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NATIONAL FIRE PROTECTION ASSOCIATION

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Recommended Practice for
Airport/Community Emergency Planning

NFPA 424 — 1978

1978 Edition of NFPA 424

This document was prepared by the Technical Committee on Aircraft Rescue and Fire Fighting and this edition was adopted by the Association on November 15, 1978 at its Fall Meeting in Montreal, Quebec, Canada, with amendment. Pursuant to the Regulations Governing Committee Projects, the Technical Committee was balloted on the amendment and voted to approve the amendment. (The Correlating Committee on Aviation voted to release the action of the Technical Committee.) The Standards Council released the Committee Report with the amendment on January 25, 1979.

Origin and Development of NFPA 424

The Subcommittee on NFPA 424 started work on this Recommended Practice in 1976. It was submitted to the Association at the 1978 Fall Meeting.

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Recommended Practice for
Airport/Community Emergency Planning

NFPA 424-1978

Chapter 1 Introduction, Principles, Basic Factors

1-1 Introduction.

1-1.1 Basis of Recommended Practice. These recommended practices are offered to inform airport and adjacent community authorities on airport/community emergency planning techniques and procedures and how to plan for utilization of personnel from all concerned departments and agencies to provide maximum aircraft emergency services. Included are guides for establishing adequate emergency training programs and recommended operational procedures.

1-2 Basic Principles.

1-2.1 To be operationally sound a comprehensive airport/community emergency plan must give consideration to: (a) *Preplanning* BEFORE an emergency; (b) *Operations* DURING the emergency; and (c) *Support* AFTER the emergency.

1-2.1.1 *"Before the emergency" considerations* include planning all factors that may reasonably be forecast that could bear upon effective emergency response. Preplanning should define the organizational authority and the responsibilities for developing, testing, and implementing the emergency plan.

1-2.1.2 *"During the emergency" considerations* depend on the exact nature and location of the emergency. These factors will change as the rescue work progresses. (For example, while the Airport Fire Chief would normally be the first "on-scene" overall commander of the emergency forces, he may thereafter become one of several staff officers as other responding officers from other agencies assume their designated roles at the command post under the jurisdiction of the designated "on-scene" commander.)

1-2.1.3 *"After the emergency" considerations* may not possess as high an element of urgency as the preceding events, but particularly due to

legal considerations, transitions of authority and responsibility at the scene need to be thoroughly discussed and planned in advance. Some personnel which in early stages had a direct operational assignment subsequently may be required to remain on the scene and may assume a *supportive* role (i.e., police/security personnel; fire-rescue personnel). It is thus necessary to preplan for these supportive services as regards their work schedules and overtime pay, 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.

1-2.2 The recommendations set forth are based on the requirement that rescue of aircraft occupants and other related accident victims takes precedence over most other operations. The stabilization and emergency medical treatment of victims is of paramount importance. The speed and skill of such treatments is crucial in situations where life hazards exist. An effective rescue effort requires adequate preplanning for the emergency and subsequent execution of periodic practice drills.

1-2.3 Recommendations contained herein are not intended to conflict with any local or state regulations or jurisdictions; one of the principal purposes of this document is to alert all participating departments or agencies, which may be called to an aircraft emergency, that conflicts may exist because such local or state regulations may overlap or have voids. These recommended practices will help resolve many of the problem areas that actual emergencies have demonstrated as potentials.

1-3 Responsibilities of Airport Fire Department Personnel to Accident Victims.

1-3.1 The prime responsibility of airport fire department personnel is to save lives. Property endangered by aircraft incidents and accidents occurring on or near the airport should be preserved as far as practicable. To achieve this objective, fire control normally is defined as "securing" the area to prevent any reignitions. There are serious aircraft accidents, however, where fire may not occur, or where the fire may be rapidly extinguished. In every case the actions taken are all aimed at providing the most immediate attention possible to survivors of the accident. Unless the seriously injured are stabilized rapidly, they may become fatalities. All airport fire fighting personnel should receive training to locally acceptable emergency medical standards, as they may be the only rescue personnel on the scene during the critical period immediately following an accident and possibly for an extended period of time.

NOTE: See Sections 2-1, 2-2, 2-3, and Appendix A for additional guidance on emergency medical training.

1-3.2 Every airport should have available for immediate response, sufficient equipment to handle a *M*ulti-*C*asualty *I*ncident (MCI) equivalent to the occupant capacity of the largest aircraft *normally* utilizing the airport. This equipment may be supplied by more than one department or agency. Experience has shown that more than one aircraft can be involved in an aircraft accident and consequently medical provisions to handle this possibility should be considered.

1-4 Fire Control as a Prerequisite to Rescue. Rapid fire control is often a prerequisite to rescue. To achieve rapid alerting of personnel, timely response, and effective fire control operations, the guidance provided in NFPA 402, *Aircraft Rescue, and Fire Fighting Operational Procedures for Airport Fire Departments;* NFPA 403, *Recommended Practice for Aircraft Rescue and Fire Fighting Services at Airports and Heliports;* NFPA 406M, *Manual on Aircraft Rescue and Fire Fighting Techniques for Fire Departments Using Structural Fire Apparatus and Equipment;* and NFPA 414, *Standard on Aircraft Rescue and Fire Fighting Vehicles* should be followed. *(See Appendix E.)*

1-5 Need for Knowledge of Aircraft Occupant Extrication Techniques. There is an obvious need for airport fire fighters to be trained to a high proficiency in aircraft occupant extrication techniques to assist any trapped survivors, those who may have been rendered unconscious, or those suffering from shock or "negative panic." This should include the knowledge of aircraft structural elements which may affect evacuation or handicap extrication, knowledge to permit emergency shutoff of aircraft fuel and electrical systems, flight crew and passenger evacuation equipment and procedures, and the ability to safely and effectively use all available rescue tools provided. In the rescue effort, extreme caution needs to be taken to prevent further injuries to survivors.

1-6 Supplemental Airport/Community Emergency Rescue Equipment. Plans should encompass securing heavy lifting equipment, mobile lighting units, and any other specialized aids which might be available from external agencies such as military or civil engineering organizations, building contractors, utility companies, public works departments, etc. This tabulation should include vehicles with hydraulic lift capability (i.e., airline food trucks, aircraft loading stairways, and van-type vehicles), power and hand tools, backboards, and a sufficient number of fire service ladders long enough to gain access to the largest aircraft normally utilizing that facility. In connection with the reach of fire service ladders, the possibility of an aircraft coming to rest in an unusual attitude (for instance, nose or tail high due to landing gear failure) should be considered. Aerial ladders and elevating platforms may be advantageous to assist rescue operations as well as for mounting master fire suppression streams.

1-7 Preserving Evidence for Accident Investigations.

1-7.1 Airport fire fighters and other rescue personnel should understand the basic need for and techniques used in aircraft accident investigation and procedures. Wreckage should only be disturbed for the purpose of rescue, fire suppression or casualty removal when absolutely necessary. If possible, the area should be photographed prior to this activity and in any event should be cordoned off as soon as possible.

NOTE: See also NFPA 422M, *Aircraft Fire Investigators Manual.*

1-7.2 Where it is necessary to move wreckage or bodies, notations of such should be made for the subsequent use of the accident investigation team. This is especially true in the flight-deck area where caution must be exercised so as not to change unnecessarily the settings of cockpit switches, controls, etc.

1-7.3 Security measures in the emergency area should be taken as soon as possible. Only persons with specific tasks should be allowed into the emergency area. All authorized personnel should have and display proper identification with each individual associated with the airport/community emergency plan issued an "Emergency Access" identification card. All security personnel should be briefed on proper identification procedures. Where entry is questioned by security personnel, two-way radio communication with appropriate authorities on the site can help identify any person seeking entry whose credentials are questionable.

1-7.4 As soon as practical after the emergency, all participants in the fire and rescue efforts should be debriefed and their observations recorded by proper authorities. Tape and video recordings, photographs and movie film properly captioned, are advantageous tools to aid investigators along with diagrams of the accident site. This information should be turned over as soon as practicable to the appropriate agency having responsibility for the accident investigation.

NOTE: For further information and forms which can be used, see NFPA 402 and 422M (as described in 1-4 and 1-7.1).

1-7.5 Accident sites can be exceptionally dangerous areas due to the possible presence of flammable fuels, dangerous goods and scattered pieces of wreckage. All necessary safety precautions in the emergency area should be adhered to rigidly; this includes exercising good judgment during fire control and throughout all rescue efforts while maintaining security around the area and excluding unauthorized persons for their own safety. Safety equipment and protective clothing should be worn by all personnel involved.

1-8 Basics of Handling Litters and Backboards. Lifting-type injuries (to the rescuer), can be prevented by using accepted lifting techniques; where possible, four litter bearers per litter should be utilized. Backboards should be used instead of litters to remove victims in cases where spinal injuries are probable.

NOTE: Most litters cannot be used in the confined areas of an aircraft cabin and their use also requires subsequent transfer from the litter to a gurney (wheeled cot or stretcher); consequently, backboards may be used to evacuate survivors from the aircraft when conditions allow.

Chapter 2 Basis of this Recommended Practice

2-1 Immediate Need for Care of Injured in Aircraft Accidents. Following an aircraft accident many lives may be lost and many injuries intensified if immediate medical attention is not provided by trained rescue personnel. Survivors should be examined, given available emergency medical aid as required, and then promptly transported to appropriate medical facilities.

2-2 Triage Principles (All Emergencies).

2-2.1 "Triage" is the sorting and classification of casualties to determine the order of priority for treatment and transportation.

2-2.2 Initial triage should be conducted by the first qualified medically-trained person to arrive at the site until relieved by a more qualified person or the designated airport triage officer. Medical diagnosis and treatment only to the pre-planned level should be attempted at the scene of the accident. After stabilization, the casualties should be transported, if necessary, to medical facilities for further treatment.

2-2.3 Every effort should be made to assure that Immediate Care (Priority I) victims are treated first and receive ambulance transportation priority. This is the responsibility of the triage officer.

2-2.4 Triage should be performed in the vicinity of the incident at a point well away from any remaining fire fighting operations, and up-wind from the scene, if possible. The location should be selected so as to require minimum travel for stretcher-bearers. It may be adjacent to, but not necessarily part of, the command post location.

NOTE: See Section 3-6 on Airport Emergency Command Posts.

2-3 Care of Accident Survivors.

2-3.1 Survivors should be classified into three categories:

2-3.1.1 Priority I: Immediate Care.

2-3.1.2 Priority II: Delayed Care.

2-3.1.3 Priority III: Minor Care.

2-3.2 Triage of casualties should be under a color code/symbology tagging, sorting, and transportation to hospital concept which is especially suited to multi-lingual applications:

2-3.2.1 Priority I: RED: Rabbit: Immediate Care.

2-3.2.2 Priority II: YELLOW: Turtle: Delayed Care.

2-3.2.3 Priority III: GREEN: X'ed Ambulance: Minor Care.

2-3.2.4 BLACK: Cross: Deceased.

NOTE: See also Chapter 8 and Appendix D.

2-3.3 Where tags are unavailable, casualties may be classified using Roman numerals on adhesive tape or directly on the forehead or on other exposed skin area to indicate priority and/or treatment needs. Where marking pens are unavailable, lipstick can be used. Felt tipped pens are not advisable inasmuch as they may smear in rain, snow, and under other climatic and body conditions.

2-3.4 Airport fire fighters should have the ability to stabilize seriously injured victims. It is therefore recommended that they receive training to meet minimum standards of medical proficiency and preferably to the level of that of an *E*mergency *M*edical *T*echnician (EMT), or the equivalent. Airport fire fighters should thus have available sufficient medical equipment at their immediate disposal to initiate stabilization until full medical services are available at the site or until transportation of casualties to adequate medical facilities is provided. Airport fire fighters should also be trained in CPR (Cardio-Pulmonary Resuscitation) as taught by the American Heart Association (or by an equivalent organization). Periodic exercises and drills in CPR techniques are mandatory to maintain proficiency. Integrating the services of paramedics from other community organizations into the airport/community medical program should also be seriously considered. The everyday medical problems on an airport can serve to promote and ensure an adequate level of medical proficiency of airport-based emergency personnel. It should be noted, however, that EMT or paramedical proficiency can be maintained only through *constant* practical application. Unless operations include providing advanced life-support systems on a *day-to-day* basis, proficiency will decline or become nonexistent.

NOTE: Due to the lack of international standards for determining the degree of competency of an Emergency Medical Technician or Paramedic, it is recommended that airport fire service personnel be trained at least in those areas outlined in Appendix A hereto. At minimum, each member of the airport fire department should receive Advanced First Aid training.

2-3.5 Care of Priority I Casualties (Red Tag, Rabbit Symbol) Immediate Care. In accidents occurring on, or adjacent to the airport,

airport fire department personnel are generally the first emergency personnel on the scene. It is imperative that seriously injured victims be located and stabilized as quickly as possible. In cases where fire control or prevention does not require the efforts of all fire department personnel, victim stabilization should commence immediately under the direction of the most qualified trauma-trained individual (EMT, Paramedic) on the scene. First-response vehicles should carry initial supplies of victim-care equipment, including esophageal airways, compresses, bandages, and other related equipment used for the stabilization of severe trauma.

2-3.6 Care of Priority II Casualties (Yellow Tag, Turtle Symbol) Delayed Care. Care of casualties sustaining injuries which do not need immediate emergency medical treatment to sustain life can be delayed until Priority I casualties, (red tag, rabbit) immediate care victims, are stabilized.

2-3.7 Care of Priority III Casualties (Green Tag, X'd Ambulance Symbol) Minor Care. Certain accidents/incidents will occur where passengers have either minor or no injuries, or appear not to be injured. It is important that provisions be made for their care, comfort, and identification. This should be provided through airport operations, the air carrier (where involved), the Red Cross, or similar type organizations. Specific treatment areas should be predesignated for this purpose, such as an empty hangar, a designated area in a passenger terminal, a fire station, or other available sites of adequate size (motel, school, etc.). Any such area selected should be one equipped with comfort heating or cooling systems, electric light and power, water and toilet facilities. A number of such preselected sites should be available so that when the accident/incident occurs, the most convenient as regards travel distance and space needs (numbers of casualties involved) can be selected. All air carrier personnel and airport tenants should be familiar with the locations of facilities selected for such emergency uses.

2-3.8 Care of Uninjured Persons Involved.

2-3.8.1 The air carrier (where involved), airport authority, or other predesignated agency selected for the purpose should be available to:

(a) Select from among the predesignated passenger holding areas in the airport/community emergency plan the proper one for the emergency conditions existing.

(b) Have provisions for the transportation of uninjured passengers from the accident site to the designated holding area.

(c) Provide doctor(s), nurse(s) or paramedic(s) to examine and

treat supposedly uninjured passengers, especially for shock and/or smoke inhalation where pertinent.

(d) Furnish a full passenger manifest to fire/rescue personnel and medical organizations involved in the accident.

(e) Interview and record each uninjured passenger's name, address, and phone number and where he can be reached for the next 72 hours.

(f) Notify relatives or next of kin where deemed necessary.

(g) Coordinate efforts with the Red Cross or other designated relief agency.

(h) Provide security from unauthorized interference by persons not officially connected with the operation in progress.

2-3.8.2 Prearrangements should be made for the immediate transportation by bus or by other suitable transportation of the "walking wounded" and uninjured from the site of the accident/incident to the designated emergency holding area; this plan should be implemented automatically following notification of the emergency. A nurse, paramedic, EMT or a person trained in Red Cross first aid should accompany these victims to the holding station. Each and every passenger should be examined for shock and smoke inhalation. Cold or inclement weather may require additional provisions for the victim's protection and comfort.

2-3.8.3 Occupants evacuating an aircraft may be barefoot where evacuation slides were used and also may be without proper wearing apparel. Prior planning should recognize this potential and emergency footgear and blankets should be available to accommodate this situation. Where the aircraft accident occurred in the water or in a marshy area, survivors will be wet and uncomfortable. Where such potentials exist, it may be necessary to establish a special staging area where they can be stabilized, prior to being transported to the normal holding area, and preplanned provisions for blankets and temporary protective clothing.

2-3.9 Care of Fatalities (Black Tag, Cross Symbol). Areas immediately surrounding the locations of deceased victims should be completely secured. Areas in which a large number of fatalities or dismembered victims are located should be left undisturbed until arrival of the coroner or the responsible agency. This procedure will greatly assist the accident investigation and identification teams. If it becomes necessary to remove the bodies prior to arrival of the designated authorities, the location of the remains should be photographed and appropriately tagged prior to removal.

2-4 Nonaircraft Accident Related Airport Emergencies. Procedures and techniques of handling nonaircraft accident related airport emergencies should be similar to the techniques in handling aircraft accident emergencies. It should be recognized that medical and fire emergencies can arise at any location where large numbers of persons work or congregate. At airports this problem can be severe because of the hazard exposure associated with the commonplace activities of arriving and departing passengers and sightseers, the public service facilities provided at airports (i.e., automobile movement and parking areas, restaurants, bars, baggage handling and storage areas, etc.), and the fact that airports can be selected by malcontents as locations to demonstrate their anger against any group or activity. The diverse character of persons traveling by air suggests the need for airports to have on-scene emergency medical services available to treat conditions such as cardiac arrest, abdominal pains, burns, cuts and abrasions. Such services should be recognized as being immediate-care facilities and detailed mutual assistance agreements should be formulated in advance with outside agencies because of the unpredictable magnitude of the potentials involved.

NOTE: See Chapter 5 and also NFPA 402 for typical mutual aid procedural agreements.

2-5 Dangerous Goods (Exposure at Airports and Following Aircraft Accidents). Certain dangerous goods (explosives, flammable and nonflammable compressed gases, flammable and combustible liquids, flammable solids, oxidizing materials, poisonous substances, radioactive materials, corrosives, etiological agents, irritating substances, etc.) are shipped by air. Collections of such dangerous goods may exist in airport cargo buildings, on aircraft loading ramps, and in aircraft cargo compartments, etc. Fire and rescue personnel should therefore be aware of the potentials involved in these operations and be prepared to cope with emergencies involving such dangerous goods. Accidents involving aircraft carrying such materials in cargo compartments present special rescue and fire control problems, but knowledge of the existence of such cargoes may not be immediately known. Aircarriers handling cargoes should report the existence or potential existence of such cargoes aboard an aircraft that has an accident as soon as possible after it occurs. Where broken containers are found which could cause injury to or affect the health of exposed aircraft occupants or rescue personnel (particularly from radioactive, etiological, or toxic materials), special precautions should be taken as appropriate, and pre-identified trained personnel assembled to deal with the problems involved.

NOTE 1: Many publications are available dealing with handling dangerous goods. The NFPA has *Fire Protection Guide on Hazardous Materials*, NFPA SPP-1C, which is particularly useful to fire departments, and has an instructional package on "Handling Transportation Emergencies Involving

Hazardous Materials for Emergency Service Personnel" (not dealing specifically with airport emergencies). In the U.S.A. the Manufacturing Chemists Association has a Chemical Transportation Emergency Center (CHEMTREC) that provides immediate information on what to do in case of spills, leaks, fires, or exposures to chemical products on receipt of a toll-free phone call from the scene of a chemical transportation accident. The telephone number is: 800-424-9300. (From Washington, D.C., use 483-7616; from Alaska and Hawaii, use 202-483-7616.)

The caller will be asked to identify the accident location, the name of the chemical product(s), the nature and extent of the accident, the shipment source, name of the company that made shipment, the carrier and the consignee, whether there are injuries, and any local conditions that may affect the hazard. The CHEMTREC communicator will provide the caller with pre-established information on file such as the kind of hazards to be expected from the product involved, and what to do in case of spills, leaks, fire or exposure. The communicator then will relay the details of the accident immediately by phone to the shipper, who becomes responsible for any future action in regard to the emergency.

NOTE 2: Poison Information Centers (Poison Control Centers) have been established in most areas of the U.S.A. To provide emergency information on the prevention and treatment of accidents involving ingestion of poisonous and potentially poisonous substances. The telephone number of the nearest center is normally prominently listed in the telephone directory of each community and this source of information on emergencies involving poisons should be contacted for immediate help.

NOTE 3: Etiological Agents (Biomedical Material). For information on handling or disposition of leaking or damaged etiological-agent containers contact the Center for Disease Control, Atlanta, GA, U.S.A. The telephone number is: 404-633-5313.

Chapter 3 Recommendations for Emergency Medical Services at Airports

3-1 Basis for Recommendations. These recommendations are based on the concept and assumption that medical personnel and a medical facility is established under this airport/community emergency plan at each airport and that sufficient medical facilities are maintained at that facility to deal with routine medical emergencies which normally occur at the airport (on-the-job injuries, heart attacks, etc.).

3-2 Emergency Medical Training of Airport Personnel.

3-2.1 All airport fire department personnel assigned to fire control and rescue duties and all "public-contact" airport employees should be given First Aid and CPR training. At least two full-time members of the airport fire department per shift should be trained to an EMT level and be available to respond to any airport emergency of any severity.

NOTE: See Appendix A for training criteria and definitions.

3-2.2 The following subjects are the minimum which should be covered in a course of instruction to enable airport personnel to function effectively in providing emergency medical services:

(a) Airway Management and Cardiopulmonary Resuscitation (CPR).

(b) Bleeding and bandaging.

(c) Fractures and splinting.

(d) Burns.

(e) Shock.

(f) Emergency childbirth and immediate care of newborn, including prematures.

(g) Common medical diseases which may influence the outcome of injury (allergies, high blood pressure, diabetes, pace-maker, etc.).

(h) Basic measures for treatment and protection subsequent to spills or leaks of radioactive materials, toxic, or poisonous substances.

(i) Basic measures for handling emotionally disturbed persons.

(j) Recognition and first aid for poisons, bites, and anaphylactic shock.

(k) Transportation techniques for injured persons.

(l) Heimlich Maneuver—treatment of choking victims.

3-3 Airport Emergency Communications Facilities.

3-3.1 All airport emergency personnel should be provided with two-way communications equipment when on duty to make possible rapid response to emergencies.

3-3.2 All airport emergency teams should be provided with communication equipment to permit them to contact the medical facility and ambulance services. It is desirable that this equipment have telemetry capabilities.

3-3.3 An adequate communication network should be established and maintained with adjacent community fire, rescue, and medical facilities. Sufficient transceivers, telephones, mobile- and land-lines should be available to establish a primary and secondary communication system.

3-3.4 Command post and control points should have the capability of freely communicating with all participating agencies. Care should be taken to establish and maintain priorities and provide sufficient communication channels, so that emergency frequencies will not be jammed. Strict communications discipline is essential. The latter item should be specifically checked in planned exercises.

3-3.5 Runners should be assigned to the command post and available to all command personnel.

3-3.6 A complete and current list of inter-agency phone numbers should be available to all agencies and to personnel responsible for the airport/community emergency plan. The phone numbers should be tested monthly for currency.

3-3.7 Capability of direct radio communication with the aircraft should be provided.

3-4 Airport Emergency Transportation Facilities.

3-4.1 Each airport should maintain at least one ambulance on the airport for routine medical emergencies. Written agreements with off-airport based ambulances should be prepared to provide for emergency transportation services.

3-4.2 Airborne transportation equipment, i.e., helicopters and fixed wing aircraft, should be considered for emergency evacuation and applicable alerting phone numbers recorded.

3-4.3 Since it may be necessary to transport multiply injured

victims to appropriate off-airport medical facilities, ambulances arriving at the scene should report to a designated transportation coordinator. It will be the responsibility of this coordinator to ascertain the number of victims who will need transportation, the number and type of ambulance units necessary, and the availability and capacity of each medical facility receiving victims. In the event of a multi-casualty accident, the transportation coordinator (or members of his team) will also supervise actual loading, recording of names, injuries of casualties, and routing of the individual vehicles and casualties.

3-4.4 In major emergency situations auxiliary ambulance transportation may be commandeered and may consist of vans, busses, automobiles, station wagons or other suitable airport vehicles.

3-4.5 Provision for *immediate* transportation should be available to transport ambulatory survivors to a designated holding facility.

3-4.6 A grid map (with date of latest revision) of the airport and surrounding area should be provided for all rescue vehicles. All medical facilities should be depicted prominently on the grid maps.

NOTE: See Appendix C hereto and NFPA 402 for typical grid maps.

3-5 Airport Emergency Medical Supplies and Equipment.

3-5.1 Sufficient medical supplies to treat the capacity of the largest aircraft normally utilizing the airport should be available on or adjacent to the airport.

3-5.2 The type and quantity of such supplies should be determined by the principal medical authority for the airport.

3-5.3 Stretchers, blankets, and backboards should be located on the airport, preferably on a suitable vehicle (e.g., trailer) which can be transported to the accident site. Blankets are needed to alleviate the victims' exposure to shock and possible adverse weather conditions. The backboards and spine boards should be of a type designed to fit through access ways and aisles of commercial and business aircraft. They should have restraining straps available so the patient can be secured to the board. A cleat should be attached to the underside of the backboard to facilitate lifting by carrying personnel. Trauma victims in an aircraft accident sometimes sustain severe spinal injuries and backboards should be used in removing the victim from the aircraft. This will alleviate the possibility of further spinal injury.

NOTE: See Appendix B for construction details of backboards for this service.

3-5.4 Sufficient emergency oxygen equipment should be available to treat smoke inhalation victims.

3-5.5 Since the majority of nonaccidental medical emergencies at airports involve coronary difficulties, advanced life support systems should be readily available.

3-6 Airport Emergency Command Posts.

3-6.1 In the event of any major accident/incident, the establishment of a designated and recognizable mobile command post (or control point) should be a high priority item, coincident with the initiation of fire control and rescue activities. The location and number of these units are based upon the requirements of each emergency situation. (*See 2-2.4.*) It is important that a continuity of command be maintained, so that each agency is adequately briefed on the situation as it arrives to report and assume control of its individual organizational responsibilities.

3-6.2 The command post is a point where cooperating agency heads assemble to receive and disseminate information and make decisions pertinent to the rescue operations. This site should contain the necessary communications and personnel to communicate with all agencies involved in the incident.

3-6.3 The command post should be easily recognizable with an elevated distinguishing marker, such as a checkered flag, colored traffic cone, or rotating light on an extendable mast above the command post area.

3-6.4 It may be necessary to establish more than one command post. When this is required, one location should be designated as a "master" command post (or control point).

3-6.5 Maps, charts, and other relevant information should be immediately available.

3-7 Airport Emergency Auxiliary Power Supplies.

3-7.1 Portable auxiliary-powered electrical units should be available to provide power for operating radio equipment, electrical tools, lights, etc.

3-7.2 If electrical tools are carried aboard a vehicle, a generator should also be carried to provide sufficient auxiliary power. It is important that the generator's capability is adequate for simultaneous operation of all tools.

3-7.3 Care should be taken when it is necessary to use spark-producing or fuel-powered equipment in the emergency area where flammable vapors may exist due to spilled fuel or exposed fuel tankage and adequate fire prevention measures should be taken (e.g., covering fuel spills with foam) before operating such equipment in a hazardous area. Standby fire protective equipment should be provided during the use of this equipment.

3-7.4 Portable emergency lighting should be provided to facilitate fire extinguishment and rescue operations during periods of darkness. Fixed lighting on the apparatus should be supplemented by such portable lighting systems. Often lighting for the accident scene can be provided from airborn military and law enforcement aircraft and helicopters when required.

3-7.5 Personnel, especially rescue and medical teams, should have hand lights available.

3-7.6 Where casualty evacuation requires the use of helicopters, provisions must be made to provide adequate lighting at both the emergency landing pad and the hospital heliport.

3-8 Care of the Deceased.

3-8.1 Extrication of the deceased (removal of bodies) and removal of the personal effects of the deceased prior to arrival of the coroner or appropriate authority should be accomplished only to prevent destruction by fire or for other similar compelling reasons. When bodies must be moved, the area should be photographed first, if possible, or later with the original positions of the bodies indicated on the photograph; bodies should also be tagged prior to removal. Provisions should be made to obtain sufficient body bags to contain each body or personal effects.

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

3-8.2 Body identification and cause of death is conducted with the concurrence of the authority designated for this duty. This operation is generally conducted with the cooperation of forensic teams and other specialists.

3-8.3 Accidents that produce a large number of fatalities may overload normal morgue facilities. In areas where delay or temperature may contribute to deterioration of tissue, refrigerated storage should be available. This may be provided either through a permanently located

cooler or by refrigerated semi-trailers. The area for post mortem examination should be located adjacent to the refrigerated storage and selected to provide a high level of security. This area should be large enough for initial body sorting. Electricity and running water should be provided, in addition to a suitable working area.

3-8.4 The morgue should be isolated and in an area remote from the stabilization area, or where relatives and the public congregate or have access.

3-8.5 After identification of victims, air-carrier representatives (if appropriate), clergy, public service organizations (i.e., Red Cross, mental health organizations and police) may be utilized to contact or notify next of kin.

3-8.6 The accident investigation team generally has the authority and the need to require autopsies and toxicological analyses on crew members, and, in special cases, on passengers. The need for these tests should be determined prior to release of bodies.

3-9 Security at Airport Emergency Sites.

3-9.1 The first security officer to arrive will assume security responsibility, survey the scene, and request reinforcements as needed. He should remain in command until relieved by the appropriate security authority who has jurisdiction over the area.

3-9.2 A blue industrial hard hat with reflective lettering displayed fore and aft, and imprinted "SECURITY CHIEF," should be issued to the security officer in charge.

3-9.3 Security personnel and police will be needed to handle traffic, to keep unauthorized personnel from the crash site, and to assume custody of personal effects removed from the aircraft. Ingress and egress roads need to be established for congestion-free traffic lanes for emergency vehicles.

3-9.4 Normal traffic should be routed away from and *around* the crash site.

3-9.5 The emergency site should be cordoned off as soon as possible to exclude intruders, sightseers, onlookers and souvenir hunters. Appropriate markings should be prominently displayed to advise all persons of possible hazards which may cause serious injury should they encroach on the area.

3-9.6 Arm bands, site passes, or I.D. tags should be issued by the controlling authority and monitored by the security coordinator and his team.

3-9.7 A mutual aid program should be instituted between all potentially involved security agencies, e.g., airport, city, county, state, and federal security forces; mail inspectors; and, where appropriate, military police and customs officials.

3-9.8 Special security provisions are necessary to protect any mail involved, any dangerous goods which may be present, and to protect against radioactive-materials exposure (*see Section 2-5*).

3-10 Handling Public Information Needs During Airport/Community Emergencies. It is recommended that the television and radio news media be requested to withhold the release of accident information for at least 15 minutes (or longer), if possible, to assure that adequate security can be established around the accident site and that road blocks can be established on ingress and egress roadways to the accident site and to participating emergency medical facilities. A public information officer should be designated. This officer should coordinate and release factual information to the news media when reporters are restricted from the accident site and should coordinate information between all other parties involved (for instance, the air-carrier's public relations expert and the airport's public information officer).

3-11. Need for Airport/Community Emergency Exercises. It is recommended that each airport conduct a full scale simulated aircraft emergency exercise at least on an annual basis. This should not preclude holding individual agency mini-drills and periodic communication drills as practicable.

NOTE: See also Chapter 7 herein.

Chapter 4 Airport First Aid Rooms or Medical Clinics

4-1 Factors Influencing Need. There are many factors which influence the need for an airport first aid room or an airport medical clinic. Factors to be taken into consideration include:

4-1.1 The number of passengers served annually and number of employees based on the facility.

4-1.2 Industrial activity on the airport property and surrounding community.

4-1.3 Distance from adequate medical facilities.

4-2 Usage of Airport Medical Care Facilities. Utilization of an airport medical care facility is recommended for all airport employees, users of the airport, and residents of adjoining communities to serve their emergency medical care needs.

4-3 Location of Airport Medical Care Facilities. The facilities should be centrally located in the Airport Terminal building, easily accessible to the general public while also being accessible to emergency transportation equipment (ambulance services, helicopter ambulances, etc.). Site selection should avoid the problem of having to move injured persons through congested areas of the airport terminal while providing access to the facility by emergency vehicles by a route that as far as feasible can bypass normal public access roadways to and from the airport. This suggests that the medical care facility be located so that access can be gained from the ramp side of the airport terminal which should provide control over unauthorized vehicles interfering with emergency equipment.

4-4 Staffing of Airport Medical Care Facilities. The number of trained personnel and degree of expertise needed by each will depend on individual airport requirements. It is recommended that at least one person trained in the following techniques be on duty during the principal hours of airport activity:

(a) Ability to perform Cardiopulmonary Resuscitation (CPR) and artificial resuscitation.

(b) Arrest bleeding from a traumatic source.

(c) Splinting of fractures.

(d) Being able to start intravenous injections and to administer

life-saving drugs, following consultation with a physician, to patients needing same following a severe medical or traumatic emergency.

(e) Authority to order hospitalization of victims needing same, and arranging any needed transportation.

4-5 Equipment of Airport Medical Care Facilities. The facility should be adequately equipped to handle cardiac arrest and other types of injuries and illnesses associated with industrial medicine. If drugs are maintained, provision should be made to ensure full security.

4-6 Criteria Justifying Provision of an Airport Medical Clinic.

4-6.1 An airport medical clinic should be provided at airports when the airport employee census is 3,000 or more and when the annual passenger/visitor co-census is 3,000,000 or more.

4-6.2 The staff of the airport medical clinic should form the nucleus for the medical services planning for the airport/community emergency plan and be responsible for implementation of the medical portion of this plan.

4-6.3 The airport medical clinic, in addition to rendering medical care to the airport population, may extend emergency care to communities surrounding the airport if there is no existing emergency facility.

4-6.4 The airport medical clinic should be included in community emergency services organization and planning. In the event of a large-scale local emergency, the airport medical clinic may function as the coordination site for direction of incoming medical personnel assistance as well as medical supplies and equipment.

4-7 Criteria Justifying Airport First Aid Rooms and Other Airport First Aid Services.

4-7.1 It is recommended that the airport first aid room be staffed with at least EMT trained personnel. It should be included in the airport/community emergency plan for medical operations. The airport manager should obtain the advice and direction of a consulting emergency medical care physician as to the allotment and design of equipment for the first aid room commensurate with the anticipated needs of the particular airport.

4-7.2 At airports where an airport medical clinic or first aid room cannot be made available, the airport manager should have sufficient personnel trained in advanced first aid to cover all active hours of

airport operation. Equipment for first aid work should consist, at minimum, of an emergency medical care bag. This bag should be carried on a designated airport emergency vehicle. The emergency medical care bag should contain at least:

(a) One plastic sheet, 6 ft x 6 ft, with four spikes.

(b) Seven hemostats (one package of 3, one package of 4).

(c) Two field dressings (one 18 x 22 in.; one 22 x 36 in.).

(d) Ten abdominal pads (5 packages; 2 to each package).

(e) Forty 4 x 4 in. gauze pads (4 packages; 10 to each package).

(f) Two tourniquets (2 packages; 1 per package).

(g) One esophageal airway.

(h) Three airways (disposable) - 1 each, #2, #4, #5.

(i) One bulb syringe with 2 catheters (#12, #14 FR.).

(j) Two large bandage scissors.

(k) Twenty syringes (disposable) with #25 GA ⅝ in. needle.

(l) Twelve ace bandages (two 6 in., four 3 in., two 2 in.).

(m) Twelve alcohol sponge packages.

(n) Four roller gauze (two 3 in.; two 2 in.).

(o) Two adhesive rolls (1 per package).

(p) Four vaseline gauze (6 x 36 in.).

(q) Twenty-four bandaids.

(r) One blood pressure cuff and gauge.

(s) One clipboard (6½ x 11 in.).

(t) Six pencils.

(u) Sufficient supply of identification tags. (*See Appendix D.*)

(v) One set inflatable splints.

(w) One resuscitube.

(x) One short spine board.

(y) One flashlight.

(z) Two cervical collars.

(aa) One bite stick-wedge.

(bb) Disposable obstetric kit.

Chapter 5 Mutual Aid Programs for Airport/Community Emergency Plans

5-1. Purpose of Mutual Aid Programs. Airport and aircraft emergencies may be of such magnitude that local medical facilities are inadequate to handle the situation. It is therefore, strongly recommended that mutual aid programs be initiated to ensure prompt and adequate medical response from all available sources. Such mutual aid agreements are normally implemented and coordinated by the fire services and this coordination responsibility should be extended to the emergency medical assistance portions of the plan.

NOTE: See NFPA 402 for further information.

5-2 Relationship to Civil Defense Planning. The airport emergency plan should be integrated into the local community overall civil defense emergency plan.

5-3 Maintaining Mutual Aid Agreements. All mutual aid agreements should be reviewed or revised annually. Telephone and personnel contacts should be reviewed and updated monthly.

5-4 Aircraft Emergencies Off the Airport.

5-4.1 Aircraft accidents can occur outside airport boundaries and under these circumstances, it is imperative that mutual aid agreements be made with surrounding communities which will define responsibilities and/or liabilities of each contributing party prior to the first emergency. These should include at least the following:

(a) Clarifying the political and jurisdictional responsibilities of the multiple agencies that may be involved to eliminate any problems when the emergency occurs.

(b) Establishing the command authority; a single coordinator with suitable designated alternates should be given authority to assume command responsibility.

(c) Organization of transportation facilities under a predesignated coordinator(s).

(d) Predetermining the legal authority and liability of all cooperating emergency personnel.

(e) Providing the needed insurance coverage and arranging for financial remuneration of the emergency personnel.

(f) Making arrangements in advance for use of portable and heavy rescue equipment from available sources.

5-4.2 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 have adequate plans, when needed, for rescue in such areas. This could require studies of the availability and arranging for the utilization of such special service vehicles as fire boats, rescue boats, helicopters, hovercraft, swamp buggies, snowmobiles, half-tracks, forest-fire fighting equipment, etc., as applicable. Consideration may also need to be given to the availability of specialized rescue teams such as Scuba divers, mountain or desert squads, ski patrols, and bomb squads; to the handling of radiological incidents or chemical spills; and equipment to permit emergency transfer of fuel from the aircraft wreckage, from a water surface, or from pools formed in ground depressions, basements of buildings, etc.

Chapter 6 The Airport/Community Emergency Plan and Manual

6-1 Need and Scope of Plan. In many jurisdictions, including the United States, regulations require establishing an airport emergency plan for an airport to secure commercial airport "certification." Such emergency plans include but are not limited to the following:

6-1.1 Aircraft incidents and accidents, and notification procedures.

6-1.2 Bomb incident procedures, including designated parking areas for any aircraft involved.

6-1.3 Structural fire control.

6-1.4 Natural disasters.

6-1.5 Sabotage and other unlawful interference with operations.

6-1.6 Dangerous goods and radiological incidents.

6-1.7 Medical services.

6-1.8 Crowd control.

6-1.9 Removal of disabled aircraft.

6-1.10 Emergency alarm system.

6-1.11 Mutual assistance with other local safety and security agencies.

6-1.12 Provision of two grid maps: one map depicting confines of airport and the other of surrounding communities depicting appropriate medical facilities. (*See Appendix C.*)

NOTE: It is absolutely essential that where more than one grid map is used, the grids must not conflict, and they must be immediately identifiable to all participating agencies.

6-2 Required Coordination of Plan.

6-2.1 The airport authority should coordinate its emergency plan with community law enforcement, fire fighting, rescue agencies, medi-

cal facilities, principal tenants at the airport, aircraft operators, air traffic control facilities, and all other participating agencies.

NOTE: See Appendix F, Airline Personnel Services Following an Aircraft Accident.

6-2.2 The airport authority should assure that all personnel having duties and responsibilities under the emergency plan are familiar with their assignments and are properly trained.

6-3 Need and Scope of Airport/Community Emergency Plan Manual.

6-3.1 An airport emergency plan manual should be developed. It should be contained in a loose leaf binder with a revision section, where revisions can be recorded, dated and kept current. The various sections within the manual should be separated by appropriate tab indexes which should cover at least the following:

Frontispiece Emergency Rendezvous Points and Facilities.

SECTION 1 Emergency Procedures.

(a) Declaring an Emergency.

(b) Categories of Alerts.

(c) Initial Alert.

(d) Action by Tower.

(e) Anticipated Emergencies.

(f) Alarm System Test.

SECTION 2 Operations — Fire Department Jurisdiction.

SECTION 3 Operations Division Responsibilities.

SECTION 4 Aircraft Operator Responsibilities.

SECTION 5 Accident — Emergency Notification Procedures.

SECTION 6 Public Address Emergency Notification.

SECTION 7 Fire and Emergency Codes.

SECTION 8 Ambulance Service.

SECTION 9 Medical Assistance.

SECTION 10 Emergency Medical Supplies.

SECTION 11 Mobile Telephone.

SECTION 12 Command Post.

SECTION 13 Off-Airport Aircraft Accident.

SECTION 14 Public Relations — News Media.

SECTION 15 Foaming of Runways (Refer to NFPA 402).

SECTION 16 Radiological Emergency Procedures (Refer to NFPA 402).

SECTION 17 Water Accidents (Refer to NFPA 402).

SECTION 18 Military Emergency Facilities.

SECTION 19 Helicopter Procedures.

SECTION 20 Security and Crowd Control.

SECTION 21 Postal and Custom Authority.

SECTION 22 Civil Defense (Emergency Preparedness).

ATTACHMENT A

Letter of Agreement between Airport Tower and Airport.

ATTACHMENT B

State Aviation Agency.

1. Notification Requirements.
2. Reporting Requirements.

ATTACHMENT C

Accident Investigation Agency (Refer to NFPA 402).

1. Notification Requirements.
2. Reporting Requirements.
3. Preservation of Aircraft Wreckage and Records.

ATTACHMENT D

State Highway Police Procedures.

ATTACHMENT E

County Sheriff's Office Procedures.

City Police Patrol Procedures.

ATTACHMENT F

Red Cross Disaster Plan.

ATTACHMENT G

Grid Maps.

ATTACHMENT H

Anti-Hijack Procedures.

ATTACHMENT I

Letter of Agreement between Airport Fire Department and Airport Where Applicable.

ATTACHMENT J

Letter of Agreement between Airport Fire Department and Adjoining Community Fire Departments.

ATTACHMENT K

Clergy.

Chapter 7 Emergency Exercises

7-1 Need for Exercises. Each airport/community emergency plan should be tested at least annually to ensure coordinated training and procedures. An emergency plan that has not been tested is no plan at all and as such is useless. Experience has shown that quite often the procedures set forth in an untried airport/community emergency plan have been found to be impractical during an actual emergency, resulting in confusion and inefficiency by the participants. Exercises should thus be held to test the plan as recommended herein and in Section 3-11. Deficiencies encountered during such exercises (drills) should be studied, corrected, and the plan again exercised until it functions smoothly.

7-2 Scope of Exercise. Each emergency exercise should be a coordinated program between the airport and the community. This is desirable as the planning and procedures needed to handle emergency situations on the airport, are similar to other types of emergencies which can strike a community. Inasmuch as the airport would be the transportation hub for any community emergency situation (whether it be an aircraft accident, an earthquake, an explosion, or even a severe storm), its role in any community emergency situation is 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 drills will be much the same and involve the same major problem areas: COMMAND, COMMUNICATION, and COORDINATION.

7-3 Planning for Exercises.

7-3.1 The first step in planning a major exercise is to have the support of all concerned airport/community authorities. Departments and agency personnel to be considered are:

(a) Air traffic services unit.

(b) Fire and rescue departments.

(c) Police and security forces.

(d) Airport authorities.

(e) Triage and first aid organizations.

(f) Aircraft operators.

(g) Federal authorities.

(h) Civil authorities.

(i) Communications networks.

(j) Airport tenants.

(k) Medical and ambulance services and facilities.

(l) Transportation authorities, (land, sea and air).

(m) Civil Defense (emergency preparedness agencies).

7-3.2 Each of the department/agency heads must be thoroughly familiar with the existing airport/community emergency plan and must develop a plan of his own for his department in cooperation with the general plan. The command personnel should meet regularly in session to develop an understanding of their department's responsibilities in cooperation with the responsibilities of other agencies. They should run individual and multi-run drills to develop efficiency and skill.

7-3.3 A large passenger aircraft should be sought for the exercise from an operator to add realism to the drill and to familiarize participants with the problems of removing casualties from aircraft. If an aircraft is not available, a bus or similar vehicle may be used.

7-3.4 The emergency exercises should be held in locations which will provide maximum realism while ensuring minimum disruption of the airport operations.

7-3.5 At least 120 days prior to the scheduled emergency exercise a meeting of all principal supervisory personnel should be called by the airport authority in charge. At this time the objectives should be outlined, a scenario formulated, work tasks assigned and duties of all agencies and personnel defined. A suggested time schedule should then be approximately as follows:

— 120 days Organizational meeting of supervisory personnel, objectives outlined, scenario formulated, work tasks assigned.

— 90 days First progress report on arrangements.

— 70 days First meeting of all participating agencies (participant committee).

— 60 days Complete arrangements for disaster site or staging area.

— 50 days Training for make-up (moulage) team begins.

Second meeting of the participant committee.

— 40 days Arrangements for transportation, feeding, litter bearers and volunteer workers completed.

— 30 days	Third meeting of the participant committee. A preliminary "warm-up" communications exercise is held.
— 21 days	Fourth meeting of the participant committee. Make-up team training and arrangements for volunteer casualties completed.
— 14 days	Final meeting and briefing for all participants, including critique team.
— 7 days	Final meeting of supervisory committee to review assignments.
— 0 days	The exercise.
+ 1-7 days	A critique meeting for all participants to hear the observer reports.
+ 30 days	The supervisory committee meets to review written critiques and begin implementation of the lessons learned.

7-3.6 In order to obtain the maximum benefit from an emergency exercise, it is important to critique the entire proceeding. An observer critique team should be organized comprised of members who are familiar with mass casualty accident proceedings. A chairman of the team should be appointed who should be present at all meetings. The team should be present at the final organizational meeting and, in coordination with the authority in charge, ensure that significant problems are introduced into the exercise. Each member of the critique team should be in possession of identification arm bands or clothing and should observe the entire exercise and complete the appropriate critique forms. As soon as convenient after the exercise a critique meeting should be held, so that members of the team can present their observations and recommendations for improvement.

NOTE: See Appendix F for sample nonmedical and medical critique forms.

Chapter 8 Standardized Casualty Identification Tags and Their Use

8-1 Need for Standardized Tags. Casualty identification tags should be standardized through color coding and symbols to make the tag as simple as possible. Tags help to expedite the treatment of mass casualties in a triage situation and thus permit more rapid transportation of the injured to medical care facilities.

8-2 Tag Design. Standardized tags should be designed to require only minimal information to be entered thereon, be useable under adverse weather conditions, and be water resistant. Such tags have been developed using color coding, Roman numerals, and symbols indicating medical priority. An example, illustrated in Appendix D, is designed to classify casualties as follows:

8-2.1 Immediate Care: RED colored tag; Roman numeral I; rabbit symbol.

8-2.2 Delayed Care: YELLOW colored tag; Roman numeral II; turtle symbol.

8-2.3 Minor Care: GREEN colored tag; Roman numeral III; ambulance with X symbol.

8-2.4 Deceased: BLACK colored tag; cross symbol.

Chapter 9 Personnel Accountability

9-1 Principles and Need for Accountability.

9-1.1 Utilization of flight manifest from the aircraft operators (if involved), the flight crew, or other appropriate agency, casualty tagging, and verbal reports should enable emergency personnel to ascertain the number of aircraft occupants involved in the accident/incident; such data should be closely checked for possible errors in the passenger or crew counts. To assure that all occupants are accounted for, it is mandatory that *all* persons involved in the accident/incident be counted promptly at the scene. This can best be accomplished through a designated registrar. Preliminary counts of the number of persons and the extent of injuries will enable effective utilization of community resources. There is also the possibility that there will be additional casualties not aboard the aircraft, especially when the accident/incident involves ground equipment or facilities (such as vehicles, buildings, etc.) at the point of impact.

Appendix A Recommended Training for Airport Fire Fighters for Emergency Medical Services

This Appendix is not a part of this NFPA recommended practice, but is included for information purposes only.

A-1 Due to the many conflicting national and international standards and nomenclature of medical personnel, for the purpose of this manual, the following definitions and recommendations are used:

A-1-1 For personnel to qualify for advanced first aid, as an Emergency Medical Technician (EMT), or as a paramedic, the following hours of instruction are the minimum that should be used for training:

A-1-2 Advanced First Aid: 56 hours instruction.

A-1-3 Emergency Medical Technician (EMT): 96 hours instruction (80 hours classroom; 10 hours hospital emergency room apprentice service; 6 hours of ambulance apprentice duty).

A-1-4 Paramedic: 500 hours instruction (200 hours classroom; 100 hours hospital emergency room apprentice service; 200 hours of ambulance apprentice duty).

A-2 Recurrent training should be provided in each specialty and re-certification achieved at least on an annual basis, or as required by the local jurisdiction.

Appendix B Design of Backboards

This Appendix is not a part of this NFPA recommended practice, but is included for information purposes only.

B-1 Long Backboards (¾-in. plywood):

B-1.1 Overall Length: 74 in.

B-1.2 Head Hole: 5½-in. diameter.

B-1.3 Width (from head to foot):

1 ft from head:	18 in.
2 ft from head:	18 in.
3 ft from head:	18 in.
4 ft from head:	16 in.
5 ft from head:	13 in.
6 ft from head:	11 in.
Foot (6 ft 2 in.):	10 in.

B-1.4 Hand Holes: 10 in. by 2 in.

B-1.5 Foot Holes: 3 in. by 10 in.

B-2 Short Backboards (⅝-in. plywood):

B-2.1 Overall length: 36 in.

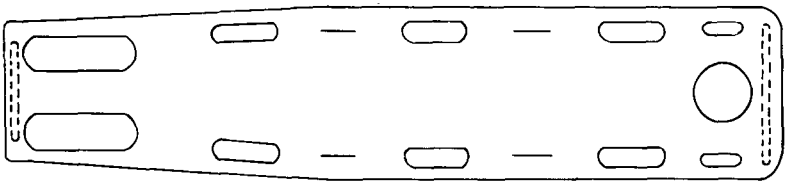
B-2.2 Head Hole: 4½ in.

B-2.3 Width (from head to foot):

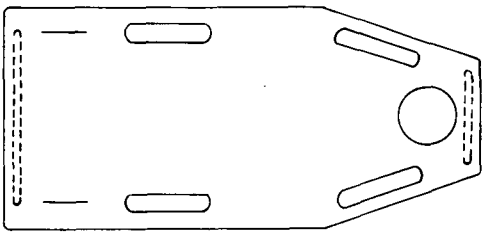
1 ft from head:	16 in.
2 ft from head:	16 in.
3 ft from head:	16 in.

B-2.4 Hand Holes: 1½ in. by 6 in.

Long Backboard Diagram



Short Backboard Diagram

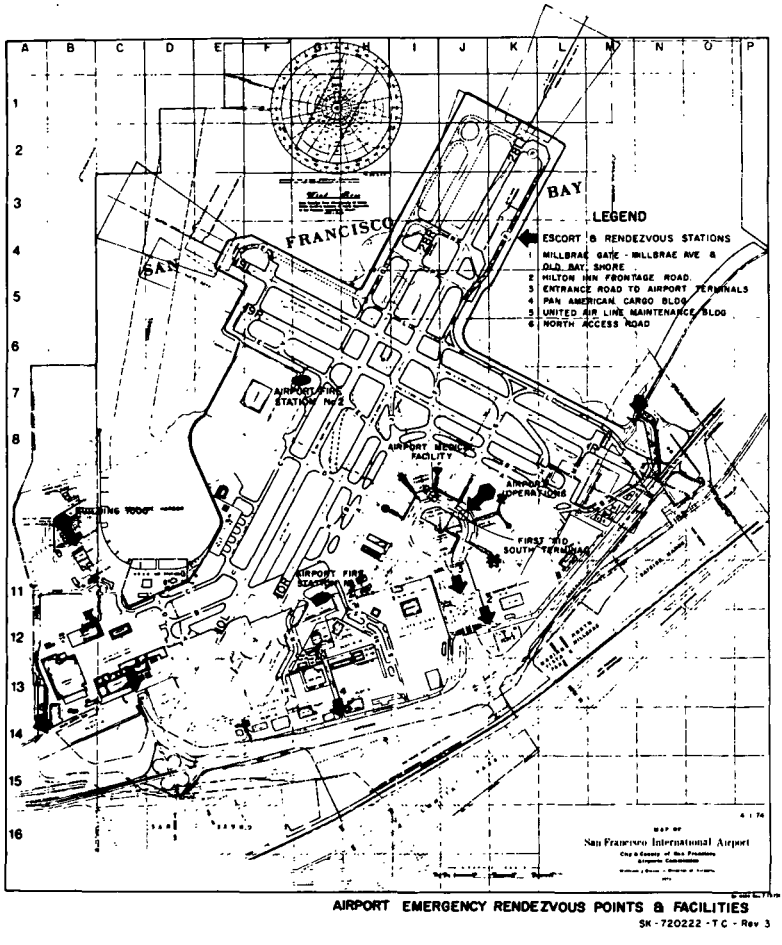


NOTE 1: One-in. cleats should be placed under forward and aft sections of spinal boards to facilitate lifting.

NOTE 2: Backboards so designed have been most effective during numerous airport disaster drills.

Appendix C Typical Airport Grid Maps

This Appendix is not a part of this NFPA recommended practice, but is included for information purposes only.

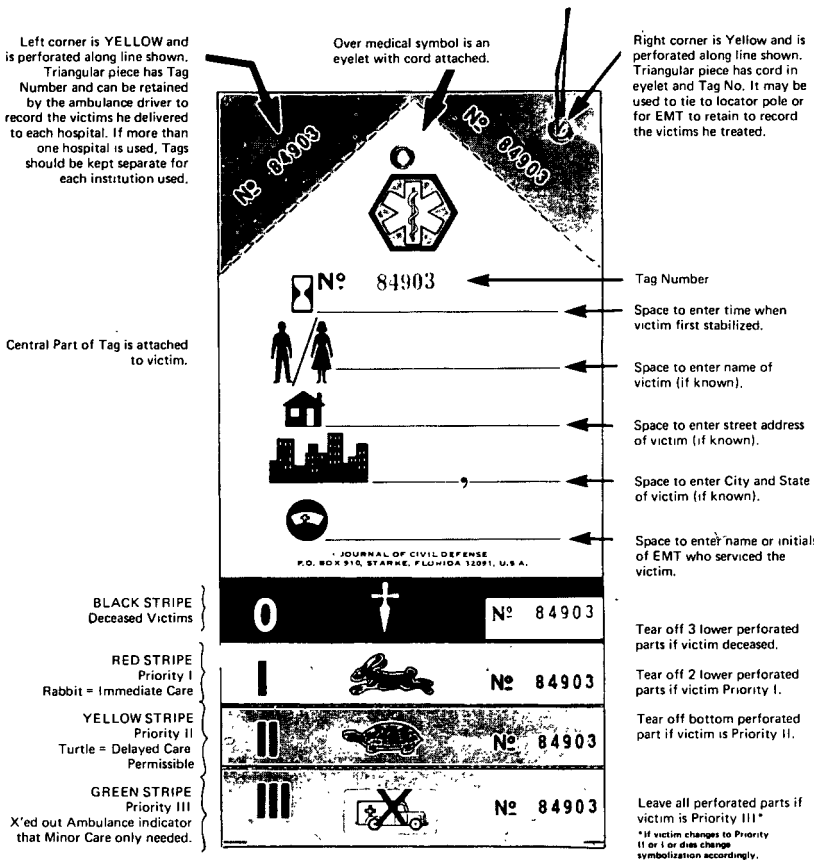


Typical Airport Grid Map

Typical Airport Grid Map

Appendix D Example of a Casualty Identification Tag which Is Suitable for Multilingual Applications

This Appendix is not a part of this NFPA recommended practice, but is included for information purposes only.



Courtesy of Journal of Civil Defense

Figure D–1 Front Side.