and names of person(s) completing the action(s).