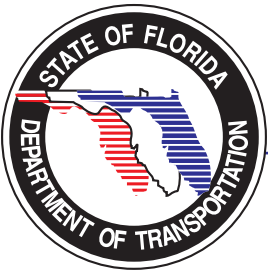


THE FLORIDA DEPARTMENT OF TRANSPORTATION

A V I A T I O N

EMERGENCY
R E S P O N S E
G U I D E B O O K



AVIATION EMERGENCY RESPONSE GUIDEBOOK

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- Miami International Airport
- Northwest Florida – Beaches International Airport
- Ocala International – Jim Taylor Field
- Orlando Apopka Airport
- Orlando International Airport
- Orlando Sanford International Airport
- Page Field
- Sarasota/Bradenton International Airport
- St. Lucie County International Airport
- Vero Beach Municipal Airport
- Wakulla County Airport
- Witham Field

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INTRODUCTION

PURPOSE OF THE AVIATION EMERGENCY RESPONSE GUIDEBOOK

The Florida Department of Transportation (FDOT) developed this *Aviation Emergency Response Guidebook* and associated materials through a cooperative effort with Florida airports to serve as a resource for both emergency-response staff at Florida's public-use airports and non-airport emergency responders. The *Guidebook* is an informational tool for airport directors and staff to use when developing, evaluating, updating, or exercising an Airport Emergency Plan, and to inform emergency responders who are not experienced with airport operations or airport emergencies.

COMPONENTS OF THE AVIATION EMERGENCY RESPONSE GUIDEBOOK

The *Aviation Emergency Response Guidebook* includes the following sections:

- Catalog of Emergency Types
- Summary of Agencies Involved in Emergency Response
- Description of Specialized Equipment Used During Aviation Emergencies
- Best Management Practices
- General Information Specific to Airport Operations
- Emergency Plan Template for Airports Not Certified in Accordance with Title 14 Code of Federal Regulations (CFR), Part 139 *Certification of Airports*
- Emergency Plan Template for Title 14 CFR, Part 139 Certified Airports
- Basic Aircraft Guide for Emergency Responders

The "Catalog of Emergency Types," "Summary of Agencies Involved," and "Description of Specialized Equipment" sections provide background information collected through a representative survey of public-use airports in Florida. These sections are intended to provide a broad overview of aviation-related emergencies, which may be helpful to those not directly involved with aviation on a regular basis.

The "Best Management Practices" (BMP) section includes procedures, policies, and ideas identified by airports in Florida that may be useful to staff at other public-use airports.

The "General Information Specific to Airport Operations" section provides information about the types of signage and pavement markings, general airport layouts, and identified hazardous areas that may be encountered on an airport facility. This section will be useful to emergency responders who are not familiar with aviation facilities.

The “Airport Emergency Plan Templates” section is intended to serve as a resource to airport staff during the development, evaluation, or update of Airport Emergency Plans (AEP). Many of the procedures, policies, and ideas identified in the Best Management Practices section of the *Guidebook* are incorporated into these templates. Due to the federal requirements associated with AEPs, separate templates have been developed for airports that are certified in accordance with Title 14 CRF, Part 139, which are generally known as air carrier airports and those that are not certified that are typically general aviation airports.

The *Aircraft Guidebook* is a tool for first responders to use to identify certain critical details about different makes and models of aircraft, such as fuel tank locations, fuel line locations, fuel capacity, battery locations, the presence of ballistic recovery parachutes, and passenger capacity. The *Aircraft Guidebook* also includes diagrams illustrating fuel and electrical shutdown procedures, manufacturer recommendations for fire suppression and hazardous conditions, and communication procedures. This guide can aid first responders by allowing them to become familiar with basic characteristics of a certain aircraft before they arrive at the site of the emergency involving an aircraft.

METHODOLOGY

Data collection efforts during the development of this *Guidebook* included a review of federal and State of Florida requirements, regulations, and guidance; discussions with aviation planners and engineers; discussions with the FDOT Aviation Office staff; discussions with emergency responders; and a representative survey of Florida airports. The representative survey was designed to collect information regarding the types of emergencies that occur both on airport property and outside of airport property, the agencies typically involved in aviation-related emergency response, the types of specialized equipment needed for aviation-specific emergencies, and the best management practices that should be incorporated into Airport Emergency Plans. The survey was administered to a sample of Florida’s public-use airports, including both airports certified in accordance with Title 14 CFR, Part 139 and non-certified airports. The airports selected to participate in the survey represent both commercial service airports and general aviation airports. Relatively small, medium, and large-sized were selected. The selected airports included facilities with turbo-jet or turbo-prop aircraft, airports with piston aircraft, airports with rotorcraft, and airports with seaplanes. The results of the survey are incorporated into the following sections of the *Guidebook*.

REQUIREMENTS AND REGULATIONS

REVIEW OF FEDERAL REQUIREMENTS

Title 14 Code of Federal Regulations (CFR) requires that all Part 139 certificated airports develop an Airport Emergency Plan (AEP). Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5200-31C *Airport Emergency Plan* provides guidance in meeting the requirements of Title 14 CFR, Part 139 and requires that all certificated airports develop and implement an AEP by June 30, 2011. For all other airports, the FAA recommends following the guidelines and standards provided in AC 150/5200-31 for the development of an AEP. Non-certificated airports must follow the guidelines provided in Homeland Security Presidential Directive 5 (HSPD-5): *Management of Domestic Incidents* and Homeland Security Presidential Directive 8 ((HSPD-8): *National Preparedness*. These federal requirements are incorporated into the various sections of this *Guidebook* as appropriate. These federal requirements are also listed in **Appendix F: Additional Resources**.

SUMMARY OF EMERGENCY TYPES

According to the National Transportation Safety Board's (NTSB) aviation accident database system, there were 777 civil aviation accidents and selected incidents in Florida from January 2005 through December 2010. The number of these accidents and incidents that involved a helicopter or airplane was 753.

According to the Federal Aviation Administration's (FAA) Accident/Incident Database System (AIDS), there were 806 civil aircraft accidents or incidents in Florida from January 2005 through December 2010. **Figure 1** shows the number aviation accidents and incidents in Florida by year. These instances ranged in severity from minor to substantial damage and included approximately 50 different aircraft manufacturers.

FAA ACCIDENT/INCIDENT DATABASE SYSTEM AVIATION ACCIDENTS & INCIDENTS IN FLORIDA	
Year	# of incidents
2005	141
2006	108
2007	131
2008	160
2009	139
2010	127
TOTAL	806

Figure 1: FAA Accident/Incident Database System:
Aviation Accident & Incidents in Florida

The number of accidents and incidents reported in the AIDS database is greater than the number reported in the NTSB aviation accident database due to the fact that the AIDS database contains reports of incidents that have not resulted in aircraft damage sufficient enough to reach the damage threshold of a NTSB accident.

In addition to the review of the FAA's Accident/Incident Database System, the survey of Florida airports sought to identify emergencies that could occur at Florida's public-use airports. While not intended to be an exhaustive list of every possible aviation-related emergency that could occur on airport property or involve an aircraft, the following is a summary of the aviation-related emergencies specifically noted by staff at Florida's public-use airports.

AIRCRAFT-SPECIFIC

ACCIDENTS

The FAA defines an accident as, "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage." These aircraft accidents vary in severity and are classified in the NTSB's aviation accident database as *Fatal* and *Nonfatal*. Both the FAA and the NTSB define a fatal injury as, "any injury that results in death within thirty days of the accident." Additionally, incidents, which are not considered accidents, are included in the database. Incidents are defined as, "an occurrence other than an accident with the operation of an aircraft, which affects or could affect the safety of operations."

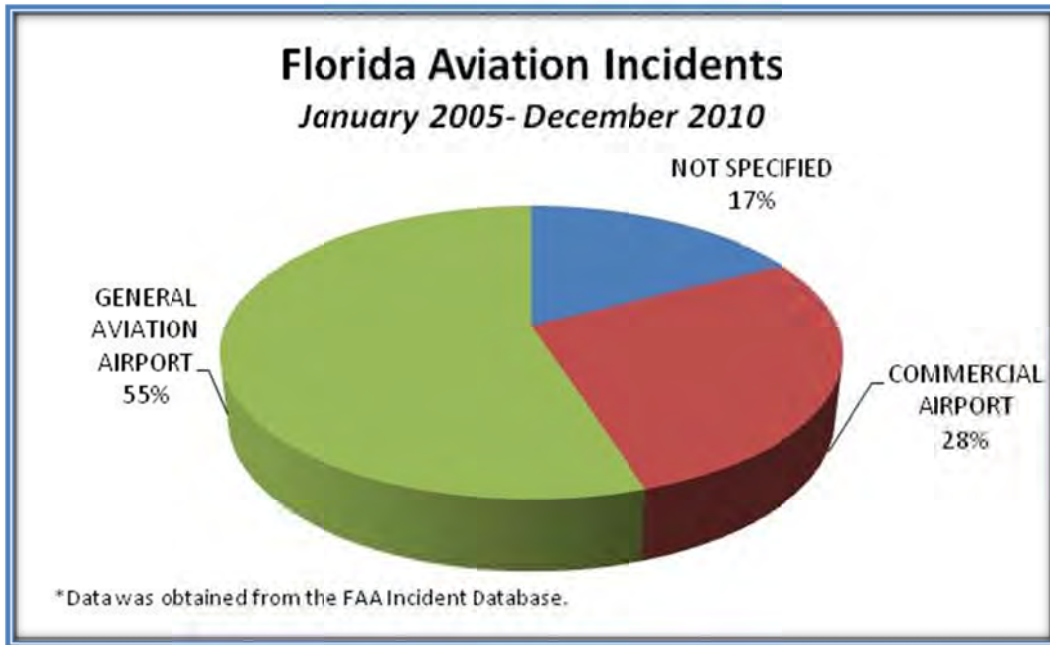


Figure 2: Florida Aviation Accidents by Category

Crashes with fatalities or fatal injuries are the worst-case scenario and require immediate first response from local fire and emergency rescue services and law enforcement officers, and response from the FAA and the NTSB. As demonstrated in **Figure 2**, the majority of aviation accidents in Florida are nonfatal. The FAA maintains a database of accidents and incidents separate from the NTSB. The FAA uses the following accident damage classification system:

- **Destroyed/demolished** - An aircraft damaged to the extent that it would be impracticable to return the aircraft to an airworthy condition.
- **Substantial damage** - Damage or failure which adversely affect the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.
- **Minor damage** - The aircraft is deemed airworthy upon completing simple repairs or replacing minor parts and an extensive inspection is not necessary. As shown in **Figure 3**, the majority of aviation incidents in Florida are considered minor.
- **None**

Although there are many factors that could result in an aircraft accident, a well-coordinated response is critical. Airport Emergency Plans should be reviewed and updated regularly and training and exercises should be designed and held with all appropriate parties to improve the ability to coordinate the response to accidents and incidents effectively and efficiently.

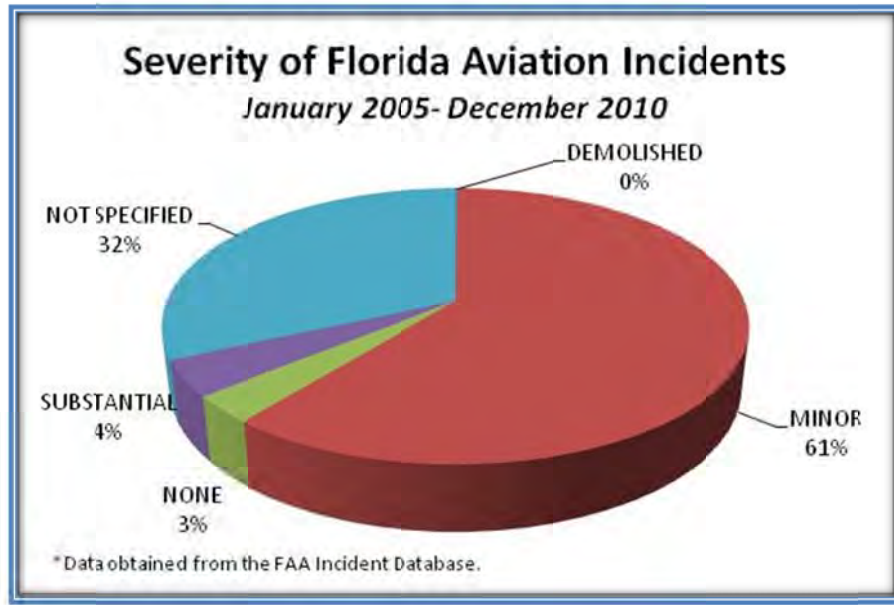


Figure 3: Severity of Florida Aviation Incidents

EQUIPMENT MALFUNCTION

During the survey of Florida airports, equipment malfunctions were the most commonly reported incidents. While usually minor in nature, these incidents occur on a daily basis and, if not responded to quickly, can cause major delays to airport operations and can potentially escalate into significant emergency situations. Common equipment malfunctions include:

- Flat Tire(s) - At least one aircraft tire is flat, making the removal of the aircraft more difficult.
- Brake Failures - Usually occur during an aircraft's landing and include lack of brake pedal pressure, a "low brake pressure" indicator light, or failure of an aircraft to slow down when the brakes are applied.
- Engine(s) on Fire - The engine is not functioning because it is on fire. **Figure 4** is a photograph of firefighters extinguishing an aircraft engine that was on fire.
- Engine(s) Out - The engine is non-responsive to the operator.



Figure 4: Fire Fighters Addressing an Aircraft Engine on Fire

- Overheated Engine(s) - The aircraft engine temperature has exceeded the normal operating temperature of the engine components.
- Gear Up During Landing- An aircraft lands with its landing gear retracted. This can either be caused by pilot error or an equipment malfunction.
- Gear Indicator Problems - Indicator lights not properly notifying the pilot if the landing gear is down.
- Gear Collapse - The gear fails during landing. **Figure 5** shows an aircraft with collapsed landing gear.
- Smoke in the Cockpit - Caused by fire or overheating of electrical components.
- Loss of Cabin Pressure - The pressure inside the aircraft cabin begins to decrease. There is a lower atmospheric pressure with less oxygen at higher altitudes and, if cabin pressure is lost, crew and passengers may begin to have altitude sickness, decompression sickness from changed barometric pressure, or develop hypoxia.



Figure 5: Landing Gear Collapse

MINOR FLIGHT INCIDENTS

As shown in **Figure 3**, the majority of aviation incidents are considered minor. During the comprehensive survey of Florida public-use airports, minor flight training incidents, usually consisting of smaller, single engine aircraft stalling on the runway or runway excursions, were identified as the most common incident on the airport facility. Although these incidents typically do not result in injury and are easy to manage and resolve, they can cause delays to airport operations while the aircraft is being relocated. Airport staff should ensure that proper equipment is available to move the aircraft in order to minimize disruptions to airport operations and to prevent the minor incident from escalating into a more significant incident.

MASS CASUALTIES

Although there is no standard definition of mass casualty, emergencies that result in twenty-five or more serious injuries or deaths are usually considered mass casualties. A mass casualty may occur with or without advanced warning and will require a major response effort. During a mass casualty event, first responders are usually overwhelmed and the need to coordinate the multiple entities involved in the response to a mass casualty adds additional stress to the situation. During mass casualty events, a triage system should be implemented. Medical equipment from a mass casualty trailer may be used when available. Photographs and a description of a mass casualty trailer can be found in **Appendix A: Specialized Equipment Photo Log**.

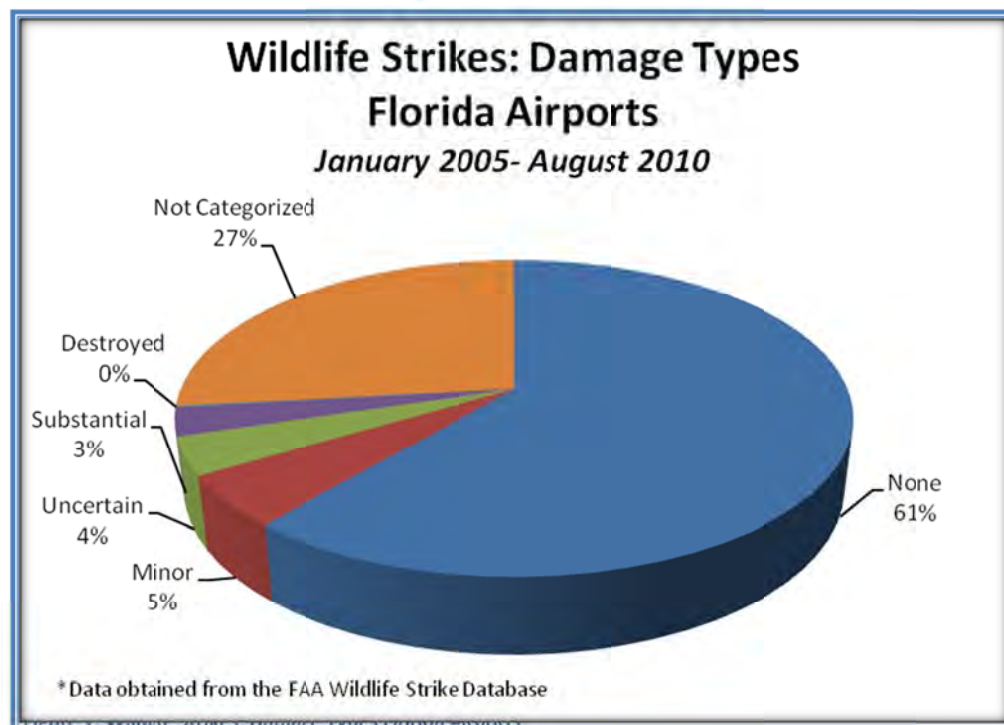
WILDLIFE STRIKES

According to the FAA Wildlife Strike Database, most wildlife strikes typically occur during an aircraft's approach to the runway and landing roll. Aircraft engines are the most common component damaged during these strikes. These strikes are significant because they can cause injuries and aircraft malfunctions. According to the FAA wildlife strike database, 209 injuries and 23 fatalities were caused by U.S. civil aircraft striking wildlife since 1990. **Figure 6** shows damage to an aircraft after a bird strike. As shown in **Figures 7,**



Figure 6: Damage to Aircraft after a Bird Strike

8, and 9, the majority of wildlife strikes cause minor or no damage to the aircraft. Most wildlife strikes are bird strikes, and most wildlife strikes occur during the landing approach phase of a flight. While wildlife strikes in themselves do not necessarily require an emergency response, they can lead to damaged aircraft and can interfere with airport operations. Damaged aircraft located on the airport runway and taxiways can potentially escalate into more significant emergency situations. A plan should be in place to resolve these situations quickly to avoid further delays to airport operation or a more severe emergency.



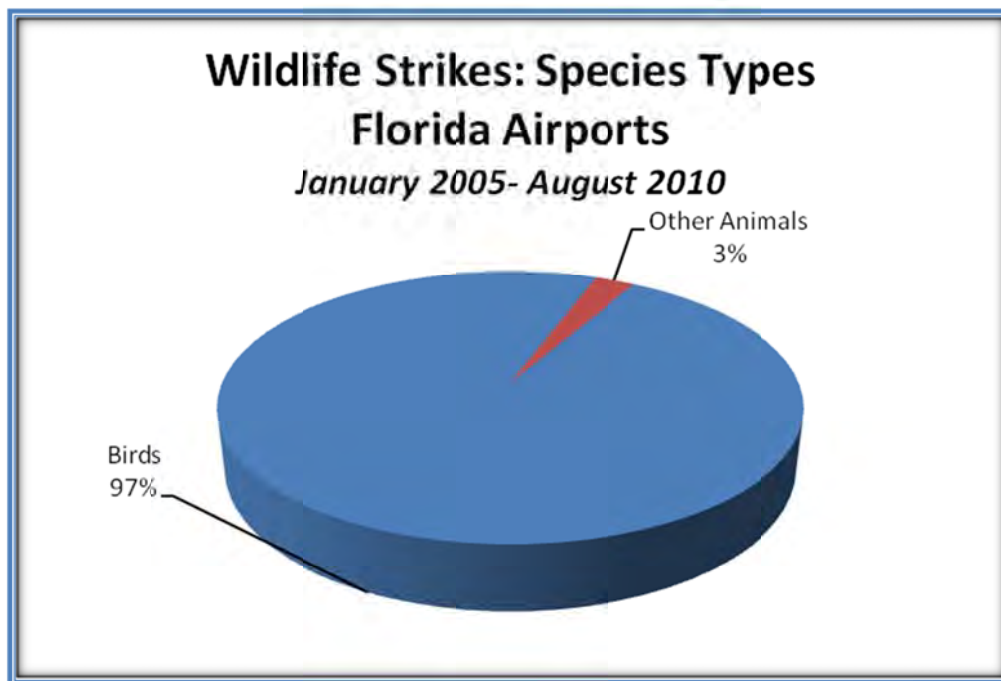


Figure 8: Wildlife Strikes: Species Types Florida Airports

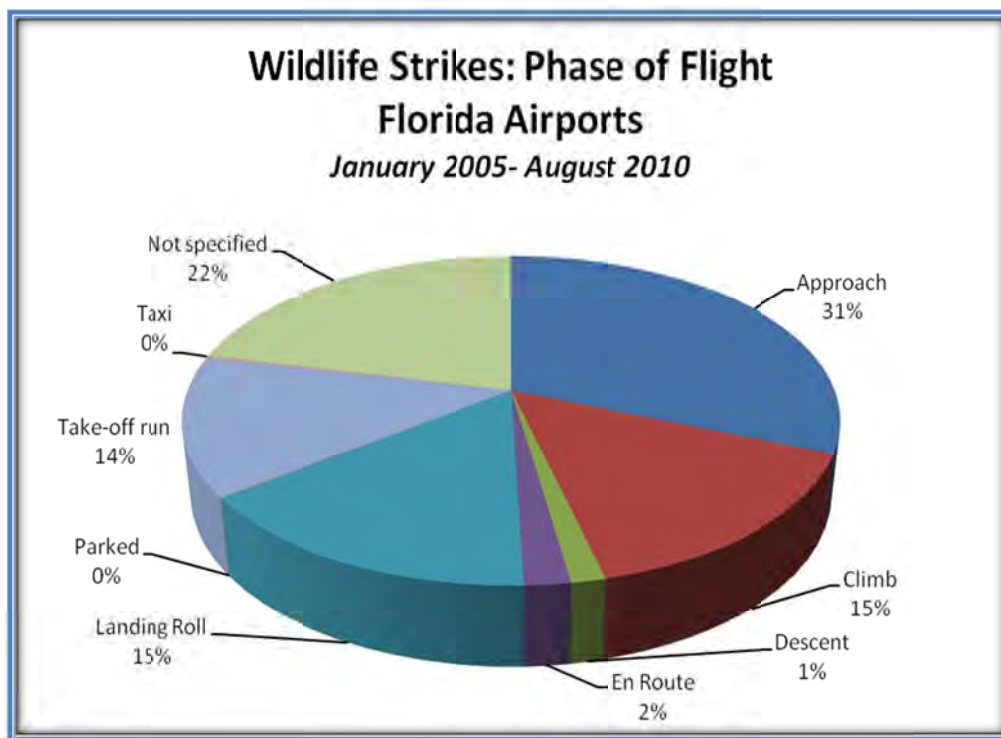


Figure 9: Wildlife Strikes: Phase of Flight Florida Airports

PROPELLER STRIKES

Propeller strikes (Prop Strikes) occur when items such as the ground, tow bars, landing lights, carts, hedges, or people come into contact with the propeller of an aircraft. Prop strikes can range from minor to significant and may or may not result in a crash. **Figure 10** shows the damage to an aircraft after a prop strike. A thorough inspection of the propeller by qualified personnel should take place anytime a propeller is subjected to an impact to prevent additional



Figure 10: Damage to Aircraft after a Prop Strike

incidents and crashes. Emergency response is needed when there is an injury caused by the prop strike or when the aircraft cannot be moved off of the runway after it has struck an object.

DIVERSIONS

A diversion (divert) refers to an aircraft that has diverted from its original destination and is forced to land at an alternate airport or facility. Diverts may be necessary for various reasons, including inclement weather near the aircraft's original destination, equipment malfunctions, low fuel indicators, or medical emergencies. While these scenarios are not likely to occur under normal circumstances, potential problems of aircraft diversions could include:

- Collisions with other aircraft on the runway.
- Large aircraft landing on a weight restricted runway.
- Runways and taxiways having insufficient length and width to handle the diverted aircraft.
- Stops and delays to other airport operations.
- Passenger logistical support including planning to provide diverted passengers with transportation, accommodations, food, restrooms, and other various necessities.

NON-AIRCRAFT SPECIFIC

SEVERE WEATHER CONDITIONS

Severe weather conditions have the potential to cause aircraft emergencies or disruptions to airport operations. In addition to any other weather hazard identified during an airport's hazard assessment, the following severe weather conditions should be addressed in an Airport's Emergency Plan (AEP):

- Heavy rain events: Precipitation falls with intensity in excess of 0.30 inches per hour.

- Hurricanes: Storm surge, flooding, high wind speeds, and debris can result in an aircraft emergency because of reduced visibility or loss of control of the aircraft or can cause damages to aircraft and structures on the airport property.
- Lightning: Lightning strikes can cause problems on airfields such as the destruction of airfield navigational aids, lighting and control systems, pavement blowouts and spalls on the surface of the pavement, the creation of foreign object debris (FOD), and fires.
- Tornadoes: High wind speeds can damage aircraft and structures on airport property. Procedures for protecting aircraft and quickly cleaning up debris should be addressed in the AEP.

SECURITY

The roles and responsibilities of various entities, contact information, and the response procedure for responding to the following security threats should be addressed in an airport's emergency plan.

- Hijacking threats: According to the Aircraft Piracy Act, damaging an aircraft, placing or bringing a destructive device or substance onto an aircraft, damaging or interfering with an air navigation facility or equipment used in the operation of an aircraft, committing an act of violence against an individual on an aircraft, or making threats or statements that are false about the safety of an aircraft that is in flight are all considered hijacking. The Federal Bureau of Investigation (FBI) is the lead agency when the hijacking or hostage emergency occurs while the aircraft is on the ground, but the FAA has jurisdiction when the emergency occurs while the aircraft is in-flight.
- Bomb threats: Bomb threats can be specific or non-specific. Specific threats indicate that a bomb has been placed in a given location. A non-specific threat is when there has been a hint about an explosive threat from an outside person or if an explosive has been found with a detection agent, such as a trained bomb detection dog. The FBI is the lead agency for all bomb threat investigations and should be notified immediately of the situation.

FIRES/FIRE ALARM ISSUES

Fires can damage aircraft and structures on the property, and smoke from nearby fires can interfere with daily airport operations. Proper maintenance of fire alarm systems will limit the occurrences of false alarms and regular coordination and training with firefighting personnel can ensure a quick response to actual structural fires. Airports with large tracts of undeveloped forest lands should consider coordination with local forest services to coordinate controlled burns of the property to limit the chance of wildfires.

WILDLIFE PROBLEMS

In addition to animal strikes having the potential to cause severe damage to aircraft, wild boars and other wildlife can root up the edges of runways and taxiways, weakening the pavement and leading to the creation of foreign object debris (FOD). Animals such as deer, dogs, and alligators can cause delays if they access the runway and interfere with airport operations. The proper agreements with animal control entities should be formalized and included in the AEP.

HAZARDOUS MATERIALS

Hazardous material spills or soil contamination can result from aircraft accidents or incidents at the airport. Precautions should be made to limit or prevent exposure to hazardous materials and contamination sites.

AEPs need to include contact information for agencies involved in the cleanup of hazardous materials and methods to address the aftermath of emergencies involving hazardous materials, such as foam and hydrocarbon cleanup after a fire on the runway. Strategies and procedures need to be developed to contain the flow of hazardous materials after an emergency at the airport and to repair bituminous pavements if they are damaged by the spills.

MEDICAL

Medical emergencies can occur at the airport terminal or on board an aircraft. These situations can vary in intensity and may require immediate emergency response procedures. Significant medical emergencies can include but are not limited to cardiac arrest, stroke, choking, or elderly people falling. The AEP should clearly identify the entities responsible for medical services and outline the procedures for contacting them in the event of a medical emergency.

UNTRAINED/INEXPERIENCED FIRST RESPONDERS

All personnel responding to an aviation emergency may not be familiar with standard airport operations and procedures. Such responders can potentially cause delays or additional emergency situations by entering restricted parts of the airfield, not yielding to aircraft using the airfield, or by being unfamiliar with aircraft or equipment specific to aviation. Proper education and training in airport operations and procedures will help mitigate these problems.

AGENCIES INVOLVED

The following is a summary of the agencies that are regularly involved in the response to aviation-related emergencies. Because the agencies involved in an aviation-related emergency may vary depending on the nature of the emergency, size of the airport facility, or organizational structure of the airport, the following is not intended to be an exhaustive list of all agencies that could be involved in the response to an aviation-related emergency. However, the roles of the following entities should be considered during the evaluation, update, or development of an Airport Emergency Plan (AEP). Establishing emergency mutual assistance compacts (EMAC) or memoranda of understanding (MOUs) with the following entities, specifically local governmental agencies and private-sector contractors and businesses, may also be appropriate. Example EMACs and MOUs are included in **Appendix C: Example Mutual Assistance Compact/Memorandum of Understanding**.

CITY AND COUNTY GOVERNMENTS

Depending on the organizational structure of the airport, local public works departments may assist with the cleanup of debris on airport property. Airports that do not have local law enforcement or Aircraft Rescue Fire Fighting (ARFF) facilities on-site often have contractual agreements with the local city or county to provide these services. Some airports coordinate with a local city's or county's emergency management department to help when an aircraft emergency occurs. Additionally, city and county officials can aid the airport staff during an aviation-related emergency.

LOCAL POLICE/SHERIFF'S DEPARTMENTS

Local police or sheriff's departments often respond to emergencies at the airport, particularly when the airport does not have law enforcement stations located on-site. Depending on the organizational structure of the airport, local law enforcement agencies may be responsible for the enforcement of local, state, and federal laws, including Federal Transportation Security Administration (TSA) rules and regulations. Local police and sheriff's departments can also provide medical response to victims, coordinate with fire departments to respond to emergency situations, assess and coordinate security threats with federal agencies, and perform search and rescue functions.

AIRCRAFT RESCUE FIRE FIGHTING (ARFF) AND LOCAL FIRE DEPARTMENTS

The local fire department serves as the first responder for most airports in Florida without an on-site ARFF facility. Airports with an on-site ARFF facility typically rely on these facilities for response to aircraft emergencies instead of a local fire department. ARFF and local fire department crews are typically involved in aircraft rescue and firefighting, structural fire protection, emergency medical services, and fuel safety operations. Additionally, these

crews may be involved in the prevention of airport emergencies through inspections and corrective actions necessary for compliance with life safety codes and fire codes.

OFFICE OF CORONER/MEDICAL EXAMINER

Sometimes the job titles of “Coroner” and “Medical Examiner” are used interchangeably. The coroner is a medical professional who performs autopsies and conducts pathological and toxicological analyses. A coroner can be employed by a medical facility, local law enforcement office, or government agency.

A deputy coroner also works in the office of the coroner and is a public official, elected by the community or appointed by a local or state executive body, who determines the causes of death. The deputy coroner is responsible for the investigation, as well as the administrative tasks, associated with deaths. During investigations, the deputy coroner will identify human remains, operate crime scene equipment, and determine the cause of death. A deputy coroner’s administrative tasks include completing necessary paperwork, including death certificates, and interviewing family members of the deceased in order to obtain information that may be helpful in finding the cause of death. The deputy coroner assists the coroner with investigations and acts as a liaison between law enforcement and the morgue.

FEDERAL AVIATION ADMINISTRATION (FAA)

The FAA is the primary entity to contact regarding an aviation-related accident or incident. Depending on whether the situation meets the criteria outlined in 49 CFR 830 *Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records*, the National Transportation Safety Board (NTSB) may require immediate notification as well.

The Aviation Safety Hotline is a 24-hour safety hotline available for the reporting of maintenance improprieties, aircraft incidents, suspected unapproved parts, and Federal Aviation Regulation violations. The hotline number is (800) 255-1111.

The Office of Accident Investigation and Prevention is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the NTSB. The mission of the Office of Accident Investigation and Prevention is to improve safety by collaboratively developing safety enhancements with the FAA and the aviation community based on the identification of hazards, evaluation of risk, and by monitoring the effectiveness of risk mitigations.

In addition to the role of the Office of Accident Investigation and Prevention, the FAA is also involved in other prevention and mitigation activities related to aviation emergencies. The Airport Safety and Operations Division holds primary responsibility for:

- The safety and certification of airports (Part 139 Certification of Airports).
- Airport operations and safety practices [Safety Management System (SMS) - Part 139 SMS] including:
 - Aircraft rescue and firefighting,
 - The mitigation of wildlife hazards (Wildlife Hazard Mitigation Program).
- Promotion of emergency operations, emergency management planning, and damage control at civil airports.
- Federal activities at airports and their restoration after attack or a natural disaster.

NATIONAL TRANSPORTATION SAFETY BOARD (NTSB)

The NTSB investigative process is focused on improving transportation safety, and is centered on operations, structures, powerplants, systems, air traffic control, weather, human performance, and survival factors. Depending on the emergency situation, representatives from these areas of expertise, under the direction of the Investigator-in-Charge (IIC) form the “Go Team,” which performs the investigation of a major accident at the accident scene. The NTSB does not investigate criminal activity. The NTSB surrenders lead status on a transportation accident if the U.S. Attorney General, in consultation with the Chairman of the Safety Board, notifies the Board that circumstances reasonably indicate that the accident may have been caused by an intentional criminal act.

Per 49 CFR Part 830, the NTSB should be notified immediately when an aircraft accident or any of the following situations occur:

- Flight control system malfunction or failure.
- Inability of any required flight crewmember to perform normal flight duties as a result of injury or illness.
- Failure of structural components of a turbine engine excluding compressor and turbine blades and vanes.
- In-flight fire.
- Aircraft collision in flight.
- Damage to property, other than the aircraft, estimated to exceed \$25,000 for repair (including materials and labor) or fair market value in the event of total loss, whichever is less.
- For large multi-engine aircraft (more than 12,500 pounds maximum certificated takeoff weight):

- In-flight failure of electrical systems which requires the sustained use of an emergency bus powered by a back-up source such as a battery, auxiliary power unit, or air-driven generator to retain flight control or essential instruments.
- In-flight failure of hydraulic systems that results in sustained reliance on the sole remaining hydraulic or mechanical system for movement of flight control surfaces.
- Sustained loss of the power or thrust produced by two or more engines.
- An evacuation of an aircraft in which an emergency egress system is utilized.
- Release of all or a portion of a propeller blade from an aircraft, excluding release caused solely by ground contact
- A complete loss of information, excluding flickering, from more than 50% of an aircraft's cockpit displays known as:
 - Electronic Flight Instrument System (EFIS) displays.
 - Engine Indication and Crew Alerting System (EICAS) displays.
 - Electronic Centralized Aircraft Monitor (ECAM) displays.
 - Other displays of this type, which generally include a Primary Flight Display (PFD), Primary Navigation Display (PND), and other integrated displays.
- Airborne Collision and Avoidance System (ACAS) resolution advisories issued either:
 - When an aircraft is being operated on an instrument flight rules flight plan and compliance with the advisory is necessary to avert a substantial risk of collision between two or more aircraft
 - To an aircraft operating in Class A airspace
- Damage to helicopter tail or main rotor blades, including ground damage that requires major repair or replacement of the blade(s).
- Any event in which an operator, when operating an aircraft as an air carrier at a public-use airport on land:
 - Lands or departs on a taxiway, incorrect runway, or other area not designed as a runway.
 - Experiences a runway incursion that requires the operator or the crew of another aircraft or vehicle to take immediate corrective action to avoid a collision.
- An aircraft is overdue and is believed to have been involved in an accident.

When an aircraft emergency meets the criteria outlined in 49 CFR 830 *Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records*, the NTSB must be notified immediately. The NTSB notification should include the following information:

- Type, nationality, and registration marks of the aircraft.
- Name of owner, and operator of the aircraft.

- Name of the pilot-in-command.
- Date and time of the accident.
- Last point of departure and point of intended landing of the aircraft.
- Position of the aircraft with reference to some easily defined geographical point.
- Number of persons aboard, number killed, and number seriously injured.
- Nature of the accident, the weather, and the extent of damage to the aircraft, so far as is known.
- A description of any explosives, radioactive materials, or other dangerous articles carried.

The NTSB publication, *Responding to an Aircraft Accident – How to Support the NTSB* provides guidance for police and public safety personnel on how to support the NTSB during the response to an aircraft accident or incident. This publication is included as **Appendix E: NTSB Accident Form and Responding to an Aircraft Accident Checklist** of this document.

CIVIL AIR PATROL

The Civil Air Patrol (CAP) is a civilian corporation chartered by United States Congress. The CAP members are volunteers who pay dues and serve the United States as the auxiliary to the United States Air Force (USAF). The CAP is organized into eight geographic regions, and each state within a region represents one wing. The Florida Wing is located in the Southeast Region.

CAP's emergency services include air and ground search and rescue (SAR), disaster relief, counterdrug operations and an increasing role in homeland security. The primary mission of the Emergency Services (ES) of the CAP is to save lives and relieve human suffering. Only CAP members who are properly trained or qualified are allowed to participate in actual ES missions.

The CAP wing commander usually assigns a SAR mission to the unit nearest to the area of operations. Because the unit will have knowledge of the terrain in the search area and may have prior relationships with the neighboring emergency response agencies, a quick response usually ensues.

Over 90 percent of the search and rescue missions performed by the Southeast Region CAP are directed by the Air Force Rescue Coordination Center (AFRCC) at Tyndall Air Force Base near Panama City, Florida. The AFRCC is tied to the FAA's alerting system and the U.S. Mission Control Center. When a call is received, the type of response needed can be determined. The AFRCC coordinates with federal, state, and local officials and will request support from the suitable search and rescue agency, including the CAP or the U.S. Coast Guard.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

The Environmental Protection Agency's National Response System (NRS) may be involved in an oil or hazardous substance release when the release is beyond the capabilities of local and state responders. The NRS is run by the National Contingency Plan (NCP), which guarantees that the resources and guidance from experienced federal government employees are available immediately after an oil or hazardous substance release. The EPA serves as the lead agency within the National Response Team (NRT), which is established by the NCP. If any oil or hazardous substance is spilled, the NRC must be notified. The EPA coordinates the response and "authorizes the lead agency to initiate appropriate removal action in the event of a hazardous substance release" according to NCP 300.415(b).

MILITARY AND NATIONAL GUARD

Staff at military installations, such as the Air Force, Navy, Army, and Coast Guard bases, or National Guard installations located in the vicinity of the airport may provide assistance during emergency situations. Assistance can be provided in the form of personnel, locating and identifying the aircraft type, search and rescue operations, or by providing specialized equipment.

FEDERAL BUREAU OF INVESTIGATION (FBI)

The FBI plays a significant role in the investigation of aircraft crashes. The FBI investigates the actual cause of the crash, and is also involved in determining if the aircraft crash was caused due to criminal acts or terrorism. The FBI may hold a press conference about the crash in order to inform the public and media outlets of available information. If a hijacking or hostage situation occurs on an aircraft that is still on the ground, the FBI has authority over the emergency. If a hijacking or hostage situation occurs on an aircraft in-flight, the FAA has jurisdiction.

NON-GOVERNMENTAL ORGANIZATIONS (NGO)

A non-governmental organization (NGO) is a non-profit group comprised of citizen volunteers that can be organized on a local, state, national, or international level. Most NGOs are funded by sponsors or donors in order to run day-to-day. These agencies provide relief during disasters by providing food, shelter, and medical aid at no cost to the victims in a time of need. The American Red Cross and Salvation Army are the NGOs that are frequently involved in aircraft crashes.

STATE AGENCIES

State agencies that may provide assistance during emergency situations include the Florida Department of Environmental Protection (FDEP), Florida Division of Emergency Management (FDEM), the Florida Department of

Transportation Aviation Office, and the Florida Division of Forestry, which can assist with the containment of wildfires. These agencies may provide assistance in the form of personnel, expertise, and coordination. During an emergency that extends beyond the capabilities of the local government, the Florida Division of Emergency Management's Emergency Operations Center may be activated. The Florida Department of Transportation serves as the primary agency for Emergency Support Function 1 (ESF-1: Transportation), with assistance from the Florida Wing of the Civil Air Patrol and various state and local agencies, as appropriate to the scale and nature of the emergency.

FIRE MARSHAL'S OFFICE

The Division of State Fire Marshal is the lead state agency responsible for the management and staffing of Emergency Support Function (ESF) 4 (Firefighting) and ESF 9 (Search and Rescue) at the State Emergency Operations Center (EOC). This agency will verify requests for resources and information from the local government where the accident or incident has occurred, and will make sure appropriate assistance is provided. The Fire Marshal's office will also order, track, document, and estimate the costs of the resources, and will make sure relief is provided for any resource needed for an extended operation.

AIRPORT STAFF

Airport Staff will vary depending on the type and size of the airport. The airport manager will typically be involved throughout the response to aviation-related emergencies. Other airport staff, including the deputy airport director, operations and public safety, maintenance, and administrative support, may be involved, depending on the extent and nature of the emergency.

AIR TRAFFIC CONTROL TOWER (ATCT) FACILITY STAFF

The Air Traffic Control Tower (ATCT), if present on an airport, communicates either via radio or light signals (if the radio fails) with aircraft arriving and departing the airport, as well as with all vehicles operating in the movement area of the airfield. The ATCT receives normal operational information from pilots as well as information from a pilot in the event of an emergency. The controller can contact first responders in the event of an aircraft emergency. Under 14 CFR 139.319 *Aircraft Rescue and Firefighting: Operational Requirements*, ARFF vehicles must be equipped with two-way voice radio communications that provide contact with the ATCT.

AIRPORT TENANTS

An airport tenant is defined as "a person or organization occupying space or property on an airport under a lease or other agreement." Airport tenants may focus primarily on the needs of airport visitors and passengers or may

cater more to the needs of the aircraft at the airports. Examples of airport tenants include airlines, stores, restaurants, and rental car companies as well as tenants involved with fueling, parking, and servicing of aircraft.

AIRLINE(S)

The airline involved in the aircraft accident is responsible for supplying detailed information about the aircraft, flight, and crew, involved in the aircraft accident to the public. The involved airline should also set up a toll-free number to provide information to family members, as well as to obtain contact information from the family members. The airline may also provide support for family members who would like to travel to the accident site or hospital locations. An individual who has authority to make decisions on behalf of the airline will serve as the airline's representative, and will travel to various locations with the Deputy Director of Family Affairs.

FIXED-BASE OPERATORS (FBOS)

The FAA defines a fixed-base operator as "an individual or firm operating at an airport and providing general aircraft services such as maintenance, storage, aircraft fueling, and flight instruction." Some FBOs have amenities for pilots and passengers such as flight planning, catering, restrooms, ground transportation, showers, sleeping areas, and wireless internet access. FBOs with the acceptable equipment may provide assistance after an aircraft-related emergency in the form of aircraft removal or aircraft maintenance, depending on the size and nature of the situation.

HOSPITALS & BURN CENTERS

Hospitals and burn centers are major entities involved with the medical response needed after an aircraft accident occurs. Many aircraft accident victims may need to be taken to burn centers when an aircraft crashes and ignites the remaining fuel, which can burn the passengers and crew.

AMBULATORY SURGERY CENTERS (ASC) & DOCTORS' OFFICES

An Ambulatory Surgery Center (ASC), also known as an outpatient surgery center, is an entity that operates exclusively for the purpose of providing surgical services to patients not requiring hospitalization. During an aircraft emergency, these facilities can be utilized to treat non-life threatening injuries when major facilities such as hospitals and burn centers are overwhelmed with major injuries and casualties.

MENTAL HEALTH PROFESSIONALS

Mental health professionals respond to the surviving victims, the responders, and family of the victims of aircraft accidents in order to help them cope with the trauma. In events with numerous victims, a pre-arranged response team comprised of mental health professionals should be deployed. Mental health professionals can be privately employed or employed by a government agency. The Green Cross Academy of Traumatology (GCAT) is an international, humanitarian assistance, non-profit corporation comprised of trained traumatologists and compassion fatigue service providers that may be involved in response after an aircraft accident. Most of its members are licensed mental health professionals.

MORGUES & FUNERAL HOMES

When an aircraft accident results in fatalities, the bodies are taken from the crash scene to the morgue, and then to the family's preferred funeral home. At the morgue the cause of death and identification of the body are determined. Information can be collected and documented at the morgue for additional analysis.

CLERGY

The clergy consists of men and women ordained as religious ministers, pastors, priests, rabbis, and imams. Clergy can usually contribute to assisting traumatized victims and family members after an aircraft accident. Clergy can often re-establish a traumatized person's belief system, helping them to cope with the event.

TRANSPORTATION SECURITY ADMINISTRATION (TSA)

At the majority of Florida airports, the role of the TSA is primarily related to Department of Homeland Security (DHS) activities and airport checkpoints, including intelligence gathering and analysis, checking passenger manifests against watch lists, random canine team searches, federal air marshals, federal flight deck officers, and the screening of baggage and passengers. During an emergency situation, the role of TSA officers would primarily be controlling access to sterile and security identification display areas (SIDA).

OTHER ENTITIES

Other entities that can provide assistance during emergency situations include:

- Various private contractors and businesses.
- Local disaster services.
- Hazardous materials cleanup services.

These groups can provide assistance with debris and contaminated soil removal, knowledge and expertise, or removal of aircraft. Airport staff should evaluate their current capabilities and form partnerships or contract agreements with other entities as appropriate. As needed, these partnerships can be formalized through agreements such as mutual assistance compacts and memoranda of understanding. Consideration should be given to involving these entities during trainings and exercises.

GENERATED EMERGENCY RESPONSE FLOW CHARTS

The following flow charts depict the generalized agency involvement in a variety of aviation emergency situations:

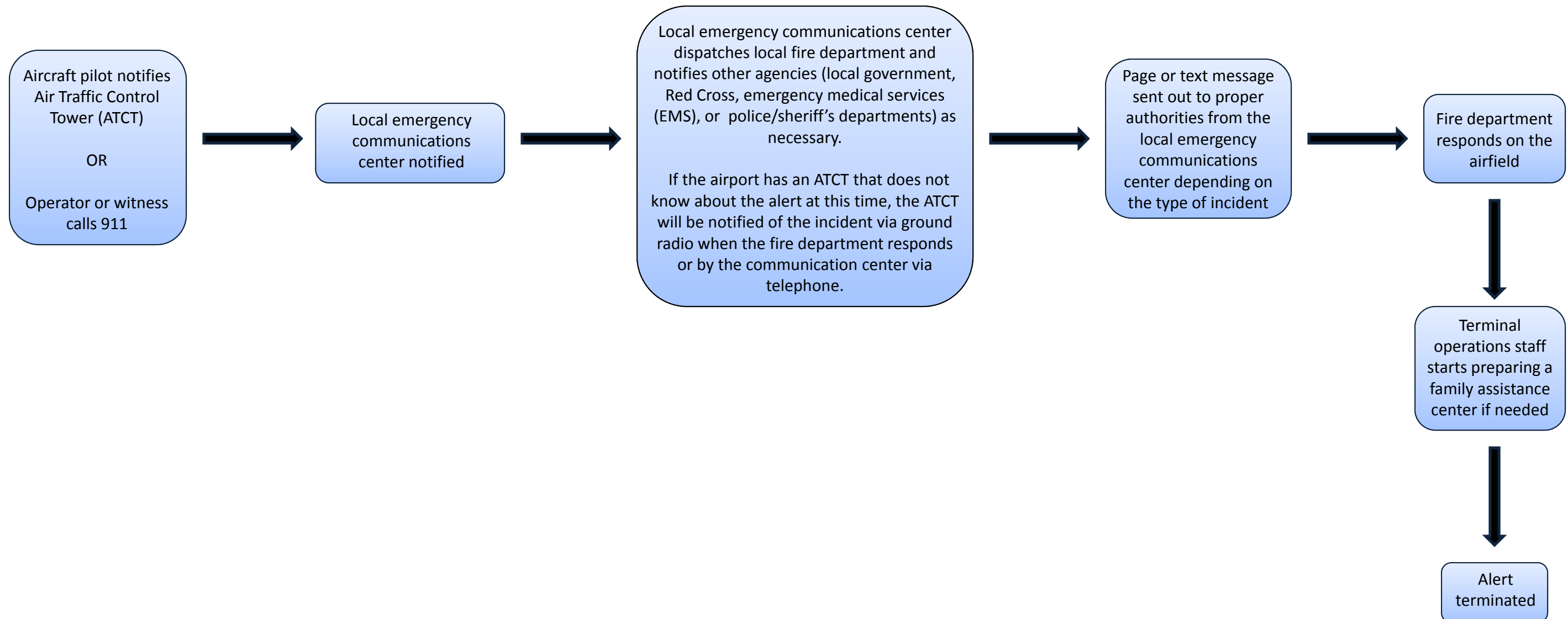
- **Figure 11:** Alert on the Ground
- **Figure 12:** Alert I - Minor Problem
- **Figure 13:** Alert II - Major Difficulty
- **Figure 14:** Alert III - Actual Accident (Off-Airport)
- **Figure 15:** Alert III – Actual Accident (On-Airport)

GENERATED EMERGENCY RESPONSE FLOWCHART

FIGURE 11

ALERT ON THE GROUND

ALERT ON THE GROUND REFERS TO WHEN THE AIRCRAFT IS LOCATED ON THE GROUND ON AIRPORT PROPERTY



GENERATED EMERGENCY RESPONSE FLOWCHART

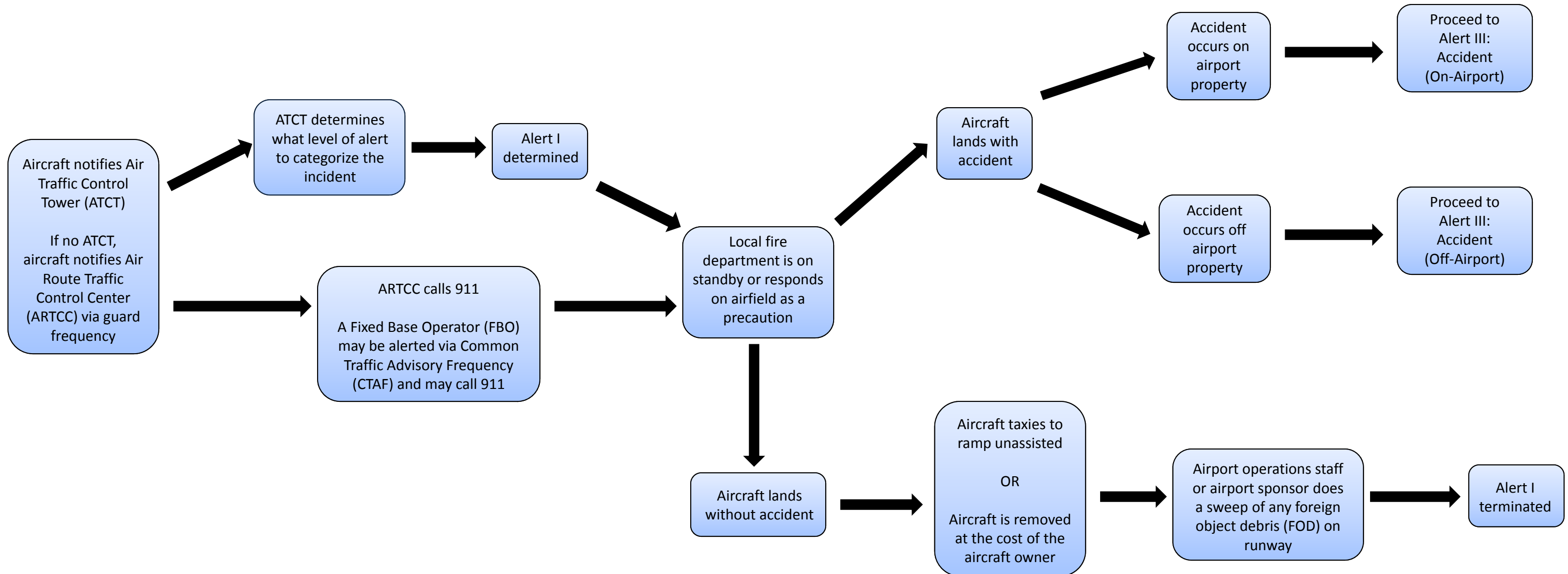
FIGURE 12

ALERT I - MINOR PROBLEM

INCLUDES:

- FUEL OR OIL LEAK
- ONE ENGINE OUT ON A THREE OR FOUR ENGINE AIRCRAFT
- ONE ENGINE OUT ON A TWIN ENGINE GENERAL AVIATION AIRCRAFT WEIGHING < 12,500 LBS.

NOTE: OPERATIONS PERSONNEL MAY CATEGORIZE AN ALERT I AS AN ALERT II AS A PRECAUTIONARY EFFORT



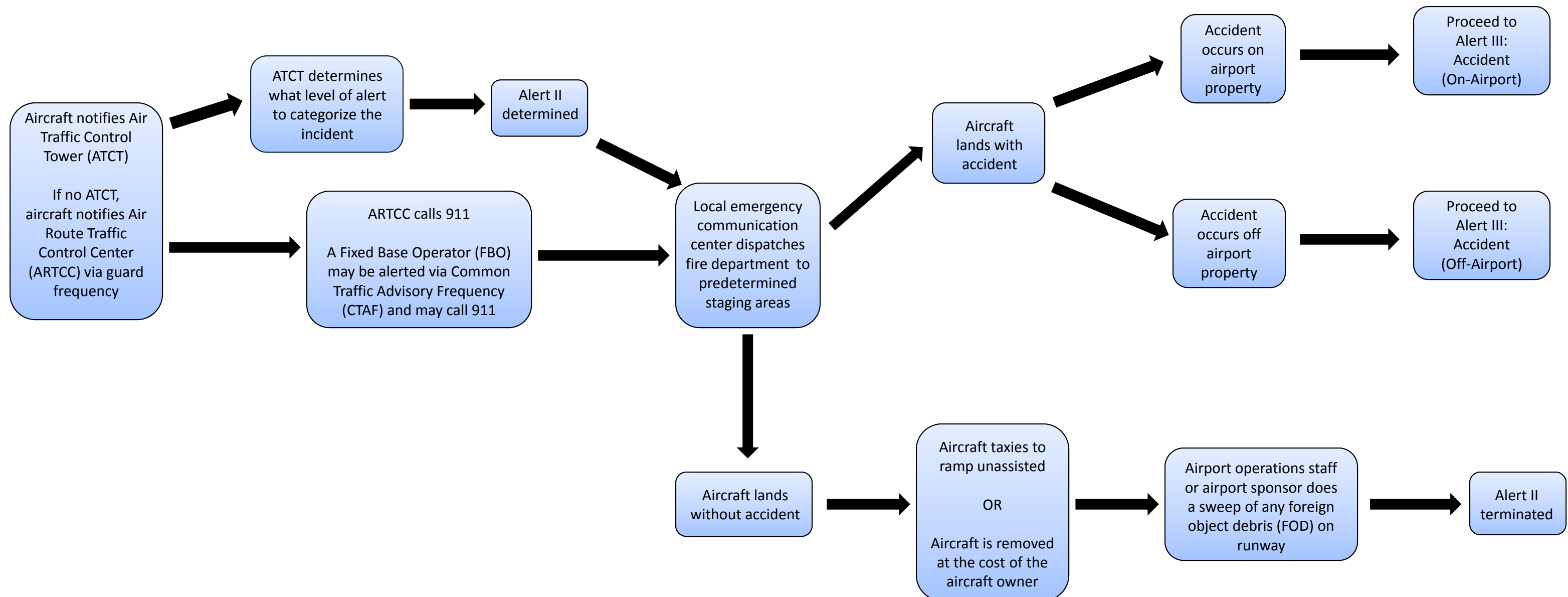
GENERATED EMERGENCY RESPONSE FLOWCHART

FIGURE 13

ALERT II - MAJOR DIFFICULTY

INCLUDES:

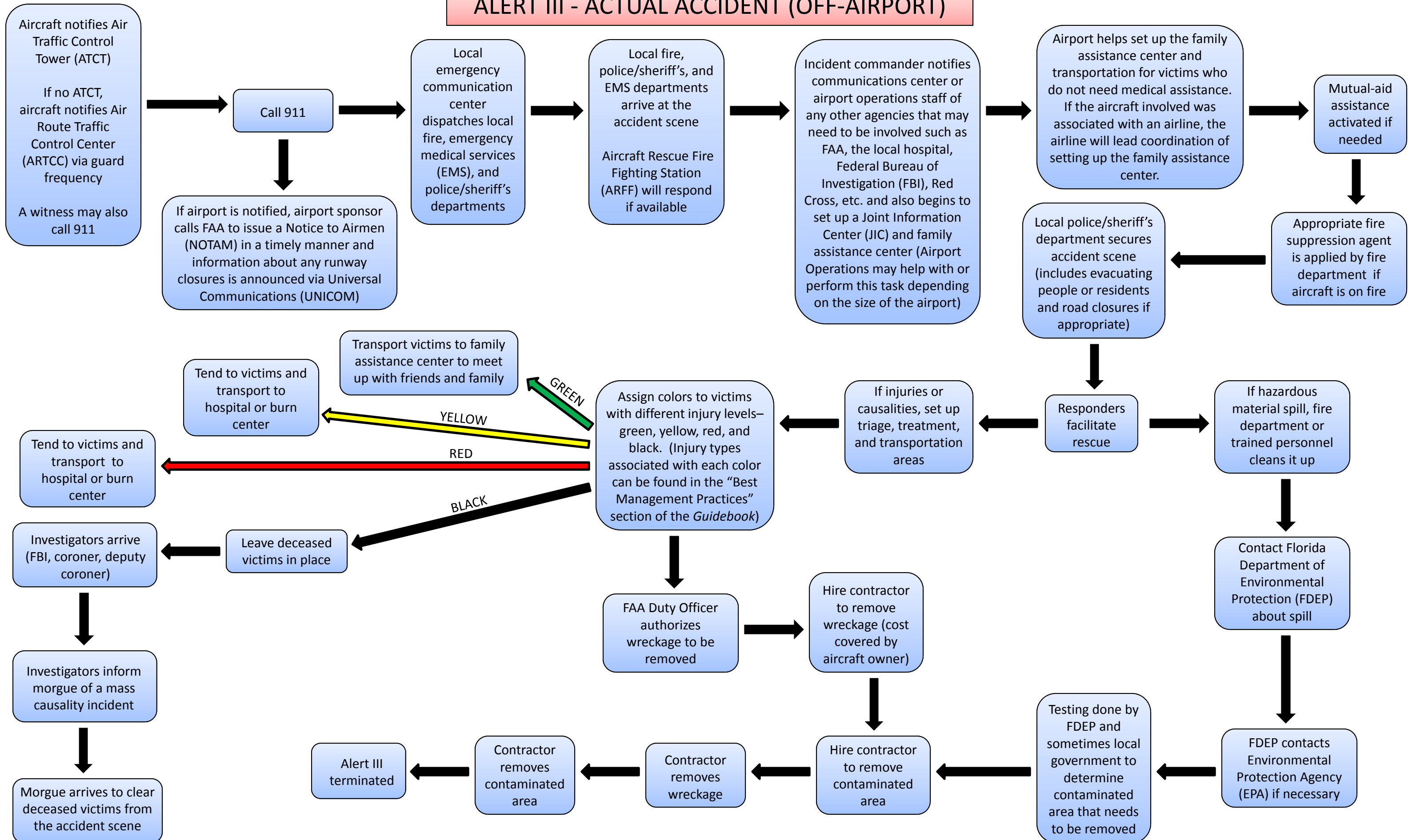
- SMOKE IN THE CABIN
- ENGINE ON FIRE
- FAULTY LANDING GEAR
- LOSS OF HYDRAULIC PRESSURE
- ONE ENGINE OUT ON A TWIN ENGINE AIRCRAFT WEIGHING > 12,500 LBS.



GENERATED EMERGENCY RESPONSE FLOWCHART

FIGURE 14

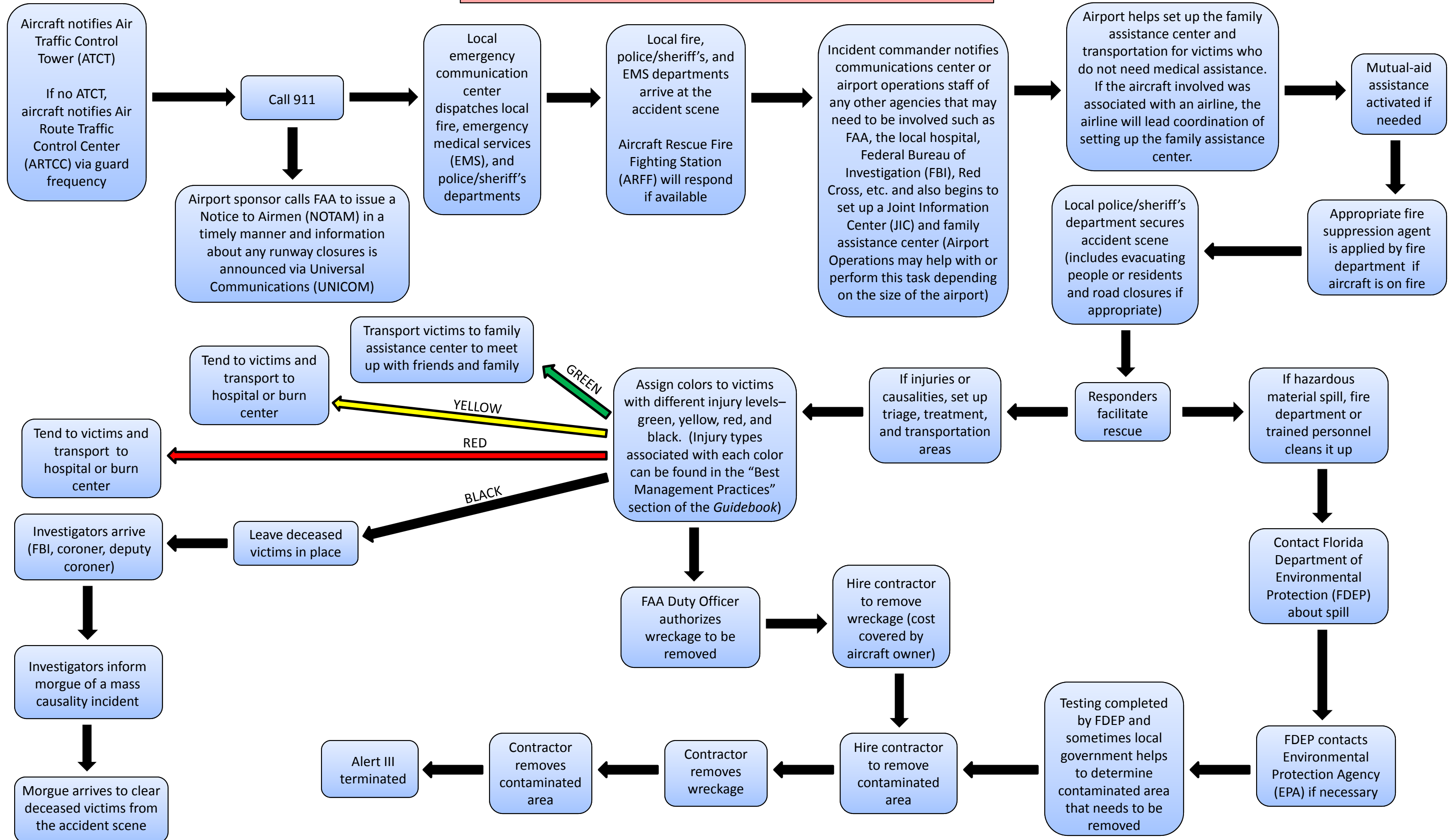
ALERT III - ACTUAL ACCIDENT (OFF-AIRPORT)



GENERATED EMERGENCY RESPONSE FLOWCHART

FIGURE 15

ALERT III - ACTUAL ACCIDENT (ON-AIRPORT)



SPECIALIZED EQUIPMENT NEEDED FOR AVIATION SPECIFIC EMERGENCIES

Due to the nature of aviation-related emergencies, specialized equipment is needed for certain types of incidents and accidents. The size and weight of an aircraft, the amount of fuel capable of being stored on an aircraft, the number of passengers aboard, and the design of aircraft components differentiate aviation-related emergencies from other types of emergencies. The *Basic Aircraft Guide for Emergency Responders* developed in conjunction with this *Aviation Emergency Response Guidebook* provides aircraft specifications relevant to emergency response. Specialized equipment that may be necessary for aviation related emergencies can generally be classified into the following categories:

- Communication equipment
- Debris/aircraft removal and cleanup equipment
- Equipment to extract victims from aircraft wreckage
- Fire/Aircraft Rescue Fire Fighting (ARFF) equipment
- Emergency response gear
- Emergency response vehicles and trailers
- Evidence equipment
- Fire extinguishing agents
- Heavy equipment
- Medical equipment
- Water rescue equipment
- Commonly identified needs

Florida's airports have a range of different equipment. Some airports have a fire/ARFF station on-site, while other airports rely on city or county fire response. Depending on the size and number of airport operations, it may not be feasible for certain airports to purchase and own all of the necessary emergency response equipment. Consideration should be given to developing mutual assistance compacts and memoranda of understanding with local emergency response agencies for use of their equipment during an emergency response involving the airport. Example mutual assistance compacts and memoranda of understanding are included in **Appendix C: Example Mutual Assistance Compact/Memorandum of Understanding**. The following is a list of specialized emergency response equipment commonly used during aviation emergencies in Florida. More detailed descriptions and photographs of the specialized equipment needed for aviation specific emergencies are included in **Appendix A: Specialized Equipment Photo Log**.

COMMUNICATION EQUIPMENT

- Cell phones – Cell phones are used to relay information via voice or via text messaging
- Light guns – In the case of radio failure, a signal lamp or light gun can be used by the air traffic control tower to communicate with an aircraft in flight, an aircraft on the ground, or a group of vehicles and personnel
- Ring down phones – A direct line phone between at least two groups that need to be immediately notified of an aircraft emergency
- Satellite phones – Satellite phones can be used virtually anywhere, even if there is no cell phone reception
- Ultra High Frequency (UHF) Military Aviation Band – 225 to 400 MHz radios – UHF bandwidths do not refract off of the ionosphere, and are less likely to be affected by interference than VHF bandwidths. UHF radios are smaller and more reliable than VHF radios.
- Very High Frequency (VHF) Civil Aviation Band radios – 108 to 137 MHz – VHF bandwidths use amplitude modulation (AM), which is prone to static interference

DEBRIS/AIRCRAFT REMOVAL & CLEANUP EQUIPMENT

- Air lifting bags – Air lifting bags aid in lifting and stabilizing an aircraft and keeping it from rolling, sliding, shifting, twisting, or collapsing
- Aircraft removal jacks and dollies – Jacks and dollies can be used to move aircraft or large debris from the runway. A wheel dolly is shown in **Figure 16**.
- Come-along – A come-along allows heavy loads to be moved by hand
- Cribbing – Cribbing is used to stabilize an aircraft
- Hi-Lift Jack® – Hi-Lift Jacks® can lift aircraft that are too tall for conventional jacks
- Hydraulic jack – Hydraulic jacks lift aircraft by using hydraulic pressure
- Oil-Dri® – Oil-Dri® absorbs liquid spills



Figure 16: Wheel dolly being used to remove an aircraft

EQUIPMENT USED TO EXTRACT VICTIMS FROM AIRCRAFT WRECKAGE

- Air chisels – An air chisel is a small jackhammer tool that is powered by compressed air
- Bolt and cable cutters – Bolt and cable cutters are fast and efficient when cutting through metal objects such as bolts, wires, cables, chains, or metal bars

- Chain saws
- Hand tools
 - Prying tools (or forcible entry tools)
 - Pushing and pulling tools
- Hydraulic rescue tools – Hydraulic rescue tools use hydraulic pressure to pry metal away from a victim
- Ladders
- K-12 rescue saws – K-12 rescue saws have 12 to 14 inch blades that cut metal
- Reciprocating saws – A reciprocating saw has a blade that moves back and forth and is used to cut various materials
- Rescue chains
- Ropes
- Striking tools – Striking tools include axes, hammers, sledgehammers, mallets, and chisels

FIRE/AIRCRAFT RESCUE FIRE FIGHTING (ARFF) EQUIPMENT

- Piercing nozzles – A piercing nozzle is a tool that pierces the body of an aircraft and releases extinguishing agents to fight internal aircraft fires
- Snozzles^{*} – A snozzle^{*} is a piece of equipment that attaches to an ARFF vehicle, and includes a camera and a piercing nozzle that are operated from the cockpit of the ARFF vehicle
- Vehicle mounted winches – A winch attaches to the front of an ARFF vehicle and is used for towing or hauling

EMERGENCY RESPONSE GEAR

- Air cascade systems – An air cascade system is a device that is used to refill self-contained breathing apparatus (SCBA) tanks
- Bunker gear – Bunker gear, also known as “Turnout Gear,” is the protective clothing that firefighters wear to protect them from high temperatures, fire, and smoke
- Hazardous materials suits
- Proximity gear – Proximity gear is silver in color, reflects heat much more efficiently than common bunker gear, and is mainly used in fighting aircraft and chemical fires
- Self-contained breathing apparatuses (SCBA) – A self-contained breathing apparatus is a device that is worn by fire fighters when combating a fire

EMERGENCY RESPONSE VEHICLES AND TRAILERS

- Aircraft Rescue Fire Fighting (ARFF) vehicles – ARFF vehicles are trucks that have a fire suppressant foam system and are specifically designed to help fight aircraft-related fires
- All-terrain utility vehicles – An all-terrain utility vehicle is a small four-wheel drive vehicle that is used for emergency response in places where a full-sized vehicle is too large to access
- Hazardous materials trucks and trailers – A hazardous materials truck and trailer houses equipment used for hazardous materials cleanup
- Interior access vehicle – An interior access vehicle is a firefighting vehicle used to carry and transport water from an outside source
- Mass casualty trailers – A mass casualty trailer houses the equipment necessary to handle a mass casualty event
- Mobile command communication units – A mobile command communication unit is a mobile vehicle or trailer equipped with work stations, a conference room, and communication equipment
- Tanker trucks – A tanker truck is a firefighting vehicle used to carry a large amount of water

EVIDENCE EQUIPMENT

- Body bags
- Refrigerated trucks – A refrigerated truck contains a refrigerated unit that is used to transport deceased victims from an aircraft accident to a morgue or funeral home

FIRE EXTINGUISHING AGENTS

- Primary agents – Primary agents are foams used to extinguish aircraft fires with an aggregation of bubbles of a lower specific gravity than that of water or hydrocarbon fuels
- Aqueous Film Forming Foams (AFFF) – Aqueous film-forming foams act as a barrier to exclude air and oxygen, and produce an aqueous film on the surface of the fuel to suppress vapors
- Film Forming Fluoroprotein (FFFP) Foams – Film-forming fluoroprotein foams are used to fight fires caused by wood, as well as fires caused by flammable liquids and gases
- Fluoroprotein Foams (FP) – Fluoroprotein foams have many of the same properties as protein foam with the addition of fluorochemical surfactants
- Protein Foams – Protein foams extinguish a fire by forming a blanket over it to remove oxygen from the fuel's surface

- Supplementary agents – Supplementary agents are substances carried on firefighting vehicles to satisfy unique firefighting requirements common to airport firefighting use
- Carbon dioxide – Carbon dioxide is used to extinguish fires caused by flammable liquids and electrical fires
- Class D extinguishers – Class D extinguishers contain substances used to extinguish fires caused by combustible metals
- Dry chemicals – Dry chemicals are potassium-based chemicals used to aid in extinguishing fires
- Halotron® I – Halotron® I is a chemical used to extinguish aircraft fires
- Wetting agents – Wetting agents are substances that decrease the surface tension of a liquid

HEAVY EQUIPMENT

- Backhoe
- Crane
- Dump truck
- Front end loader
- Sweeper
- Tractor

MEDICAL EQUIPMENT

- Backboards/spineboards
- Bag valve masks (BVM) – Bag valve masks are ventilation devices used to supply air to a victim
- Cervical collars (C-collar) – A cervical collar provides stabilization to the head and neck of a victim who has signs of a spinal injury
- Defibrillators
- Oxygen supply tanks
- Stokes baskets – A stokes basket is a rigid basket used to transport a victim

WATER RESCUE EQUIPMENT

- Personal watercraft (PWC)
- Life jackets
- Motor boats
- Scuba gear
- Throw rope
- Torpedo buoy – A torpedo buoy is a buoyant device shaped like a torpedo

COMMONLY IDENTIFIED NEEDS

The following is a list of specialized equipment most requested by Florida's airports:

- Fire Departments/ARFF facilities on-site as seen in **Figure 17**.



Figure 17: On-Site Aircraft Rescue Fire Fighting (ARFF) Facility

- Vehicles with towing capabilities and equipment to move aircraft or debris from the runway
- Defibrillators
- All-terrain vehicles (ATVs) to access heavily forested areas that typical four-wheel drive trucks cannot access
- Boats to respond to airport emergencies that occur over water

BEST MANAGEMENT PRACTICES

Best management practices are programs, procedures, policies, or tools in place at some Florida airports that have proven to be effective in preparing for, responding to, or mitigating against emergency situations. Identifying and implementing best management practices can help airports avoid repeating the mistakes made in the past and share valuable knowledge and experience gained by other practicing professionals over time.

DEVELOP AN AIRPORT EMERGENCY PLAN (AEP)

An Airport Emergency Plan (AEP) should be developed by each airport and should be altered to cater to the airport's specific needs. The AEP should be updated regularly and implemented during training sessions.

DEVELOP AN EMERGENCY RESPONSE CHECKLIST

Developing a standardized emergency response checklist is important to ensure that all persons involved in the emergency response know their responsibilities and what agencies need to be contacted when an emergency occurs. The checklist should be reviewed regularly and incorporated into training and exercise procedures.

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

Released by the Department of Homeland Security in 2004, the National Incident Management System (NIMS) became the standard framework for emergency preparedness and incident management nationally. NIMS is a template for systematically and proactively managing emergencies. The system accounts for all levels of government, non-governmental organizations, and the private sector. The system guides the manner in which these entities coordinate together to prevent, prepare for, respond to, recover from, and mitigate against emergencies. All responders need to be trained on the proper implementation of NIMS.

INCIDENT COMMAND STRUCTURE (ICS)

One key component of NIMS is the use of Incident Command Structure (ICS). ICS was developed in the 1970s as a result of studies, which found that response problems were spurred mostly by inadequate management. ICS is a standardized management tool and can be scaled to aid in large or small emergency situations. This system is a representation of best management practices that have been developed over time and is used throughout the United States by federal, state, and local governments as well as private and non-governmental organizations (NGOs). In order to be an effective system, ICS integrates facilities, equipment, personnel, procedures, and communications into one organizational structure. There are five main functional areas of this system including command, operations, planning, logistics, and finance and administration.

There is a range of practices ICS includes to aid its effectiveness. ICS uses common terminology to standardize terms for organizational functions, incident facilities, resource descriptions, and position titles. The duty of command must be clearly identified at the beginning of response to an emergency. Every individual has a designated supervisor to clarify what tasks need to be completed instead of having an individual under many supervisors with conflicting objectives. This unified command structure allows many agencies to work together effectively and not affect individual agency influence or accountability. Operational support facilities such as incident command posts, bases, camps, staging areas, mass casualty triage areas, and others are set up during an emergency. The amount of facilities and resources that are needed will depend on the size and severity of the emergency.

All responders, regardless of the entity to which they belong need to check-in to receive their tasks. Below in **Figure 18** are the standard ICS titles:

Organizational Level	Title	Support Position
Incident Command	Incident Commander	Deputy
Command Staff	Officer	Assistant
General Staff (Section)	Chief	Deputy
Branch	Director	Deputy
Division/Group	Supervisor	N/A
Unit	Leader	Manager
Strike Team/Task Force	Leader	Single Resource Boss

Figure 18: Standard ICS Titles

The airport manager is always the IC for an on-airport event until command is relinquished to someone else. The Incident Commander (IC) is responsible for overall incident management. This individual should:

- Clearly know the agency's policy;
- Ensure safety during emergency response;
- Establish an Incident Command Post;
- Establish priorities;
- Approve and implement the Incident Action Plan;
- Coordinate the activities of the Command and General Staff;
- Approve requests for additional participants, volunteers, and other personnel;
- Authorize release of information to the media; and
- Ensure that incident after-action reports are completed.

The Command Staff is responsible for being an interagency liaison, ensuring incident safety, and providing public information. This staff includes a Public Information Officer (PIO), Safety Officer, Liaison Officer, Assistants, and additional command staff if necessary.

The General Staff is responsible for carrying out operations, planning, logistics, and managing finances and administration. There is one chief for each section and these sections should not be combined.

The Planning “P” as shown in **Figure 19** below is a guide to planning for an incident. The events start at the bottom of the leg of the “P” and are followed clockwise until “Execute Plan & Assess Progress” and then the cycle begins again at “IC/UC Develop/Update Objectives Meeting”.

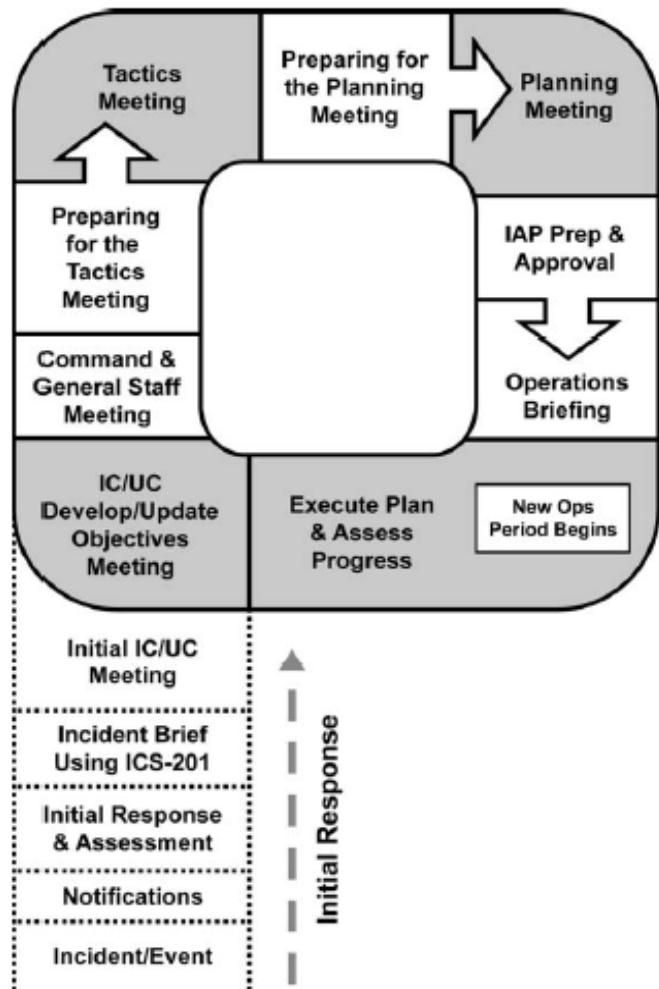


Figure 19: The Planning “P” Guide

Figure 20 shows the organizational structure consistent with ICS. This structure can be expanded or collapsed as appropriate to the size and nature of the emergency.

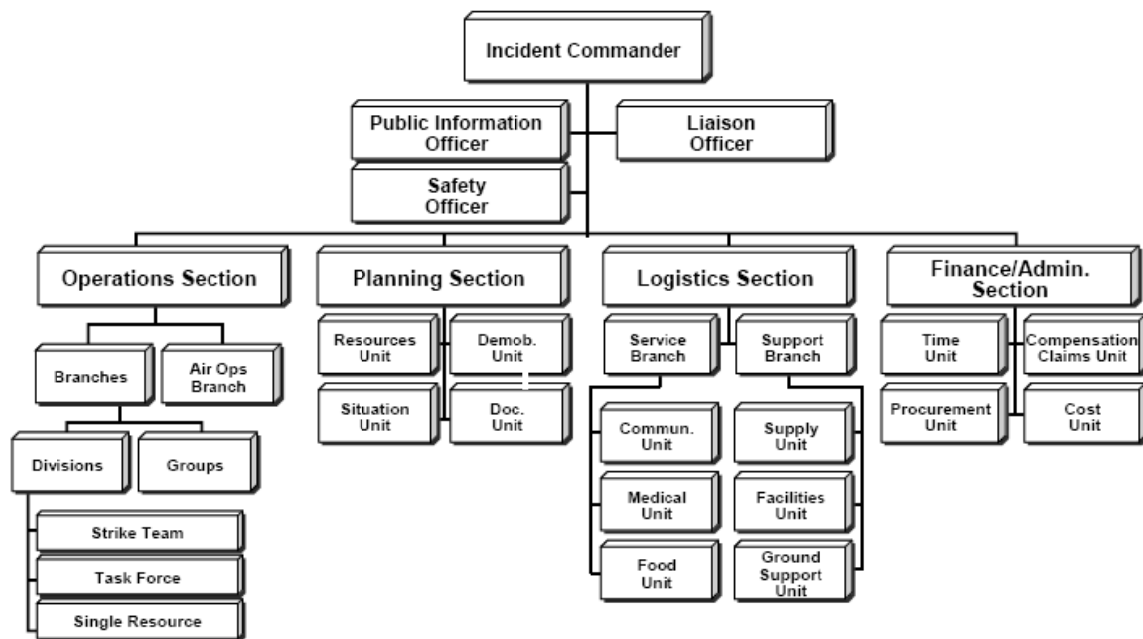


Figure 20: ICS Organizational Structure

TRAINING

Implementing different training programs and techniques in order to train both airport staff and first responders in what to do when an aviation emergency occurs is an important aspect in ensuring that all parties involved know and are familiar with their responsibilities. Coordination between the many different agencies involved is necessary in the development of these training programs. **Figure 21** shows a full scale training



Figure 21: Full Scale Training at Orlando International Airport

event at the Orlando International Airport. Training should be held on a regular basis because of the high

employee turnover rate in the emergency response field. Regular training is the key to having a good emergency response system. Some forms of training include:

- Table top exercises that should be done at least quarterly
- Full scale exercises where training is done on an actual aircraft
- Night training to practice emergency response when the emergency occurs outside of normal daylight hours.
- Periodic follow-up training

Other training best management practices suggest:

- Ensure all personnel involved in emergency response read the plan every year and sign off to certify that they have read it
- Provide airfield facility diagrams (maps), security training and ramp driving training to teach responders how to access the airfield without creating runway incursions and minimizing disruption to airport operations
- Regularly train responders on airport access point locations, access procedures, and escort procedures
- Verify that emergency vehicles are equipped with transponders, keys, or access cards to allow quick and efficient access through security gates to the airfield and scene of the accident
- Visit the city, county, local police station, local fire station, volunteer fire station, ARFF station, and EMS department once a year or when new employees are hired to talk about personnel at the airport and various situations they may need to be aware of when responding to emergencies on airport property
- Assign all involved personnel to specific roles so effort is not duplicated.

COMMUNICATION

Communication plays a major role in a successful response to an aircraft accident or incident. Local, state, and federal agencies must communicate and understand one another through different types of media including email, radios, telephones, and light guns. Local agencies should try to meet on a regular basis so everyone can meet each other. Building relationships with first responders is very beneficial to Florida's public-use airports. It is helpful to know people on a first name basis and to talk to them in person, not just through email or over the telephone. Having an existing relationship with someone makes communicating with them much easier and thus increases response time. Responders also need to be familiar with how to communicate with victims of the aircraft accident or incident. Communication with victims involved in an accident or incident caused by an act of terrorism is different than communication with victims of an accident or incident caused by a technical failure.

DEVELOP A GOOD WORKING RELATIONSHIP WITH THE OFF-AIRPORT AGENCIES

Airport staff needs to know that there is a potential for multiple agencies to respond and they need to know how to manage this so efforts are not duplicated. Requesting follow-up contact with the off-airport agencies will help maintain the relationships, which will increase the efficiency of emergency operations. Multi-agency response should be included in trainings and exercises.

HOLD POST-INCIDENT/ACCIDENT MEETINGS AND DEBRIEFINGS

Post incident/accident meetings between the agencies and different entities involved in the emergency situation are opportunities to evaluate the situation and discuss what went well and what areas need improvement. These meetings should be documented and referred to during the update of the Airport Emergency Plan.

VICTIM ASSISTANCE PROGRAM

From the representative survey of Florida's airports, one best management practice identified is having a victim assistance program in place. This program is geared toward the people directly involved in aviation related emergencies and the friends and family of the people involved to help them debrief and cope with the emotional aspects of the situation. Some components of a successful victim assistance program include:

- Predicting and understanding how the victim may react. Different scales of emergencies will elicit different victim reactions including panic, fear, confusion, anger, and despair.
- Understanding how to manage victims of different ages, particularly children and the elderly.
- Understanding how to comfort the victim if the emergency does not result in any injuries. This typically includes removing the victim from the scene by keeping them in a vehicle or safe location to calm them down and keep them out of the way during the response.
- In the case of a stalled or broken down aircraft, an airport representative should explain the aircraft removal process once the victim is calmed and, in order to limit the airport's liability, a form should be prepared by the airport for the victim or owner of the aircraft to sign before the aircraft is removed from the scene.
- Working with non-governmental organizations (NGOs) such as the Red Cross and Salvation Army in order to offer additional victim assistance or debriefing to family members or rescue workers after a major emergency situation.
- A system to notify families of the deceased is beneficial so the media does not broadcast this information before the family is aware. This system should also take the safety and care of the victim's family into consideration once they have received notification.

- The provision of mental health services, debriefing and counseling for first responders, streamlining service requests and benefit claims, and ensuring access to an experienced prosecutor who can provide victims with information about the status of the case and legal issues.
- Victims of a serious emergency situation will have long-term needs after their immediate needs are met. Workshops are a practice way for first responders to help, allowing small groups to form to talk about traumatic experiences with colleagues who are normally reluctant to talk about their experiences. These workshops have been deemed very helpful to rescue and public safety personnel.

TERRORISM VICTIM ASSISTANCE

Victims of terrorism have various needs after the event, including physical, financial, emotional, and legal needs. The needs of individual victims may vary but processes should be established to help victims evaluate their own specific needs and to help victims find resources that can address, help, and support their needs. For most victims of a terrorist attack, moderate assistance will be needed, but for some victims long-term assistance may be needed.

The publication *Responding to Terrorism Victims- Oklahoma and Beyond* created in October 2000 is a compilation of ideas and plans regarding victim assistance that were implemented after the Oklahoma City bombing took place. The preparation of this document was funded by the Office for Victims of Crime, Office of Justice Programs, and U.S. Department of Justice. This information may be useful for an airport to consider as best management practice, in the event of a major aircraft emergency caused by an act of terrorism.

Best management practices that have arisen from the Oklahoma City bombing terrorist attack stem from victims, victim advocates, criminal justice professionals, mental health professionals, clergy, the media, and outside observers. For these best management practices, the term “victim” includes the primary victims and their families, first responders, rescue workers, law enforcement, victim assistance personnel, and others exposed to traumatized victims. Planning and coordination are necessities for an effective response to terrorist victims. In order to benefit the victims, their needs must be understood, the responders need to know their roles, and responding agencies must be able to work together towards a solution.

VICTIM SUPPORT

Communication is an essential part to the development and implementation of interventions with victims. Coordination between local, state, and federal agencies is important to effectively address the need of terrorism victims. Support for victims can be better provided if both public and private sector responders can work together, maximizing expertise and helpful resources. Responders to an act of terrorism must be familiar with the legal

rights of the victims and, in a short period of time, the victims need to be identified and given information about services and support that are accessible to them. Innovative media techniques such as creating a website where victims can access information and helpful sources are a good way to communicate with a wide variety of affected people.

The federal government may or may not be involved with a victim assistance program depending on the extent of the event. Victim assistance challenges include:

1. The immediate crisis must be handled.
2. Post-crisis victim needs must be met.
3. Victims' rights and services must be provided during any criminal justice process.
4. Long-term victim needs must be recognized and addressed as they emerge over time.

FAMILY ASSISTANCE CENTERS

During an emergency situation, there should be an immediate emergency response plan in place. This plan should identify how to assist victims, including a way to provide information to the families of the victims and to provide them protection from the media. An example of this is the Compassion Center, a family assistance center that was put in place within hours after the bombing in Oklahoma. This Compassion Center concept is an idea that can be used during any type of emergency, not just a terrorist attack. The Compassion Center limited media from intruding upon family members who wanted privacy and allowed media access to family members who wanted to speak to the media. In this temporary assistance area, mental health care specialists briefed people before interviews, escorted them to the interviews, and then debriefed them afterwards. The Compassion Center was a place where families could exchange information about the family members that were missing as well as where families could seek information about emergency services, mental health counseling, and comfort. There were areas at the Compassion Center where families could receive messages, eat meals, and use long distance phone services. During the Oklahoma City bombing response, a crisis intervention team was formed. This team worked with both the victims and the people responding to the disaster. A system was also implemented to gather information from families that could be used to identify remains and to provide counseling services during this process. A Victim-Witness Assistance Unit was also established to help individual victims. A toll free phone line was created where victims could call in to obtain trial information, become part of meetings with survivors and other family members, and receive assistance at a convenient time for the caller.

DEVELOP A MEDIA RELATIONS PLAN

A media relations plan should outline the process of contacting the media during an emergency situation and how to effectively control the scene once the media arrives. The plan should outline identified areas for the media to set up vehicles and equipment as well as a potential interview room/site. Airport staff members are encouraged to develop working relationships with members of the press outside of emergency situations in order to improve the communication process during an actual emergency. The media relations plan activities should be included in the periodic training procedures.

TRIAGE COLOR CLASSIFICATION

The triage designation is based on a color system. Each color describes the medical state of the victim. The medical descriptions associated are shown in **Figure 22**:

TRIAGE COLOR CODING	
GREEN	Consists of the "walking wounded" that consists of victims that do not need medical assistance or that have injuries that do not require medical stabilization or monitoring.
YELLOW	Consists of victims with a stable condition that are not in immediate danger of death but will still need to be taken to a hospital or burn center. These victims should have injuries such as broken bones.
RED	Consists of victims who cannot survive without immediate medical treatment but do have a chance of survival. These victims should be taken to the hospital or burn center before the victims classified as "yellow".
BLACK	Consists of victims who are deceased. These victims are left in place until investigation occurs. In some cases "black" may be used for victims with injuries so extensive that they are not likely to survive given the care or resources that are available.

Figure 22: Triage Color Coding

Victims may be designated as a certain color using either triage tape as shown in **Figure 23** or a triage tag as shown in **Figure 24** on the following page. The benefits of using a triage tag are that more information can be given about the victim in order to save another responder time. The person doing the initial start of the triage tag will only tear off the color-strips at the bottom until the most bottom color-strip on the tag is the classification needed for the patient. The first responder will then attach the tag to the victim. The tag is actually filled out either in the treatment area or in the ambulance by another responder. The benefit of triage tape is that it is seen more easily than a small color strip on a tag.



Figure 23: Triage Tape

Figure 24: Triage Tag

A diagram of triage staging areas as shown in **Figure 25** should be created so responders know where to go to find victims with a certain medical condition. The following diagram was created by the Tallahassee Fire Department and is posted on the inside door of their mass casualty trailer.

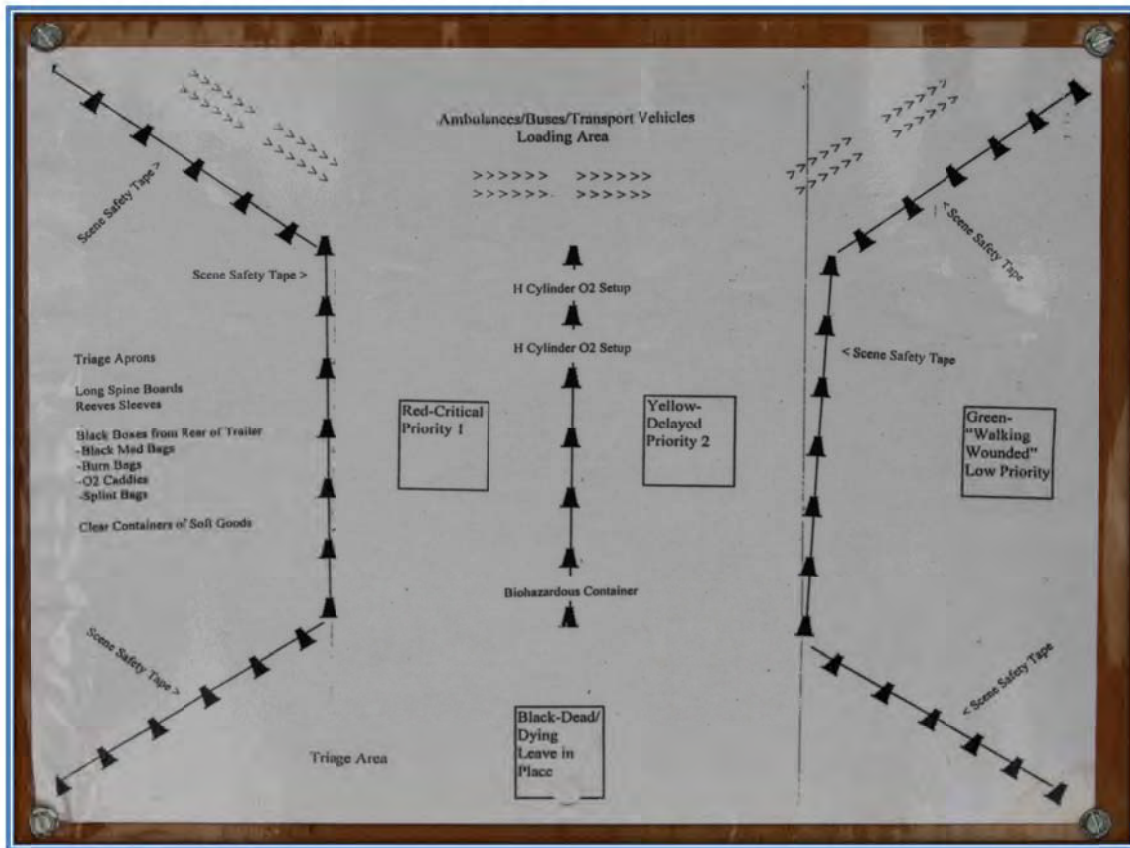


Figure 25: Triage Diagram at the Tallahassee Fire Department

WATER RESCUE TECHNIQUES

The Orlando International Airport has developed a water rescue device that is very beneficial during an emergency when there are many victims. They created a device known as a “snake” in order to rescue many people at once. The “snake” is a typical five inch firefighting water supply line that is closed off at one end and has a connection piece at the



Figure 26: Water Rescue Training with the "Snake" at Orlando International Airport

other end that will let air in but not out. The connection piece allows a compressed air bottle to be linked to the fire hose in order to blow it up so that it will float. Straps were added to the fire hose so victims could easily grab onto it when the “snake” is pulled by the motor boat next to them. This device allows the victims to keep their heads above water, which during an aircraft emergency typically has a layer of fuel floating on the surface. **Figure 26** shows the “snake” in action during a water rescue training session at Orlando International Airport.

OTHER BEST PRACTICES TO CONSIDER

If a major emergency were to occur, the airport should have a plan to organize and manage the responders that will be coming to the airfield. One practice identified during the comprehensive survey of Florida’s public-use airports was the use of colored arm bands to differentiate which person belongs to each agency to facilitate access to certain areas.

Airports should also make sure that the local officials that will be responding know the airfield. If a first responder does not know where he or she is going when responding to an emergency, other parts of the airfield may be impacted which could further delay typical airport operations. Responders should receive recurrent orientations on airport access points, access procedures, and escort procedures.

Community involvement is also a best practice to consider. Airport staff should learn about their own community’s emergency management entities by attending meetings and getting to know the local emergency manager. This can help the airport by allowing them to replicate the community’s best management practices.

CASE STUDIES

The following case studies were summarized in order to include a broad range of emergency situations associated with aircraft accidents and mass casualty incidents. The lessons learned from these case studies can become best management practices.

LEXINGTON, KY

SYNOPSIS:

Comair Flight 5191, a Bombardier CL-600-2B19, N431CA, crashed during takeoff on Sunday, August 27, 2006, at 06:06:35 hours at Blue Grass Airport (LEX) in Lexington, Kentucky. The flight crew, which was granted permission to depart from Runway 4/22 for Hartsfield-Jackson International Airport (ATL) in Atlanta, Georgia, taxied the aircraft to and began departure from Runway 8/26. While Runway 4/22, a runway 7,003 feet in length and 150 feet wide, conforms to the specifications of 14 Code of Federal Regulations (CFR) Part 139, Runway 8/26 is a general aviation runway 3,501 feet in length and 75 feet in width. The aircraft traveled 265 feet on the grass past the end of Runway 8/26, hit a four foot high berm, traveled an additional 115 feet on the grass and hit the airport perimeter fence. The airplane then traveled another 520 feet and struck a tree. The main wreckage of the airplane was found 900 feet past the first tree strike and about 1,800 feet west of the end of Runway 8/26. The fuselage separated into two main sections, the wings were both severed from the fuselage, and the plane caught on fire after the crash. Most fatalities occurred due to traumatic injuries, but other fatalities resulted from smoke and soot inhalation and thermal injuries. There were three crew members and 47 passengers on this flight. The only survivor of the crash was the first officer, who had serious injuries.

CAUSE:

According to the National Transportation Safety Board's (NTSB) Aircraft Accident Report, "the probable cause of this accident was the flight crewmembers' failure to use available cues and aids to identify the airplane's location on the airport surface during taxi and their failure to cross-check and verify that the airplane was on the correct runway before takeoff."

Factors contributing to the accident included a conversation between the flight crew during taxi not associated with takeoff and the Federal Aviation Administration (FAA) not requiring that all runway crossings be approved by specific air traffic control clearances.

GENERAL EMERGENCY RESPONSE:

The Department of Public Safety at LEX is comprised of employees that are cross-trained as fire fighters, police officers, and emergency medical technicians. During the emergency response, the Department of Public Safety initiated firefighting roles and then switched to police officer roles to secure the site once the fire was extinguished. The cross training of emergency responders allowed roles to be switched without the need to switch out people, leading to a faster response.

Before this accident, there were two different radio systems at LEX, but this hindered response. Today airport operations, engineering, and maintenance are still on the UHF band, but the Department of Public Safety is on the 800 MHz system, which is what the Lexington Fire Department utilizes. If the Department of Public Safety needs to talk to someone that is on the UHF radio band, the dispatchers can crosspatch the radio frequencies.

FIRST RESPONSE:

During the Comair Flight 5191 accident, the major on duty initially became the incident commander. Scott Lanter, the deputy director of public safety and operations, became the incident commander once he arrived from his home. A Lexington police officer along with two airport Department of Public Safety employees rescued the first officer from the wreckage. At first, the police officer was not familiar with the seat belt latch that was securing the first officer to his seat. Airport Public Officers, since they were familiar with the seat belt, worked with the Lexington Officer to extricate the one survivor from the wreckage. The first officer, due to the extent of his injuries, was immediately transported to a local hospital by one of the Airport Public Safety officers and the Lexington Police Officer in an Airport Public Safety sport utility vehicle (SUV). The trauma team that met the officers at the hospital thought that the decision to immediately transport the first officer aided in saving his life.

CONTINUING RESPONSE:

Airport operations at LEX were halted until about 13:00 hours the day of the accident, waiting for the NTSB to open up the primary runway. The airport Department of Public Safety had to take photos to show the NTSB that the part of the primary runway that needed to be open was not involved in the accident. The airport staff had checked the field and conducted a spot check of the area within about three hours of the accident. Three ARFF trucks responded to the accident, but only two of them used their agents to extinguish the fire caused by the crash. Since LEX had a re-supply of foam and dry chemical agents on the airfield, the airport was able to open up sooner than if they had to wait to fill up the ARFF trucks with the agents. The Salvation Army provided canteen services for responders at the scene.

Command was transferred from the Department of Public Safety to the local fire and police department. The local fire department assisted the local coroner with body recovery. The Federal Bureau of Investigation (FBI) along with the Transportation Security Administration (TSA) was responsible first for ensuring the accident was not a result of a criminal or terrorist act. The FBI also helped identify personal belongings that were recovered from the individual passenger seats as well as from the luggage storage area of the airplane. A mockup of the aircraft was laid out in masking tape on the floor of an unoccupied aircraft hangar at the airport. This mockup was utilized by the FBI's Evidence Response Team (ERT) to recover and process the personal effects of the passengers on the aircraft.

The coroner disaster recovery team arrived on scene and quickly recovered the bodies, but did not use refrigeration trucks to transport the deceased to the morgue. LEX does have a mutual aid agreement to obtain refrigeration trucks but did not use the agreement in this case.

The Boston Logan International Airport Fire Department sent a fire fighter "Go Team" in an effort to both learn from the airport's response and to assist in the Critical Incident Stress Debriefing (CISD) of airport Public Safety personnel. The Boston Logan personnel provided both a meal and initial CISD to Airport Public Safety personnel as they arrived at the on-airport firehouse from the scene. These simple acts led to the establishment of several friendships between Boston Logan and LEX Public Safety personnel, the significance of which cannot be overstated.

TRAINING:

The LEX Department of Public Safety was trained in Incident and Unified Command. The State of Kentucky requires fire fighters to have 100 hours of standard fire service training beyond what the FAA requires for Part 139 airports. There is a monetary incentive for fire fighters in Kentucky if they meet certain requirements including having 100 hours of in-service training with a curriculum decided upon by the Department of Public Safety each year.

MEDIA INVOLVEMENT:

Media was directed to one of the parking lots at the Keeneland Race Course located very close to the accident site. The airport has a mutual aid agreement with Keeneland and they willingly served as a staging area for the media. The parking lot was filled with satellite trucks and the reporters liked this area since they could use the airport as a backdrop for their live shots. A temporary flight restriction to keep all helicopters a certain distance away from the accident was also obtained from the FAA because noise from the helicopters interfered with communication among the responders. Scott Lanter personally met with the Keeneland Race Course president when the event

was over in order to thank him. The airport's website received numerous hits from people trying to find information about the accident and a news station from Sweden called the airport six minutes after the accident. By 17:00 hours all of the major news crews had left.

Before the NTSB arrived at the accident scene, the Public Information Officer (PIO) of the police department gave a statement to the media. The airport then gave a statement to the media. As long as the airport gave the media information at pre-determined times, the media became more of a partner than an adversary. Once the NTSB arrived at the accident, the media was told that press releases would be one of the responsibilities of the NTSB. The media was also notified of what hotel the NTSB would be at to answer questions. NTSB has pre-determined agreements with local hotels in order to rent hotel rooms despite other events occurring in the city at the time.

FAMILY ASSISTANCE CENTER:

The Family Assistance Center (FAC) was set up by the Red Cross at a different hotel than where NTSB was set up. Although the airport provided assistance to the Red Cross, no airport personnel were stationed at the FAC or tasked with directly providing assistance or support to the families of the victims.

DEBRIEFING:

The first step of the Critical Incident Stress Debriefing (CISD) process began when Scott Lanter, serving as the incident commander, pulled all of the responders together and gave them the specific command to not do or say anything about the accident that would cause any additional grief to the family members. Additionally, LEX provided voluntary CISD and counseling services to all emergency responders; however, LEX required all Public Safety Officers to attend mandatory CISD sessions.

About two or three weeks after the accident, responders who went through the Oklahoma City Bombing incident came to LEX to have long sessions with the responders. First, all the responders were invited to meet with them in the training room at the on-airport firehouse. A group session was then held in the training room at the local fire department. The large group was broken into smaller groups: chiefs, midlevel supervisors, and fire fighters. Each small group talked about their experiences before they joined together to talk about the accident as a larger group.

BEST MANAGEMENT PRACTICES:

The following best management practices were identified from the lessons learned from this event:

- Strive to develop strong working relationships with local responders

- During the Comair Flight 5191 response, police and fire fighters had to work together to extricate the first officer from the wreckage. Police and fire fighters can sometimes be very territorial during emergencies. Because the Department of Public Safety had close working relationships with both the local police and the fire departments, the focus of the event was initiating response instead of struggling with cooperation and communication between the different entities.
- New employees should be encouraged to learn incident command, triage activity, and safety officer duties.
 - Many airports rely on senior command staff to conduct incident command, triage activity, and safety officer duties. At LEX the newest individuals in the department are pushed to learn those responsibilities since the first responders to an accident may not always be of a senior level. In this case, the officer that pulled the first officer out of the airplane was considered a newer employee.
- Offer an incentive for attending additional training than what is required by FAA.
 - Offering some type of incentive program for training will cause more people to participate in a training session, which will be beneficial when an emergency does occur. Currently all certified firefighters in the Commonwealth of Kentucky receive \$3,300 dollars for completing at least 100 hours of in-service training annually. This additional training may have helped the Comair Flight 5191 response effort be more efficient and effective.
- Hold an annual tabletop review of the emergency response plan in addition to extra training.
 - At any airport this review will benefit both new and veteran employees by teaching and reiterating to them what should go on during different types of emergencies at the airport.
- Have a police and/or fire department chaplain or chaplaincy team that has been trained in both Critical Incident Stress Debriefing (CISD) and Post Traumatic Stress Disorder (PTSD) lead debriefing.
 - Following an emergency response, responders should not typically be debriefed by a professional psychologist or clinical psychologists in a clinical setting. Instead, experience has shown that emergency responders need to be debriefed by peers who have been trained in both CISD and PTSD. In Kentucky, these tasks usually are performed by police and/or fire department chaplains and chaplaincy teams. Responders are more open when they feel as though they can relate to the people leading the debriefing.
- The Comair Flight 5191 accident was located outside of the airport property. Encourage responders to be familiar with not only the airport property but surrounding areas as well.
 - Because responders were familiar with the surrounding areas, the description of the area where the accident occurred was enough information for all other responders to locate the accident and exact location coordinates were not needed. Being familiar with surrounding areas may decrease the time in which first responders arrive at the accident scene.
- Good relationships among responders make it easier to work together as a team to achieve one goal.

- The time to start building relationships with other responding agencies and community partners is now. Start to build the foundation now to have success in the future. The Department of Public Safety would have the local fire and police departments over for a casual meal or get-together and strike up conversations about what really happens in the event of an aircraft accident.

SOURCES:

- NTSB/AAR-07/05 PB2007-910406
- Interview Scott Lanter, A.A.E., Director, Public Safety and Operations, Blue Grass Airport

SIoux CITY, IA

SYNOPSIS:

United Airlines Flight 232, a DC-10-10, N1819U, experienced a catastrophic failure of the No. 2 tail-mounted engine during a cruise flight on July 19, 1989, at 15:16 hours in route from Denver, Colorado to Chicago, Illinois. The separation, fragmentation, and forceful discharge of stage 1 fan rotor assembly parts from the No. 2 engine led to the loss of the three hydraulic systems that powered the airplane's flight controls. The flight crew experienced severe difficulties controlling the airplane, which subsequently crashed at 16:01 hours during an attempted landing at Sioux Gateway Airport (SUX) in Sioux City, Iowa. There were 285 passengers and 11 crew members on board. One flight attendant and 110 passengers were fatally injured.

The airplane crashed on a closed runway. There was fuel and fire damage to this north-south runway but the primary runway at SUX opened the next day. Debris from the crash was scattered over the entire airport.

CAUSE:

The National Transportation Safety Board (NTSB) determined that the probable cause of this accident was the inadequate consideration given to human limitations in the inspection and quality control procedures used by United Airlines' engine overhaul facility. This resulted in the failure to detect a fatigue crack originating from a previously undetected metallurgical defect located in a critical area of the stage 1 fan disk that was manufactured by General Electric Aircraft Engines. The subsequent catastrophic disintegration of the disk resulted in the liberation of debris in a pattern of distribution and with energy levels that exceeded the level of protection provided by design features of the hydraulic systems that operate the DC-10's flight controls.

GENERAL EMERGENCY RESPONSE:

SUX is an aviation facility for commercial, general aviation, and military aircraft. The on-site fire department is a joint military and civilian department. Randy Curtis, the Sioux Gateway Airport Director at the time of the accident, and Gary Brown, Woodbury County Disaster Services Director, created an agency committee in 1987 that was very helpful during this accident. The committee was comprised of all the agencies involved in emergency response and was a way for these agencies to start building working relationships and executed training exercises with each other. Randy Curtis was in Hawaii when the accident took place and had to fly back for the response. Both Gary Brown and Jim Hathaway, Fire Chief at SUX, acted as incident commanders.

The accident was updated to an Alert III emergency before the airplane crashed, even though this type of alert is usually only issued once a crash occurs. Since this alert was issued about a half hour before Flight 232 crashed, agencies had more time to prepare. A central command center was set up and the agency officials reported there to coordinate the response. Mutual aid assistance was offered from neighboring Ida and Buena Vista Counties. Before the accident occurred, extra ambulances and other emergency response vehicles were sent to SUX to prepare for the disaster and to help maintain normal operations in Sioux City.

A two-class triage system was set up on the airport before the accident occurred. This was known as the “scoop-and run” method. A victim would be assessed and if his or her injuries were life threatening, the victim was immediately transported. If the injuries were not life threatening, the victim was transported immediately as long as someone with life threatening injuries was not ahead of him or her. This method did not provide any on-site medical treatment to the victims in order to achieve the goal of transporting the patient to the emergency room within one hour of the accident. The victims were sent to one of two hospitals, both of which were about seven miles away from SUX. One hospital was a trauma center and the other was a burn center. The Iowa State Patrol placed a road block on the interstate between the two hospitals and in less than one hour all the victims needing medical care were transported.

The 185th Air National Guard, which is located on the airport, had 300 personnel on-site because of a drill they were performing at the time. These members helped recover the bodies from the accident. The accident also occurred as a shift change was occurring at both the regional trauma center and the regional burn center, allowing for more medical personnel to treat the injured.

A temporary morgue was set up in a military owned hangar building. The Federal Bureau of Investigation (FBI) and the National Transportation Safety Board (NTSB) performed the accident investigation and collected evidence and debris while the coroner began to identify the deceased and perform autopsies. The deceased victims were transported using refrigerated tractor trailers.

Other agencies that helped with the response included the Red Cross, Salvation Army, local Blood Banks, and an Amateur Radio Club. The phone system at SUX became useless since there were so many incoming calls. To overcome this communication barrier, a radio club volunteer was assigned to a person with information in order to transmit the information via radio. During the time of this accident the airport did not own cellular phones but during the continuing response of the accident a company from Kansas donated about 60 cellular phones. By the end of the response, there were between two and three thousand responders, governmental and volunteer, involved with the accident.

TRAINING:

SUX performed their first disaster training exercise in 1987. At this time the FAA did not require a disaster exercise to take place. This training was very beneficial and made the response for this accident more efficient and effective since everyone knew the emergency response plan so well.

MEDIA INVOLVEMENT:

The city manager coordinated the media response. Media operations were held in the airport terminal parking lot, but there was no formal structure for the media to receive information soon after the accident took place. There were about 300 media members stationed at the airport including the Good Morning America cast and Maury Povich who both did episodes of their shows on-site.

The day after the crash, buses were loaded with media personnel to take them out to the accident scene. Each bus had a spokesperson on it providing the media with consistent information.

FAMILY ASSISTANCE CENTER:

Briar Cliff University, located about 10 miles from SUX was used to house the family members of the victims as well as survivors of Flight 232. The accident happened when the students were on a break and the college staff volunteered the use of their facilities. The family members were able to stay in one of the residence halls on campus and the university cafeteria provided food to them. A place for survivors and family members to talk to the media, if they desired, was set up across campus from the residence hall.

BEST MANAGEMENT PRACTICES:

The following best management practices were identified from the lessons learned from this event:

- Pre-planning is very helpful. Comprise a committee that is an advocate for working relationships among local responders.

- SUX had an agency committee that was formed in 1987 before the accident occurred. This committee was founded on the idea that working relationships among the airport, area hospitals, and the Woodbury County Disaster Services department are needed. It was also thought that all of the people involved with these agencies should train together. This greatly benefited the emergency response because the responders were already familiar with each other.
- Airports should have a well thought out and consistently rehearsed emergency response plan.
 - The Airport Emergency Plan (AEP) should be updated regularly and implemented during training sessions.
- Full-scale training exercises are very helpful and can pinpoint areas where emergency response teams need to focus.
 - The agency committee jointly authored the plan and all the practice runs of the plan were performed jointly with the different agencies. The plan was exercised once a year for a full scale disaster scenario. This process allowed the agencies to figure out their weaknesses and also build trust with one another. The drill in 1987 simulated the crash of a large airplane with 150 people on board. Gary Brown realized during the training that the strategic staging of the ambulances could lead to a quicker response time and that the mutual aid program should be expanded. This drill was very similar to the actual accident that occurred and was very beneficial to all the responders involved since they all had prior experience of an event of this magnitude.
- Position emergency response vehicles to minimize travel time to the accident site.
 - During this accident ambulances were positioned around on highways and when the airplane crashed away from the runway the response time was decreased.

SOURCES:

- NTSB/AAR-90/60 PB90-910406
- Interview with Randy Curtis, A.A.E., Director of Special Projects, Northwest FL Beaches International Airport

ADDITIONAL REFERENCES:

- *Alert 3 and Lessons Learned* DVDs which can be purchased at <http://www.siouxcitygifts.com>

COLUMBIA, SC

SYNOPSIS:

On Friday, September 19, 2008, at about 23:53 hours at Columbia Metropolitan Airport (CAE) in Columbia, South Carolina, a Bombardier Learjet Model 60 (Learjet 60), N999LJ, owned by Inter Travel and Services, Inc. and

operated by Global Exec Aviation overran Runway 11/29 during a rejected takeoff (RTO). Those on board included two crew members and four passengers, two of whom were celebrities.

The incident occurred on Runway 11/29, which is an 8,601 feet long and 150 feet wide grooved asphalt surface. This was a nonscheduled domestic passenger flight from CAE to Van Nuys, California and was operated under 14 *Code of Federal Regulations* (CFR) Part 135.

The initial wreckage debris on the runway consisted of fragments of the right outboard main landing gear (MLG) tire. Some of these fragments were found coated with hydraulic fluid. Other aircraft debris found along the runway included the airplane landing light, various airplane pieces, the right inboard MLG tire, left inboard MLG tire, and fragments of the MLG wheel sets with few tire fragments attached.

The aircraft overran the runway, passed through the 1,000-foot runway safety area (RSA), struck airport runway approach lighting and a localizer antenna array, traveled down a steep hill, and hit a lighting pole and the airport perimeter fence. The airplane then struck a concrete roadway right-of-way marker, traveled across Highway 302 (a five-lane road), and struck another concrete post. The airplane then hit a 25-30 degree embankment, stopped, and the air traffic controller observed the airplane explode into a fireball. The captain, first officer, and two passengers were killed. The two celebrities on board were seriously injured by second and third degree burns.

CAUSE:

“The National Transportation Safety Board (NTSB) determined that the probable cause of this accident was the operator’s inadequate maintenance of the airplane’s tires, which resulted in multiple tire failures during takeoff roll due to severe under inflation, and the captain’s execution of a rejected takeoff after V_1 (takeoff decision speed), which was inconsistent with her training and standard operating procedures” (NTSB). Each tire was a Goodyear Flight Eagle, part number (P/N) 178K43-1, size 17.5 x 5.75-8. For use on the Learjet 60, the rated tire inflation pressure was 220 psi.

The severity of the accident was increased by deficiencies in the Learjet’s design of the Federal Aviation Administration’s (FAA) certification of the Learjet Model 60’s thrust reverser system, which caused an unprompted forward thrust. Learjet’s safety analysis and FAA’s review of the analysis failed to find and correct the thrust reverser and wheel well design deficiencies after an unprompted forward thrust accident that occurred in 2001. Inadequate industry training standards for flight crews in tire failure scenarios also contributed to this accident.

GENERAL EMERGENCY RESPONSE:

CAE is a small hub airport and significant accidents have historically occurred once every two to three years. Most accidents occur late at night or early in the morning, when there are low ceilings and fog. When accidents occur at CAE, NTSB investigators are usually sent from Atlanta, Georgia. Because this accident involved celebrities, it was considered high profile and investigators were sent from Washington D.C. to CAE. Bill English, the leader of the NTSB team from Washington D.C. contacted Steve Baxter, the CAE Fire Chief, less than two hours after the accident had occurred. The airport staff was relieved to have the federal government involved with this accident since the federal government was in charge of the investigation and managing the media. The NTSB broke into teams and each team was assigned a specific task, such as an airport group that studied construction on the airfield, an airport staffing group, and a human factor group that studied the human factors that may have caused the accident. The survivors both wore their seat belts and, when interviewed, stated that they paid meticulous attention to the emergency briefing that included how to operate the door and where the nearest exit was located.

FIRST RESPONSE:

Initially the incident commander was the on-duty CAE fire captain until Steve Baxter arrived and assumed command. The airport knew that there were six people on the aircraft and four fatalities so EMS was told to return the mass casualty trailer back before it had even arrived on the accident scene. The two survivors escaped the aircraft and were transported to the Joseph M. Still Burn Center at Doctors Hospital in Augusta, Georgia.

CONTINUING RESPONSE:

There were many federal and state agencies involved including the NTSB, Federal Aviation Administration (FAA), Transportation Security Administration (TSA), Federal Bureau of Investigation (FBI), the American Red Cross, South Carolina Department of Transportation (SCDOT), South Carolina Highway Patrol (SCHP), and the Department of Health and Environmental Control (DHEC). There were also county and municipal responders that reacted to the accident as mutual aid partners. In total, there were over 20 agencies that were involved some of which were companies and local organizations that donated food during the response efforts.

The FBI and TSA investigated to determine whether the crash was a criminal act or act of terrorism, but the TSA left fairly quickly since the accident fell under neither category. The SCHP worked with the FBI in order to photograph, map, and determine GPS coordinates for each piece of evidence or debris that was found.

The fire fighters removed the deceased victims from the airplane but the coroner was afraid to act without permission from the NTSB. The NTSB thought that it was better to leave the crash in place and do the

investigation there rather than to transfer the wreckage to an empty hangar. Because of this, the highway that was closed because of the accident continued to be closed until the following week.

DHEC was involved in cleaning up the fuel that spilled due to the crash. They tested the soil and also found that fuel went into the storm drains. An outside contractor was brought in to perform the hazardous material clean-up.

The airport was ready to open before these tasks were completed, but the airport was closed for approximately 36 hours until NTSB gave the airport clearance to resume operations.

TRAINING:

Emergency response training at CAE is based on a two-year rotation. Tabletop training sessions are completed one year followed by a full-scale exercise the following year.

FAMILY ASSISTANCE CENTER:

There was no Family Assistance Center (FAC) set up during this event. The aircraft owner took care of the family assistance that was needed.

DEBRIEFING:

Debriefing began with a group session where the psychologist discussed the accident and let the responders reflect on the situation and vent frustrations. There was an employee assistance program put in place for responders, but it was not mandatory. CAE told the responders that they would support anyone who needed to go for additional debriefing or counseling.

MEDIA INVOLVEMENT:

The media did not show up to the accident scene until the following morning. Since celebrities were involved, the airport received many calls from various entertainment media outlets. Media representatives that arrived on-scene were initially separated from the scene of the accident, but the NTSB eventually let them move closer. A Temporary Flight Restriction (TFR) was set up so news helicopters could not get close during the emergency response process.

The NTSB had to change the hotel they were originally staying and delivering information to the media because it was located downtown and the traffic from a football game occurring that evening made commuting between the airport and the hotel difficult.

BEST MANAGEMENT PRACTICES:

The following best management practices were identified from the lessons learned from this event:

- The Incident Command System (ICS) was a critical part of the emergency response. All airport staff should be trained in ICS.
 - During the response Steve Baxter, the Fire Chief, was the Incident Commander and directed responders and agencies that were not directed by NTSB.
- Having a group that meets regularly, like the Unified Chiefs group, allows different agencies to talk to each other on a regular basis and begin to work as a team before a major incident occurs.
 - Richland County has a Unified Chiefs group composed of EMS, fire, and police members. This group meets quarterly at a central location. Anytime there is a new procedure for any type of accident, it is shared at the meeting ensuring the information is given to all the key people at once. There is always an open invitation to the meetings and staff at all levels to attend. The different municipalities take turns sponsoring the meeting and paying for lunch.
- Be cautious when communicating with the media, especially when celebrities are involved in the accident.
 - Because the event involved celebrity personalities, the media took a special interest in the event. The airport staff at CAE has learned over time when speaking to the media be cautious because they may misrepresent who they are or which organization they are affiliated. The media may also have access to emergency radios that can tap into what the responders are communicating to each other and may pick up on things that should not be published.
- Make sure airport staff has access to gates on airport property as well as to gates on adjacent properties.
 - During this accident a United Parcel Service (UPS) vehicle was parked near one of the gates and therefore, some of the emergency vehicles could not get to the scene right away.
- Look at areas beyond the FAA designated areas and remove obstacles that may become hazards during a response effort because accidents do not always occur within these designated areas.
- Be mindful of the stresses put on the first responders.
 - After working 10 hours straight some firefighters at CAE were told to take a break to rest. Sometimes responders need rest and need to be taken out of the scene.
- Train and cross-train enough responders to ensure the depth of staff necessary to allow responders to take needed breaks.
- The accident may have been caught on tape from someone unexpected. This can provide a lot of information that will help re-create the accident.
 - In this case a patrol car dash camera caught the fire ball of the airplane. There are many people that have video cameras rolling at all times and may have caught the accident on tape.

- Implement group debriefing sessions.
 - This is an efficient way to debrief following the event and can work to continue building bonds and camaraderie among responders. A team that works together debriefs together.

SOURCES:

- NTSB/AAR-10/02 PB2010-910402
- Interview with Chuck Henderson, Deputy Director & Steve Baxter, Fire Chief (Columbia Metropolitan Airport)

HAITI RESPONSE: ORLANDO SANFORD INTERNATIONAL AIRPORT

SYNOPSIS:

On January 16, 2010, Orlando-Sanford International Airport (SFB) was notified in the early hours of the morning that they were receiving repatriation flights from the evacuation of Haiti. The evacuation was occurring due to the magnitude 7.0 earthquake that occurred near the capital, Port-au-Prince.

Victims of all ages were being flown into the airport, including over 300 total. Customs was not prepared to handle this volume of people, and volunteers were needed to help care for babies and very young children.

This incident was not the standard type of triage that is typical of an aircraft incident. Instead, there were many different medical issues that had to be addressed ranging from the common cold and stomach virus to gunshot wounds. Many victims were afraid that if they were identified as having an illness or injury, they would not be allowed to enter the United States. Therefore, many injuries went unnoticed until much later in the evacuation when medical personnel at customs identified the victim as being injured.

After going through customs, victims were moved to a large 10,000 square foot holding room that was isolated from the terminal, as to not interfere with normal airport operations. People were released in front of the terminal. Transportation was needed and the Emergency Manager coordinated with school buses and drivers and the LYNX public transportation system in order to get victims reunited with their families. The Orlando International Airport (MCO) was set up as a receiving point to assist victims once they arrived.

ISSUES:

During this effort there were no major problems with the aircraft arriving at SFB. There was one minor problem with “contracted” fuel from a fixed-base operator (FBO) being used in the wrong aircraft.

Health and Human Services delayed the process of getting victims onto the airplanes and, in some cases, commercial airplanes sat empty and almost had to leave without passengers due to time constraints.

Many families had to wait in the main terminals for more than 36 hours to pick up victims. Families were not isolated because the SFB did not have adequate space for them. There were some minor instances where officers had to calm individuals down, but there were no major problems.

NorComm Corporation helped out and set up an Air Terminal Operations Center. They served as the liaison between SFB and the military.

There were a few issues with victims bringing weapons on board airplanes but no incidents occurred from these actions. This resulted from crews who were not trained doing pat downs on victims that were boarding to come to the United States.

A total of 9,508 refugees were brought into SFB on 126 total flights (112 military and 14 civilian) and there were 71 medical transports of patients. The busiest day was January 20th with 1,220 passengers on 11 flights. This event is considered a success because SFB's normal operations were kept under control even though extra flights and a large scale emergency event was taking place.

EMERGENCY OPERATIONS CENTER (EOC):

The initial phone call was to handle one airplane coming in from Haiti, but the event snowballed into more airplanes and victims, leading to the activation of the Seminole County Emergency Operations Center (EOC). The EOC shut down their normal operations and moved their operations to SFB. A separate meeting room at the airport was used for the EOC at the airport. Office equipment such as printers, copiers, phone lines, fax lines, and supplies had to be bought because the airport was still functioning and these items could not be borrowed from other parts of the airport.

INCIDENT COMMAND SYSTEM (ICS):

Per executive order, all federal agencies and anyone accepting federal money must be trained and fluent in ICS and National Incident Management System (NIMS). Customs officials conformed to ICS but Health and Human Services (HHS) did not follow these standards causing some problems. HHS claimed they did not have enough personnel to staff the EOC and refused to talk to the media.

AGENCIES INVOLVED:

The agencies involved included the Red Cross, Health and Human Services, National Guard, Florida Department of Children and Families, and the NorComm Corporation. There were many churches and other organizations involved that helped by bringing warm meals to the airport for the victims. Unfortunately, since many of the incoming victims to SFB were sick and malnourished, they ended up getting sick from the food that they were not accustomed to eating. SFB ended up having to turn many of these groups away, causing a media backlash. Many businesses donated food for the people working to help the refugees. This was very appreciated as many crews were working 24 hour shifts.

MEDIA INVOLVEMENT:

There were no major issues with the media and this event. Media representatives tried to take photographs of the planes and people, but information was primarily funneled through the Joint Information Center (JIC) and Public Information Officer (PIO) for SFB. Customs, Seminole County and the hospitals also had PIOs. Unfortunately, HHS did not have a designated PIO. The PIOs were able to give informative briefings to the media. A spreadsheet was set up and updated twice a day with the number of passengers and flights that had come into SFB. This information seemed to help satisfy the media and proved useful to the PIOs.

There were a few minor problems with media personnel being mixed in with the victims on the airplanes coming into SFB. If there was a media representative on board, the PIOs or the Incident Commander (IC) was sent out to talk and discuss with them what was allowable once they exited the airplane.

BEST MANAGEMENT PRACTICES (BMPS):

The following best management practices were identified from the lessons learned from this event:

- No matter how prepared you think your EOC is, there are always unforeseen issues that will need to be addressed
- Someone needs to be designated to keep track of financial records
- Someone needs to be designated to keep track of borrowed resources
- Be aware of the resources available on your airfield
- Any agency that does not conform to established standards and protocols, can cause problems throughout the entire event
- An experienced fire chief helped the event run more smoothly than would otherwise have occurred

- The fire chief had already set up a training regimen with every department in the county so they were familiar with the operations and had a general understanding of how to deal with an emergency response at the airport.
- Have great mutual-aid agreements and train on-site with the mutual-aid agencies
- Have good communication between the military and customs
 - Both of these entities restricted the sharing of their information and SFB had to find other sources in order to find out how many airplanes would be expected to land at SFB within the next day
 - Do not be afraid to look outside the box for additional information sources
 - SFB had to call the airport in Haiti in order to obtain information about how many airplanes were loading up so that they knew what to expect at SFB within the next several hours. This information was not given to them by the military and customs.

CONCLUSION

This Aviation Emergency Response Guidebook should serve as an important resource for both emergency response staff at Florida's public-use airports and non-airport emergency responders. This Guidebook also serves as a tool for airport directors and staff when developing, evaluating, updating, or exercising an Airport Emergency Plan, and for emergency responders who are not experienced with airport operations or airport emergencies. This Guidebook provides important information regarding types of aviation-related emergencies, the various agencies that may be involved in aviation-related emergencies, specialized equipment that may be used in response to aviation-related emergencies, and best management practices for aviation emergency response. The Aviation Emergency Response Guidebook also includes Airport Emergency Plan (AEP) templates to provide guidance to airport staff when creating or updating an airport's AEP, and the Emergency Response Guide to Basic Airport Operations which can be used for training purposes as well as for a reference guide for emergency responders who are not familiar with aviation facilities, protocols, and communications procedures. As a companion document to this Aviation Emergency Response Guidebook, the Basic Aircraft Guide for Emergency Responders identifies critical details about different makes and models of aircraft, as well as diagrams that illustrate important aspects of the aircraft. Combined, these statewide resources should enhance the preparedness and response to aviation-related emergencies both on and outside of airport property.

Appendix A

Specialized Equipment Photo Log

Communication Equipment

Cell Phone



Cell phones and smart phones are common mobile electronic devices used to make telephone calls across a wide geographic area. This phone picks up signals from towers and allows emergency responders to communicate with one another through voice or text message.

Light Gun



A light gun is a handheld directional light signaling device which emits a brilliant narrow beam of white, green, or red light as selected by the tower controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot actions where radio communication is not available. The light gun is used for controlling air traffic operations in the vicinity of the airport and on the airport movement area. The table below describes the meaning of the different signals.

Color and Type of Signal	Movement of Vehicles, Equipment and Personnel	Aircraft on the Ground	Aircraft in Flight
Steady green [Solid Green Bar]	Cleared to cross, proceed or go	Cleared for takeoff	Cleared to land
Flashing green [Flashing Green Bar]	Not applicable	Cleared for taxi	Return for landing (to be followed by steady green at the proper time)
Steady red [Solid Red Bar]	Stop	Stop	Give way to other aircraft and continue circling
Flashing red [Flashing Red Bar]	Clear the taxiway/runway	Taxi clear of the runway in use	Airport unsafe, do not land
Flashing white [Flashing White Bar]	Return to starting point on airport	Return to starting point on airport	Not applicable
Alternating red and green [Alternating Red and Green Bar]	Exercise extreme caution!!!!	Exercise extreme caution!!!!	Exercise extreme caution!!!!

Ring Down Phone



A ring down phone is used in the first step of the emergency notification process. This phone does not have a keypad and immediately calls the programmed entity or entities, which usually includes the local police department, airport operations, and air traffic control tower. The call is initiated just by picking up the handset. These phones are tested by the ARFF facility, if available, daily.

Satellite Phone



A satellite phone is a type of mobile phone that connects to low earth orbiting (LEO) satellites. These phones can be used virtually anywhere, even in the absence of cell phone coverage. Satellite phones can call and receive calls from land-lines and cell phones. The most secure calling occurs from one satellite phone to another satellite phone. Calls between satellite phones are transmitted from the sending satellite phone to the LEO satellites and then to the ground station. The call is then transmitted back to the satellites and to the receiving satellite phone. These calls are secure because the call never goes to a land-line or public-switched telephone network (PSTN).

Ultra High Frequency (UHF) Band



The Ultra High Frequency (UHF) band is the military aviation band which ranges from 225 to 400 MHz. The military "Guard" frequency is 243.0 MHz. Ultra High Frequencies do not refract off the ionosphere as much as Very High Frequencies (VHF). Since UHF waves have shorter wavelengths, they can use smaller antennas and radios. This band has more predictable coverage versus the VHF band, and is less likely to be affected by interference.

Very High Frequency (VHF) Band



Airband, also known as “Victor” or VHF, is a band of frequencies used in the field of aviation for radio communications. Airband refers to the Very High Frequency (VHF) band between 108 MHz and 137 MHz, which covers use for commercial and general aviation aircraft, air traffic control towers and other aviation related uses.

The aircraft emergency frequency, also known as “Guard,” is a frequency reserved for emergency communications for aircraft in distress. For civilian aircraft, the frequency is 121.5 MHz.

Debris/Aircraft Removal & Cleanup Equipment

Air Lifting Bags



Air lifting bags aid in lifting and stabilizing an aircraft and keeping aircraft from rolling, sliding, shifting, twisting or collapsing. They are inflated by connecting a quick release air supply hose to the control console attached to a compressed air tank.

Aircraft Removal Jack & Dolly



Jacks and dollies are made specifically to aid in aircraft removal. The jack shown works with all tow bars and dollies in order to lift the nose of an aircraft up for maintenance. A dolly such as the one shown raises the wheel of the aircraft, allowing it to be moved 360°. These dollies can be used with toe straps in order to move aircraft with minor damage from the runway if a crane is not needed.

Come-along



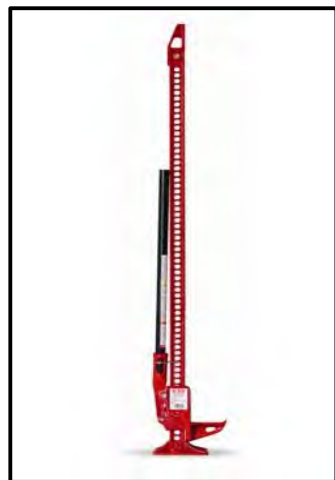
A Come-along is a device consisting of a ratchet lever, cable, and pulleys. It is used for moving heavy loads by hand and for tightening wire.

Cribbing



Cribbing can be used to stabilize an aircraft and prevent rolling, sliding, shifting, twisting or collapse. Cribbing can be made out of hard wood, soft wood, or plastic. These pieces of wood or plastic are stacked in a certain way so the weight from the aircraft is directed to the area created by the cribbing. Cribbing is normally in the shape of rectangular blocks, wedges and step chocks.

Hi-Lift Jack®



A Hi-Lift Jack® is comprised of a steel beam with a series of equally spaced holes along its length. The jack is used for lifting a vehicle or aircraft that is too tall to be lifted by a conventional jack.

Hydraulic Jack



A hydraulic jack is a jack in which force is applied through a hydraulic press. A hydraulic press is a machine that uses hydraulic fluid under pressure to exert a large force.

Oil-Dri®



Oil-Dri® is a company that manufactures granular clay absorbents. The clay comes in both coarse and fine types. These absorbents can be used to soak up oil, grease, water and coolant spills.

Equipment Used to Extract Victims from Aircraft Wreckage

Air Chisel



An air chisel is similar to a jackhammer but is much smaller. It uses air pressure to drill the chisel down in a rapid motion. The smaller size makes the cycling rate faster.

Bolt & Cable Cutters



Bolt and cable cutters are fast and efficient tools for cutting through metal objects such as bolts, wires, cables, chains, or metal bars.

Chainsaw



A chainsaw is a portable power saw with cutting teeth that are linked to a continuous chain. The chain is rotated approximately two pivot points by an electric or gasoline power mechanism.

Hand Tools



Hand tools are used to extend or multiply a firefighter's body actions. They increase task effectiveness and use simple machine principles to perform tasks. The functions of hand tools include rotating, pushing or pulling, prying or spreading, and striking or cutting.

Prying tools, or forcible entry tools, have one end with two prongs and another end that is filed down to a blade in order to force into a door or window. Crow bars are a common type of pry bar.

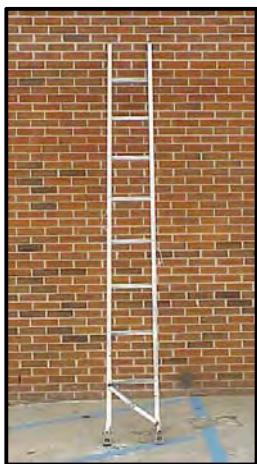
Pushing and pulling tools are used to extend a firefighter's reach and increase the power exerted on an object. These tools allow the firefighter to perform tasks while keeping them at a safe distance. Some push-pull tools include a ceiling hook, clemens hook, closet hook, K tool, pike pole, and wrenches.

Hydraulic Rescue Tool



An example of a hydraulic rescue tool is the Jaws of Life which is a brand created by the Hurst Jaws of Life company. The name is regularly used for other brands of hydraulic rescue systems as well. This term is used to describe several types of piston-rod hydraulic tools known as cutters, spreaders, and rams. This equipment is used to pry metal away from a victim when either he or she is trapped.

Ladder



There are many variations of ladders, each of which is used for a specific purpose. The most common ladder is a device, usually made of metal or fiberglass, that consists of two beams, also known as side rails, that are joined at consistent intervals by cross pieces known as rungs. A person climbing the ladder is supported by these rungs. A ground ladder consists of different parts including the butt, spurs, dogs, bed, beam, fly section, halyard, pulley, rungs, hooks, and tip.

K-12 Rescue Saw



The K-12 Rescue Saw is specifically designed for fire rescue. It is used to cut almost anything at the scene of an accident and, in aircraft accidents, is used for extrications. The saw comes in 12-inch and 14-inch models.

Reciprocating Saw



A reciprocating saw is a portable power saw with a reciprocating blade. It can be used with a variety of blades depending on the material that needs to be cut and the type of cut needed.

Rescue Chains



Rescue chains are used for pulling and for rapid hook-ups. They can be used in conjunction with power rescue tools and come-alongs.

Ropes



Emergency responders use both life safety ropes and utility ropes. A life safety rope is used to support people during rescue. A utility rope is used to hoist equipment, secure unstable objects, or rope off an area. All ropes need to be inspected regularly for damage.

Striking Tools



Striking tools are used to apply impact force to an object to gain entry or to make openings. Common striking tools include hammers, mallets, sledgehammers, axes, and chisels.

Fire/Aircraft Rescue Fire Fighting (ARFF) Equipment

Piercing Nozzle



A piercing nozzle is a device used to penetrate a hard surface such as the fuselage of an aircraft. The pointed nozzle is attached to a hose, which is attached to the ARFF truck. Once the metal tip pierces the fuselage, a mist of water is released through the nozzle into the enclosed space, steam is created, and the fire begins to lose oxygen, lowering the temperature of the fire. This equipment allows a firefighter to get to fires otherwise unreachable with conventional equipment.

Snozzle®



A Snozzle® is an ARFF tool that includes a camera and a piercing nozzle. There are different models, each of which can be mounted to the top of any model of ARFF truck. The Snozzle® has a 50-foot vertical reach. The camera transmits images to the cockpit, allowing the driver to see through the smoke. The main purpose is to scan an aircraft's fuselage to search for hot spots, such as cargo fires. The piercing nozzle is 44 inches long and is made of carbon steel. It has a perforated tip with about 140 holes that are about 6mm in diameter. Once the fuselage is pierced, the nozzle sprays a fire extinguishing agent in a 20-foot circular area.

Vehicle Mounted Winch



A vehicle mounted winch is a motor-driven machine that is mounted to the front of a vehicle and used for hoisting or hauling.

Emergency Response Gear

Air Cascade System



Air cascade systems may either consist of ASME or UN/ISO (DOT) cylinders. They may be used as either bulk refilling systems or cascade refilling systems. They may be either situated horizontally or vertically. The ASME cylinders do not have to be hydrostatically retested, whereas the UN/ISO cylinders do require scheduled hydrostation retesting. This retesting is done in order to make sure the cylinder is safe to use. The UN/ISO cylinders are most widely used to refill a self-contained breathing apparatus (SCBA).

Bunker Gear



Bunker gear, also known as "Turnout Gear," is the protective clothing that firefighters wear for protection from high temperatures, fires, and smoke. It is typically khaki, yellow, or black in color. Bunker gear consists of pants, shirt, overalls, jacket, boots, gloves, hat, and hood. The gear is made out of fire retardant coated cotton and velcro so they will not burn under extreme heat. The basic cotton material is submerged in fire-retardant chemicals before it is sewn into a jacket or pants. This gear is also equipped with reflective strips so a firefighter can be seen through a smoky environment.

Bunker gear does not handle radiant heat well. If a firefighter is sweating when heat penetrates the gear, steam may be created and may cause second- and third-degree burns.

Hazardous Materials Suit



A hazardous materials suit is an overall garment worn to protect people from hazardous material or substances, including chemicals, biological agents, or radioactive materials.

Proximity Gear



Proximity gear is silver in color, reflects heat much more efficiently than bunker gear and is mainly used in fighting aircraft and chemical fires. This gear consists of a coat, hood, helmet, gloves, footwear, and trousers. The coat and trousers should meet the requirements of NFPA 1976, Standard on Protective Clothing for Proximity Firefighting. The helmet, gloves, footwear, and hoods should meet the requirements of NFPA 1971, Standard on Protective Ensemble for Structural Firefighting, and should have additional radiant reflective criteria that is approved for proximity firefighting.

Self-Contained Breathing Apparatus (SCBA)



A self-contained breathing apparatus (SCBA) is an atmosphere-supplying respirator for which the source of breathing air is designed to be carried by the user. This apparatus consists of a face mask, hose, and tank of compressed air.

Emergency Response Vehicles and Trailers

Aircraft Rescue Fire Fighting (ARFF) Airport Index and Vehicle Class Requirements

Table 1-2. Airport Index and Vehicle Class Requirements

VEHICLE CLASS AIRPORT INDEX	CLASS 1	CLASS 2	CLASS 3	CLASS 4	CLASS 5
	100 Gallon Water/AFFF, and Dry Chemical (500 lbs sodium- or 450 potassium-based), or Halogenated Agent (460 lbs) (Note 1)	300 Gallon Water/AFFF, and Dry Chemical (500 lbs sodium- or 450 potassium-based), or Halogenated Agent (460 lbs) (Note 1)	500 Gallon Water/AFFF, and Dry Chemical (500 lbs sodium- or 450 potassium-based), or Halogenated Agent (460 lbs) (Note 1)	1500 Gallon Water/AFFF	3000-4500 Gallon Water/AFFF (Note 1)
A	1	In lieu of Class 1	In lieu of Class 1 or 2	N/A	N/A
B	1	In lieu of Class 1	In lieu of Class 1 or 2	1 (Note 2)	N/A
C	1	In lieu of Class 1	In lieu of Class 1 or 2	2	
D	1	In lieu of Class 1	In lieu of Class 1 or 2	1	1
E	1	In lieu of Class 1	In lieu of Class 1 or 2		2

NOTE 1: For Index A-E, a Class 1, 2, or 3 vehicle is required (see Note 2 for exception).

NOTE 2: If the Class 4 vehicle has Dry Chemical/Halogenated agent, a Class 1 vehicle is not required for an Index B Airport. If the Class 4/5 vehicle does not have Dry Chemical /Halogenated agent, a Class 1 vehicle is required.

Aircraft Rescue Fire Fighting (ARFF) Vehicle



The FAA's standardized ARFF vehicle classifications are Classes 1 through 5. These classifications separate vehicles by the type of firefighting agent employed on the vehicle and the vehicle's agent carrying capacity. The Airport Index and Vehicle Class Requirements can be found in the FAA Advisory Circular 150-5220-10E and are shown above.

All-Terrain Utility Vehicle



An all-terrain utility vehicle is one that has low pressure tires and can hold at least two passengers. It can handle a wide variety of terrains, is more maneuverable than a full-sized four-wheel drive vehicle, and is useful if an aircraft incident occurs in a heavily wooded area. It also has an open-bed design to haul cargo or medical supplies in case of an emergency.

Hazardous Materials Truck & Trailer



The purpose of a hazardous materials truck and trailer is to have all hazardous material clean-up equipment on hand in one area if a spill occurs due to an aircraft accident. The fire department or local public works department usually has access to these cleanup materials. Once the spill is cleaned up, the fire department will contact the Florida Department of Environmental Protection (FDEP), who will perform testing at the site. If excavation is needed to remove contaminated soil, FDEP will contact a contractor to perform the work.

Interior Access Vehicle



The prime function of an interior access vehicle is to carry water in a water tank or to transport water from an outside source such as a fire hydrant or other water body. There are many different sizes of interior access vehicles. Water is discharged through water lines or hoses that are connected at points around the truck. Some interior access vehicles also have a foam system where the foam tank is embedded within the main water tank. The size and quantity of an airport's interior access vehicles will vary depending on the size of the airport.

Mass Casualty Trailer



The purpose of a mass casualty trailer is to have medical equipment such as backboards and trauma kits on board to respond to emergencies with multiple injuries. There are different sizes of mass casualty trailers corresponding to the amount and type of equipment carried.

For more information regarding backboards, trauma kits, body bags, and other medical equipment commonly found on a mass casualty trailer please refer to the Medical Equipment section of this Specialized Equipment Photo Log.

Mobile Command Communication Unit



A mobile command communication unit is used during a major event and is equipped with many types of communication equipment that may be needed. These units may be equipped with work stations, a conference room, and even infrared cameras. The conference room may be used for command personnel, mapping and planning operations, and keeping track of different crews as they arrive on the accident scene.

Tanker Truck



A tanker truck is a fire truck that is used primarily to carry large quantities of water for rural firefighting. A tanker fire truck has a water tank that can vary in size, usually from 500 to 1,000 gallons. Most tanks have perforated plates or "baffles" that will prevent the water from sloshing around while the truck is in motion.

Evidence Equipment

Body Bag



A body bag is a plastic, rubber, or vinyl bag with a zipper designed to hold a dead body. Body bags are non-porous and are used for the transportation of corpses as well as the storage of corpses within morgues.

Refrigerated Truck



A refrigerated truck, also known as a "reefer" truck, is a truck or van, usually larger than one-ton, containing a refrigerated unit that is operated by diesel-powered generators and liquid carbon dioxide. This mobile refrigeration is used as bodies are recovered from an aircraft incident and when they are being transported from the morgue to the funeral home. This equipment enables bodies to be kept under cool temperatures in order to slow the rate of decomposition. There are also specially designed refrigerated mobile morgues that can be used in very larger disasters.

Fire Extinguishing Agents

Classes of Fires

CLASS OF FIRE	FUEL SOURCE	FUEL SOURCE EXAMPLES	EXTINGUISHING AGENT
A	Ordinary combustibles	trash, wood, paper, cloth	Water; chemical foam; dry chemical *
B	Flammable liquids	oils, grease, tar, gasoline, paints	Carbon dioxide; halon**; dry chemical; aqueous film forming foam (AFFF)
C	Electricity	live electrical equipment	Carbon dioxide; halon**; dry chemical
D	Combustible metals	magnesium, titanium	Dry powder (suitable for the specific combustible metal involved)

*Dry chemicals, carbon dioxide, and halon can be used on Class A fires, but may need to be used with water in order to be effective.

**Halon extinguishers are no longer made, but some may still be in use. Dangerous gases are formed when halon is used to put out fires. In order to cause no harm to humans, proper respiratory equipment should be worn and no one should enter the enclosed area until it has been well ventilated.

Primary Agents



Primary agents are foams used in the extinguishing of aircraft fires. They should consist of an aggregation of bubbles of a lower specific gravity than that of water or the hydrocarbon fuels being used. The foam should be dense and long lasting, stable in intense thermal radiation, able to resist disruption by wind, and capable of establishing a blanket or re-sealing in the event of mechanical rupture. The foam should be capable of clinging to and covering both horizontal and vertical surfaces. Primary agents must flow freely over a burning liquid surface to form an air-excluding blanket to seal off volatile flammable vapors.

Aqueous Film Forming Foam (AFFF)



Aqueous Film Forming Foam (AFFF) is used to rapidly extinguish hydrocarbon fuel fires. It acts as a barrier to exclude air and oxygen and produces an aqueous film on the surface of the fuel to suppress vapors. AFFF has self-healing capabilities whereby scars in the film layer, caused by firefighting activities and falling debris, are resealed to prevent re-igniting of the fuel. AFFF can be used in combination with fresh or salt water and is dry chemical compatible.

Film Forming Fluoroprotein (FFFP) Foam



Film Forming Fluoroprotein (FFFP) Foam is used to fight fires caused by wood as well as fires caused by flammable liquids and gases. This type of foam is sometimes added to a flammable solvent that has not yet been ignited in order to seal the surface, so that a serious fire does not result in case the solvent does ignite. This foam contains fluorocarbon surfactants that are added to the protein hydrolyzate in order to decrease the surface tension of the solution that drains from the expanding foam. This enables the foam to spread across and seal the surface of a flammable solvent.

Fluoroprotein Foam (FP)



Fluoroprotein Foam (FP) has many of the same properties as protein foam with the addition of fluorochemical surfactants. The foam comes in a concentrated form that is meant to be mixed with either fresh or salt water. The additives in this foam increase the fluidity and create a good burn back resistance. This foam is used to fight Class B fires. Class B fires include those involving flammable or combustible liquids such as grease, oil, gasoline, or kerosene.

Protein Foam



Protein foam is packaged in a liquid concentrate form of 3% or 6% concentrations. These foams extinguish fires by forming a blanket to remove oxygen from the fuel's surface, with water in the foam providing cooling to the fire. Protein foam can be used with either fresh or salt water, and is compatible with dry powder extinguishing agents. These foams include substances to protect against freezing, destruction of machinery, and to control their viscosity. Foam liquids of different types or different manufacturers should not be combined unless it is stated that they are compatible.

Supplementary Agents



Supplementary agents, also known as secondary agents, are carried on rescue vehicles to satisfy unique firefighting requirements common to aviation firefighting uses. Supplementary agents can be employed either singularly or in combination with primary agents to accomplish particular aircraft firefighting operations.

Carbon Dioxide



Carbon dioxide is used to extinguish fires caused by flammable liquids and electrical fires. This molecule removes the oxygen from the fire which stops the burning. The downside to using carbon dioxide as a fire extinguishing agent is that it has a very limited range. Tests have shown that it is more effective to fight aircraft fires with low-pressure carbon dioxide than high-pressure carbon dioxide, and that low-pressure carbon dioxide can be used with dry chemical powder to extinguish fires.

Class D Extinguishers



There are special-use agents used in fighting Class D fires. Class D fires involve combustible metals and can be extinguished using sodium chloride or a copper-based dry powder. The copper-based dry powder is used as a Lithium firefighting agent, whereas the sodium chloride is used to fight fires caused by magnesium, sodium, potassium or uranium.

Dry Chemicals



Dry chemicals aid in extinguishing fires. They are both reliable and compatible with AFFF agents, adding to their popularity. There has been a change in the composition of dry chemicals that are used to extinguish fires. In the past they have been sodium bicarbonate-based, but the U.S. airport firefighting industry now uses potassium-based chemicals.

Halotron® I



Halotron® I is a modified version of its predecessor halon. The U.S. stopped production of halon as part of the Montreal Protocol because of its ill effects on the environment. Halon-based substances were no longer allowed to be used in live fire training. Halotron® I is approved as an alternative to Halon 1211 by the Federal Aviation Administration, the Environmental Protection Agency, and other regulatory agencies. Tests have proven that Halotron® I and Halon 1211 are very similar in the way they extinguish fires.

Wetting Agents



A wetting agent is a substance that decreases the surface tension of a liquid. When the surface tension of a substance is reduced, the substance can penetrate and spread more easily. This, in turn, allows for quicker extinguishment and the amount of water needed to fight the fire is reduced. Some of these agents can be pre-mixed with water, but the majority of these agents are discharged through an in-line proportioning system. These agents should not be combined in the main agent tanks, because this could lead to contamination of the primary foam system.

Heavy Equipment

Backhoe



A backhoe is a piece of excavating equipment that has a digging bucket on the end of a two-part articulated arm.

Crane



A crane is a lifting machine used to both lift and lower materials and to move them horizontally. As shown in the photo to the left, a crane is sometimes used to lift damaged aircraft.

Dump Truck



A dump truck is a vehicle used for transporting loose material such as sand, gravel, or dirt. This vehicle may also be used to haul aircraft debris from an accident site to a designated area either on or off airport property.

Front End Loader



A front end loader is a type of machine used to load material such as dirt or debris into or onto another type of machinery such as a dump truck.

Sweeper



There are three types of sweepers: mechanical, vacuum, and regenerative. These sweepers are used to clear debris from pavement. Some sweepers have jets that spray water on the pavement to control the spread of dust. On mechanical sweepers, the brush sweeps the debris onto a conveyor belt that brings the debris to a storage container. Vacuum sweepers use a brush to sweep the debris into a pile and a vacuum to suck the debris into a container. Regenerative sweepers use a hydraulic air jet system to pick up dirt from the surface being cleaned.

Tractor



A tractor is a vehicle designed to deliver high torque at slow speeds and is usually used for hauling a trailer, machinery, or a damaged aircraft from the runway or airfield.

Medical Equipment

Backboard/Spineboard



A backboard or spineboard is a wooden or plastic board placed beneath a victim with a neck or back injury in order to transport the patient to a medical facility without causing further injury.

Bag Valve Mask (BVM)



A bag valve mask (BVM) is a common ventilation device consisting of a self-inflating bag, a one-way valve, a mask, and an oxygen reservoir.

Cervical Collar (C-Collar)



A cervical collar (or C-collar) is designed to stabilize the head and neck of a patient who has signs of a spinal injury. The collar is rigid and has an enlarged opening in the front to allow for pulse examination and observation of tracheal deviation, and to prevent the constriction of the victim's jugular vein. Most C-collars have velcro closures.

Defibrillator



A defibrillator is a device used to correct a dangerously atypical heart beat. This machine is used to restart the heart by depolarizing its electrical conduction system and delivering brief, precise electrical shocks to the chest wall or the heart muscle itself.

Oxygen Supply



The oxygen used in most EMS systems is stored in pressurized tanks that come in various sizes. The small, medium, and large tanks shown in the photo to the left are denoted by the letters D, E, and M, respectively. Each tank is usually filled to about 2,000 pounds of pressure per square inch. An oxygen regulator is used to control the flow (liters per minute) of oxygen from the tank.

Stokes Basket



Stokes baskets, also known as litter rescue baskets, are used to transport victims who are trapped in an unstable environment. Stretchers or litters can be secured to the rigid stokes baskets. A stokes basket can also be attached to a helicopter in order to hoist the victim to be airlifted to a medical facility.

Water Rescue Equipment

Personal Watercraft (PWC)



Personal watercraft (PWC) generally carry one to four people, and can travel at high speeds in shallow water because they are driven by jet propulsion. When used during rescue operations, the victim either sits on the seat of the PWC with the responder or lies on a flotation device called a rescue sled that is towed behind the PWC, depending on the severity of the victim's injuries. During a water rescue incident where a PWC is not required, they may be used to spook wildlife, such as alligators and snakes, in order to keep them away from victims in the water. "Jet ski" and "waverunner" are brand names for personal watercraft, but are often used generically to refer to PWC in general.

Life Jackets (Personal Flotation Devices)



Life jackets are made of a buoyant material and come in both adult and child sizes. A life jacket is lightweight and can either be handed or thrown to a victim during a water rescue to keep them from drowning. Although there are many types of life jackets, Type I life jackets are the personal flotation device most commonly used for water rescue.

Motor Boats



Different types of boats are used for water rescue. Florida's airports typically use Jon boats or airboats for aircraft emergencies that occur over water. A Jon boat is a small, flat bottomed boat for use in calmer waters. Jon boats usually have a transom where an outboard motor can be mounted. An airboat is a flat bottomed boat that is driven by a caged airplane propeller mounted above the transom. These boats can travel in very shallow water at high speeds. The type of boat and motor used at an airport for water rescue depends on the size of the airport and on the size, depth, and type of water body through which the responders will be traveling. A larger motor boat would be used for water rescues in a large body of water such as a bay or ocean, whereas a Jon boat with a smaller motor would be used for a water rescue in a lake.

Scuba Gear



The acronym SCUBA stands for self-contained underwater breathing apparatus. Scuba gear consists of a mask, fins, snorkel, buoyancy compensator vest, regulator and octopus (spare demand valve), depth gauge, tank-pressure gauge, underwater timer, compass, wetsuit, and underwater light. This equipment allows a diver to breathe underwater, and aids a rescue diver in the response to a victim stranded in a deep body of water.

Throw Rope



A throw rope is a rope with a buoy attached to the end that can be thrown to a victim in a body of water so the rescuer can belay them to the shoreline of the water body.

Torpedo Buoy



A torpedo buoy is a type of rescue equipment, shaped like a torpedo, which allows it to easily cut through water when it is used for rescue purposes. Since the buoy is made out of buoyant material, it is used to keep a victim afloat during a water rescue.

Appendix B

Airport Operations Guide

THE FLORIDA DEPARTMENT OF TRANSPORTATION

A V I A T I O N

EMERGENCY
R E S P O N S E
G U I D E B O O K



Emergency Response
Guide to Basic
Airport Operations

DISCLAIMER

Florida's airports play a vital role in the transportation of both people and goods throughout the state, the nation, and the world. The type and size of Florida's airports vary greatly, but the procedures set in place to address emergency situations at each airport are similar.

The *Emergency Response Guide to Basic Airport Operations* outlines some of the basic features of standard airport operations, and is intended to serve only as guidance. Regular coordination and communication with airport staff is important and will aid in the understanding of protocol at specific airports.

For the safety of emergency responders, as well as other people at the airport during the emergency, always:

1. Follow all access and escort procedures
2. Avoid all restricted areas unless you have specific authorization to enter
3. Communicate effectively and appropriately with the Air Traffic Control Tower (when applicable) and airport staff
4. Follow instructions promptly
5. Be aware that aircraft always have the right-of-way

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INTRODUCTION

Florida's airports play a vital role in the transportation of both people and goods throughout the state, the nation, and the world. The type and size of Florida's airports vary greatly, but the procedures set in place to address emergency situations at each airport are similar.

At most public use airports throughout Florida, there are common key contacts first responders need to communicate with during an airport emergency. The first contact is the **Airport Manager/Operator**, the second is the **Fire and Rescue Coordinator** [who may be part of the airport operations team or a member of the on-airport Airport Rescue Fire Fighting (ARFF) group], and the third contact is the **Security Manager**. At smaller general aviation airports, one person may act in all three of these roles.

The following pages of the *Emergency Response Guide to Basic Airport Operations* outline some of the basic features of standard airport operations including: key terms and definitions, standard airport layouts, communications, typical airside airport signage, and standard airside pavement markings.

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KEY TERMS AND DEFINITIONS

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

Air Operations Area (AOA) — All airport areas where aircraft can operate, either under their own power or while in tow. The AOA includes runways, taxiways, apron areas, and all unpaved surfaces within the airport's perimeter fence.

Aircraft Rescue and Fire Fighting (ARFF) Facility — A facility located at an airport that provides emergency vehicles, extinguishing agents, and trained personnel responsible for minimizing the impacts of an aircraft accident or incident.

Airport Traffic Control Tower (ATCT) — A facility in the terminal air traffic control system located at an airport which consists of a tower cab structure and an associated instrument flight rules room, if radar equipped. The tower uses ground-to-air and air-to-ground communications and radar, visual signaling, and other devices to provide for the safe and expeditious movement of terminal area air traffic in the airspace and airports within its jurisdiction. Not all airports have an ATCT, and not ATCTs are operational 24 hours a day.

Note: For airports with an ATCT, the ATCT must grant permission to first responders to enter the airside of the airport during hours that the ATCT is operational.

Airside — The portion of an airport that contains the facilities necessary for the operation of aircraft, such as runways, taxiways, ramps, and fuel farms.

Apron — A defined area within an airport or heliport, paved or unpaved, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance.

Fixed Base Operator (FBO) — An individual or firm operating at an airport and providing general aircraft services such as maintenance, storage, aircraft fueling, and flight instruction.

Common Traffic Advisory Frequency (CTAF) — A designated frequency for the purpose of carrying out airport advisory practices at an airport that does not have a control tower or an airport where the control tower is not operational.

Landside — The portion of an airport that provides the facilities necessary for the processing of passengers, cargo, freight, and ground transportation vehicles.

Obstacle Free Zone (OFZ) — The airspace below 150 feet (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, with the exception of visual navigational markers (NAVAIDs) that need to be located in the OFZ because of their function. The OFZ provides clearance protection for aircraft landing or taking off from the runway and for missed approaches.

Runway — A defined rectangular area at an airport designated for the landing and take-off of an aircraft.

BASIC AIRPORT OPERATIONS

Transportation Security Administration (TSA)— Agency of the U.S. Department of Homeland Security responsible for the safety and security of the traveling public.

Flight Service Station (FSS)— Facility that provides information and services to pilots, but unlike ATC, is not responsible for giving instructions, clearances, or providing separation.

Air Route Traffic Control Centers (ARTCC) — Controllers who talk to pilots in between departure and destination.

Incident — An occurrence other than an accident with the operation of an aircraft, which affects or could affect the safety of operations.

International Civil Aviation Organization (ICAO) — A specialty agency of the United Nations, ICAO promotes the safe and orderly development of international civil aviation throughout the world.

Instrument Landing System (ILS) — A ground based system that provides precision guidance to an aircraft approaching and landing on a runway.

Precision Obstacle Free Zone (POFZ) — As section of airspace above an area beginning at the runway threshold, at the threshold elevation, and centered on the extended runway centerline.

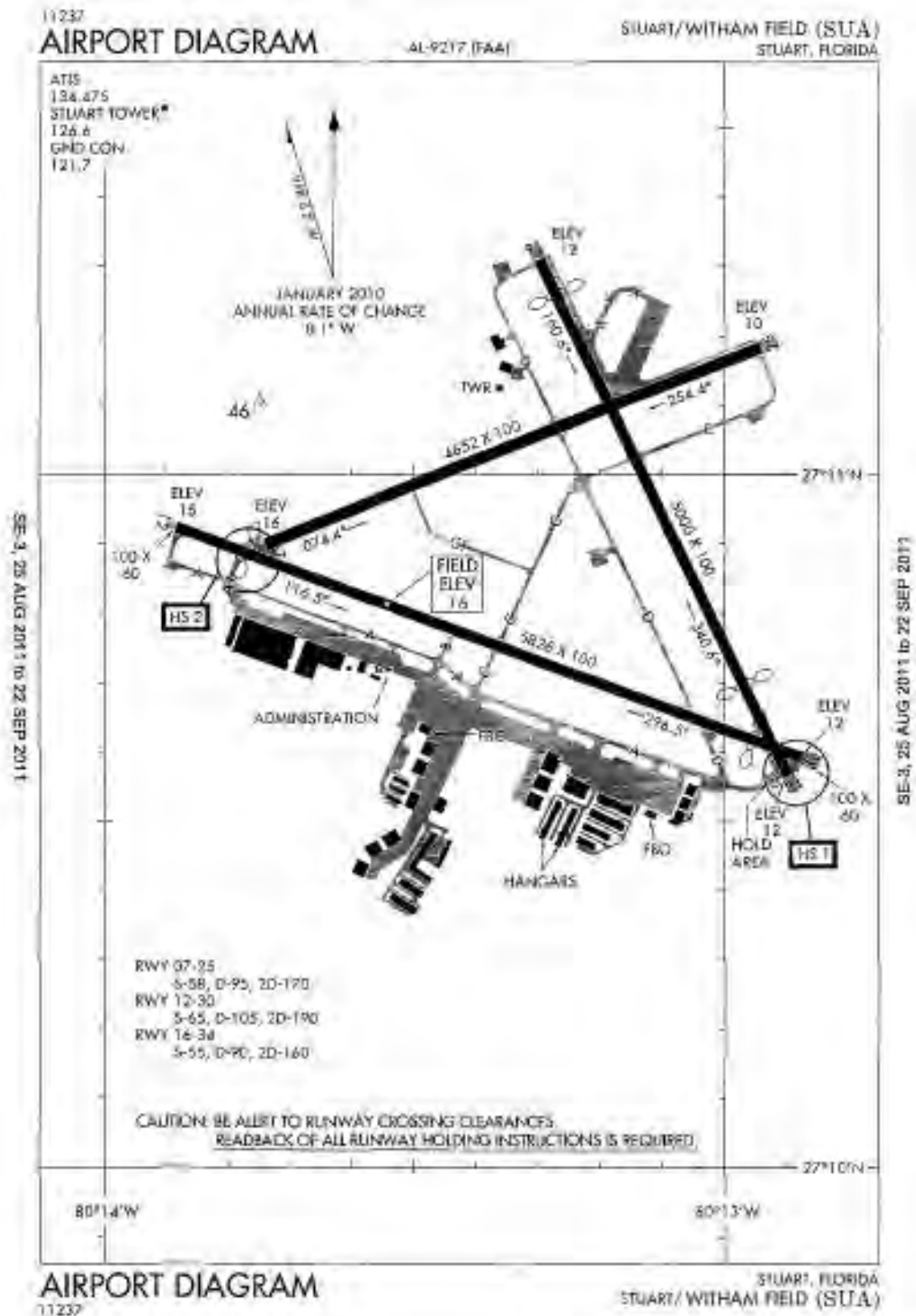
Runway Safety Area — The surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

FAA ADVISORY CIRCULARS

The Federal Aviation Administration (FAA) produces Advisory Circulars (AC) by which all first responders should be trained. There are several ACs that are applicable to first responders:

1. AC 90-42F/AC 90-66, Traffic Advisory Practices at Airports without Operating Control Towers
2. AC 150/5200-12, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident
3. AC 150/5200-18, Airport Safety Self-Inspection
4. AC 150/5200-31, Airport Emergency Plan
5. AC 150/5210-6, Aircraft Fire and Rescue Facilities and Extinguishing Agents
6. AC 150/5210-7, Aircraft Rescue and Firefighting Communications
7. AC 150/5210-13, Water Rescue Plans, Facilities, and Equipment
8. AC 150/5210-14, Airport Fire and Rescue Personnel Protective Clothing
9. AC 150/5210-17B, Programs for Training of Aircraft Rescue and Firefighting Personnel
10. AC 150/5220-4, Water Supply Systems for Aircraft Fire and Rescue Protection
11. AC 150/5220-17, Design Standards for an Aircraft Rescue and Firefighting Training Facility
12. AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports

TYPICAL AIRPORT LAYOUT



The following pages illustrate the basic elements found at a typical Florida airport. It is important to note the relationships between each element, how these elements are connected, and where the high risk hazards areas (such as fuel storage areas and taxiways) are located within each airport facility.

HAZARDOUS AREAS

Temporarily closed taxiways are usually treated as hazardous areas that no part of an aircraft may enter, and are usually blocked with barricades. Another alternative for indicating that a taxiway or a runway is closed is to place a yellow cross at each entrance, as shown in the photograph below.

Hazardous materials include, but are not limited to, acids, gasoline, chemicals, and different kinds of vapors. Potentially hazardous areas include areas where these substances can be found; these are:

- 1) Oil depots — These are also known as fuel farms. Aviation fuel is stored in oil depots prior to being discharged into aircraft fuel tanks.
- 2) Storage areas for oil barrels — According to the FAA Advisory Circular 150/5320-15a, the sump fuel storage area will be equipped with a drip pad, and concrete curbing will be placed around the outdoor oil barrel storage areas.
- 3) Mobile refuelers — These consist of a bulk storage container onboard a vehicle that is designed or used to store and transport fuel for transfer into or from an aircraft.
- 4) Hydrant fuelers — These are also known as fueling pits or cabinets. Hydrants with cathodic protection will reduce corrosion and subsequent leaks. Another source of fueling spills may result from faulty aircraft fuel connections.



The yellow cross shows that Runway 22 is temporarily closed.



A typical fuel farm



On March 24, 2011, a major fire at Miami International Airport's fuel farm destroyed 14 pumps and forced many flights to be cancelled.

ACCESS PROCEDURES

During an emergency on an airfield, emergency responders should be escorted by someone who is familiar with the airfield and has been properly trained to drive on the airfield. Police officers stationed at the airport usually become escorts for outside agencies during an emergency. Airports that have an Aircraft Rescue Fire Fighting (ARFF) Facility on-site will use a trained fire fighter in an emergency response vehicle to escort agencies onto the airfield, depending on the extent of the emergency.

It is imperative that an airport's mutual-aid partners are trained to be able to drive on the airfield. All escorts should be trained to drive on the airfield to bring the emergency responder to the accident scene safely. This escort will communicate with other airport personnel and air traffic on the Common Traffic Advisory Frequency (CTAF). This will let the trained escort know when they have clearance to cross a runway or taxiway. At some airports with an air traffic control tower (ATCT), the tower can remotely open a gate to the airfield for emergency responders if all parties that normally act as escorts have other, higher priorities. The ATCT will safely give clearance to the vehicle that is driving on the airfield.

The number one rule to follow while driving on the airfield is that the **aircraft always has the right-of-way**. Emergency responders will usually want to take the direct and shortest route to the accident scene, but this may not always be the safest route.



Typical security gate on airfield



Emergency vehicle accessing airport security gate

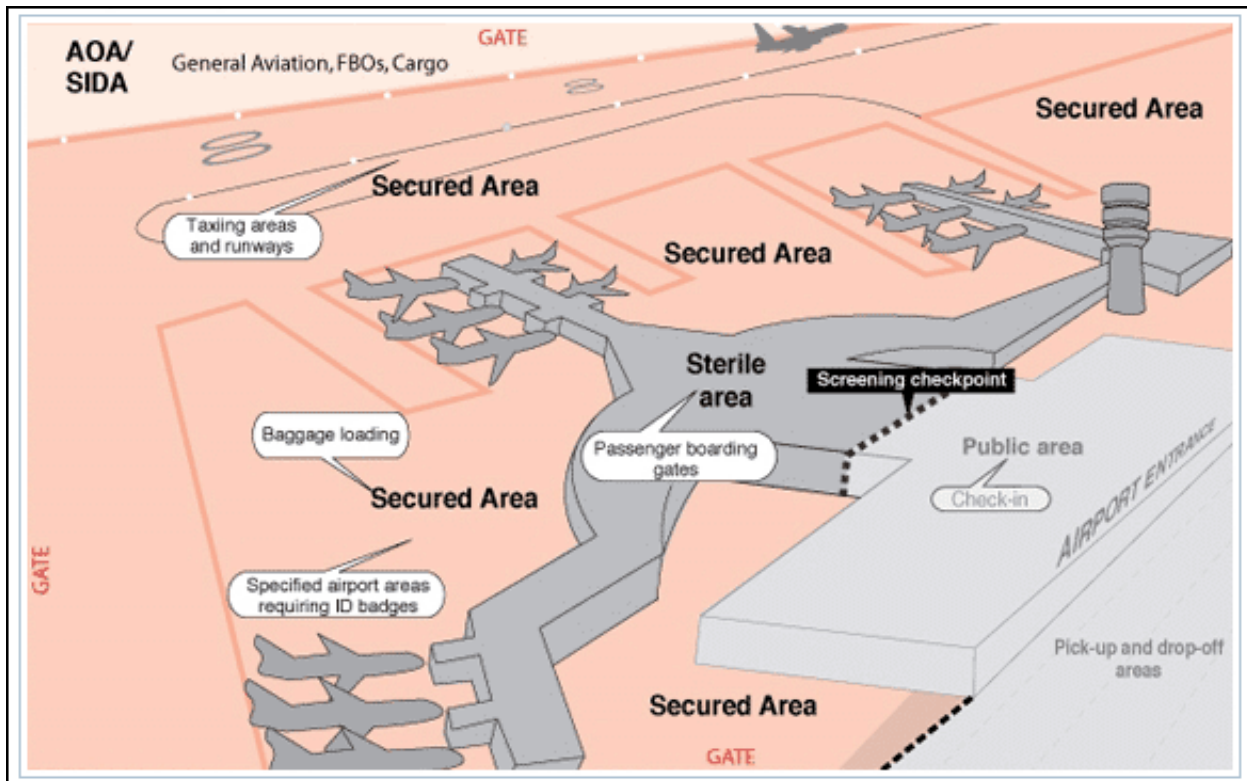
AIRFIELD ACCESS POINTS

The Air Operations Area (AOA) consists of the restricted ground areas of the airport including taxiways, runways, and aircraft parking areas. The Transportation Security Administration (TSA) defines these areas as all areas contained within the airport's security fencing, except the Security Identification Display Area (SIDA).

A security program must be established for the AOA, unless the entire area is designated as a secure area. Each airport operator required to establish an AOA must prevent and detect the unauthorized entry, presence, and movement of individuals and ground vehicles into or within the AOA.

Security Identification Display Areas (SIDA) are limited access areas that require a badge issued in accordance with procedures in CFR 49 Part 1542. Movement through or into these areas is prohibited without proper identification being displayed. If you are unsure of the location of the SIDA, contact the airport authority for additional information. AOA access badge holders are NOT necessarily authorized to operate in the SIDA.

Each individual who is granted unescorted access to the secured area must obtain an airport-issued AOA access badge and must be trained in airport driving rules and regulations. Signs are posted at secured area access points and on the perimeter to provide warnings against unauthorized entry.



Airport diagram showing secured and AOA/SIDA areas

COMMUNICATIONS

Each public use airport in Florida should have a designated Fire and Rescue Coordinator who is the first responder for any emergency at the airport, and is the primary contact for all subsequent first responders. This individual is most likely part of the airport operations team, and is responsible for working with local fire chiefs to ensure availability of sufficient numbers of qualified and trained Aircraft Rescue Fire Fighting (ARFF) personnel. It is critical to understand the various forms of communication used at different airports to better receive and process information accurately and in a timely manner. There are specific communication procedures that should be followed when responding to emergencies at airports. These instances are described below:

Airports with an Air Traffic Control Tower (ATCT)

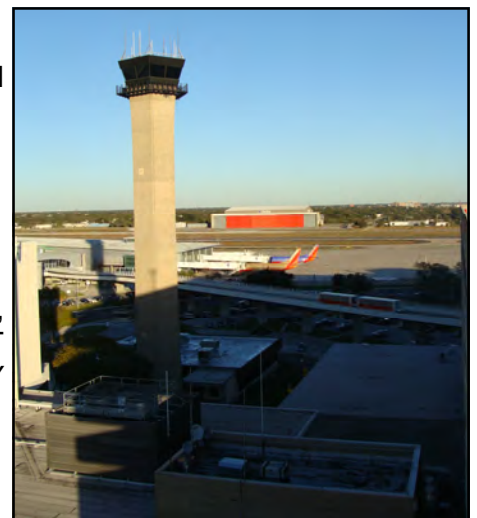
Air traffic control facilities include air surveillance radars, airport surface detection equipment, remote transmitters and receivers, wind shear detectors, weather observing equipment, and other types of equipment. The ATCT is responsible for coordinating the movements of aircraft to prevent collisions, organizing and expediting the flow of traffic, providing information and other support to pilots, and providing clearance to first responders entering the airside area of the airport.

When communicating with the ATCT, emergency responders should follow these guidelines:

- Practice radio transmissions that are **timely**, **precise**, **concise** and **disciplined**. Avoid radio transmissions that are slow (or late), sloppy, long-winded (or disorganized), or are filled with pauses and extraneous verbiage.
- Always speak clearly and in a normal conversational tone.
- Always comply promptly and correctly with ATCT clearances and instructions. Listen before a transmission is made so instructions from the ATCT can be followed in a timely manner.
- Think before you speak. Each radio transmission should be to the point and should not include the words “uh” and “um.”
- Make sure every initial call-up follows this specific four-part sequence as requested by FAA – **who** you are calling, **who** you are, **where** you are, and **what** you want if it is a request or **what** you are doing if it is a report.
- Follow the standard sequence:
 1. The full and proper name of the facility being called (on initial call-up only)
 2. Your identity and/or responding entity (on initial call-up only)
 3. Your location (if needed) and
 4. The type of message to follow or your request (if it is short)

Example: “TALLAHASSEE TOWER, EMERGENCY VEHICLE, SOUTH RAMP, RESPONDING TO AIRCRAFT FIRE AT INTERSECTION OF TAXIWAY ALPHA AND TAXIWAY CHARLIE.”

For additional information and examples please refer to the Federal Aviation Administration's "Radio Communications Phraseology And Techniques" publication. http://www.faa.gov/air_traffic/publications/atpubs/aim/Chap4/aim0402.html



ATCT at Tampa International Airport

COMMUNICATIONS (continued)

Airports without an Air Traffic Control Tower (ATCT)

If an airport does not have an ATCT or when the ATCT is closed, the aircraft with an emergency should contact the Air Route Traffic Control Center (ARTCC) on the guard frequency (121.5 MHz). Under normal circumstances aircraft can communicate with airport staff at an airport without an ATCT via Common Traffic Advisory Frequency (CTAF). Responders should monitor the guard frequency in order to be aware of an emergency to which they may need to respond.

Pilots approaching an airport without an ATCT are able to communicate their intentions and obtain airport/air traffic information using the following methods:

1. Communicating with a FSS (Flight Service Station) that is providing airport advisories on CTAF
2. Making self-announcing broadcast on CTAF

All inbound air traffic should continuously monitor and communicate, as appropriate, on the designated CTAF starting from at least ten miles from the airport until clear of the movement area. Departing aircraft should continuously monitor/communicate on the appropriate frequency from startup, during taxi, and until ten miles from the airport unless the Federal Aviation Regulations or local procedures require otherwise.

Emergency responders should use the same phraseology on CTAF as pilots arriving at the airport. Make sure every initial call-up follows this specific four-part sequence as requested by FAA:

1. The full and proper name of the facility being called
2. Your identity and/or responding entity
3. Your location and
4. The type of message to follow or your request
5. The name of the location once again

For example, if an emergency vehicle were to respond to an aircraft emergency at the Tallahassee Regional Airport (TLH), the message over CTAF should be:

Example: "TALLAHASSEE TRAFFIC, EMERGENCY VEHICLE, SOUTH RAMP, RESPONDING TO AN AIRCRAFT FIRE AT INTERSECTION OF TAXIWAY ALPHA AND TAXIWAY CHARLIE, TALLAHASSEE."

This message clearly informs all other air traffic and responders of the situation without being too verbose. If the emergency is located on a runway or taxiway, the information should be repeated on CTAF at regular intervals until the scene is clear or when an aircraft announces their intention to land at the airport.







COMMUNICATIONS (continued)

Light Guns

In the case of radio failure, a light gun, also known as a signal lamp, can be used by the air traffic control tower to communicate with an aircraft in flight, an aircraft on the ground, or group vehicles and personnel. According to the FAA, a light gun is a handheld directional light signaling device which emits a brilliant narrow beam of white, green, or red light as selected by the tower controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot actions where radio communication is not available. The light gun is used for controlling traffic operating in the vicinity of the airport and within the airport movement area. The table below describes the meanings of the different red, green, and white signals used when communicating through the use of a light gun.



Typical light gun

Color and Type of Signal	Movement of Vehicles, Equipment and Personnel	Aircraft on the Ground	Aircraft in Flight
Steady green 	Cleared to cross, proceed or go	Cleared for takeoff	Cleared to land
Flashing green 	Not applicable	Cleared for taxi	Return for landing (to be followed by steady green at the proper time)
Steady red 	Stop	Stop	Give way to other aircraft and continue circling
Flashing red 	Clear the taxiway/runway	Taxi clear of the runway in use	Airport unsafe, do not land
Flashing white 	Return to starting point on airport	Return to starting point on airport	Not applicable
Alternating red and green 	Exercise extreme caution!!!!	Exercise extreme caution!!!!	Exercise extreme caution!!!!

COMMUNICATIONS (continued)

Additional Notification Procedures

Off-Airport Fire Department — With some exceptions, Aircraft Rescue Fire Fighting (ARFF) is required at the airport during air carrier operations at 14 CFR Part 139 certificated airports. At non-certificated airports, when an off-airport fire department furnishes the ARFF equipment and personnel, the alerting/dispatch system for airport emergencies is handled by an emergency direct-line telephone between the airport alerting authority and the off-airport fire department. The off-airport fire station alarm(s) sounds upon activation of the direct emergency line. If there is no direct-line telephone between the airport and the off-airport fire department, the non-certificated airport will call 911, and the local emergency communications center will notify the local fire department of the emergency.

Notification of Firefighters — Fire stations in which personnel are normally present for duty, but may be preoccupied with “housekeeping” or training duties, are equipped with a public address (PA) system. This is particularly important in fire stations where the dispatcher room, training room, and living quarters are physically separated from the apparatus floor. A PA system can significantly enhance response time and firefighter effectiveness by providing vital details of the emergency to the firefighters such as location of accident or incident site, type of aircraft, number of persons involved, aircraft fuel load, and preferred vehicle routing during turnout. The turnout is the time interval between the discovery of an alarm to the wheels on the fire trucks moving.

Notification of Mutual Aid Entities — A mutual aid agreement is between the airport and another entity, and states that each will assist the other in the event of an emergency. A communication center should be set up in order to notify mutual aid entities. This communication center may consist of a team in the airport operations department at a larger commercial airport or a single person designated for this role during an incident at a general aviation airport. If the airport is understaffed and no communications role can be fulfilled, this role should be given to and agreed upon by the city’s or county’s emergency response communication center.

In the event of an aircraft emergency, the communications center should have a list of mutual aid entities to automatically contact including the ARFF facility or fire station with ARFF capabilities, the local police or sheriff’s department, the NTSB, and the FAA. Other mutual aid entities should be contacted when the incident commander, or airport operations personnel, on the accident scene states that certain mutual aid entities must be contacted. These entities may include EMS personnel, additional fire stations, the Red Cross, hospital, burn center, and mutual aid entities that will help with the set-up of a joint information center (JIC) and family assistance center (FAC).

FEDERAL AVIATION ADMINISTRATION (FAA) — PHONETIC ALPHABET

The International Civil Aviation Organization (ICAO) phonetic alphabet is used by FAA personnel when communication conditions are such that the information cannot be readily received without use. Air traffic control (ATC) facilities may also request pilots to use phonetic letter equivalents when aircrafts with similar sounding identifications are receiving communications on the same frequency. Responders should be familiar with the phonetic alphabet as pilots are instructed to use it when identifying their aircraft during initial contact with ATC facilities.

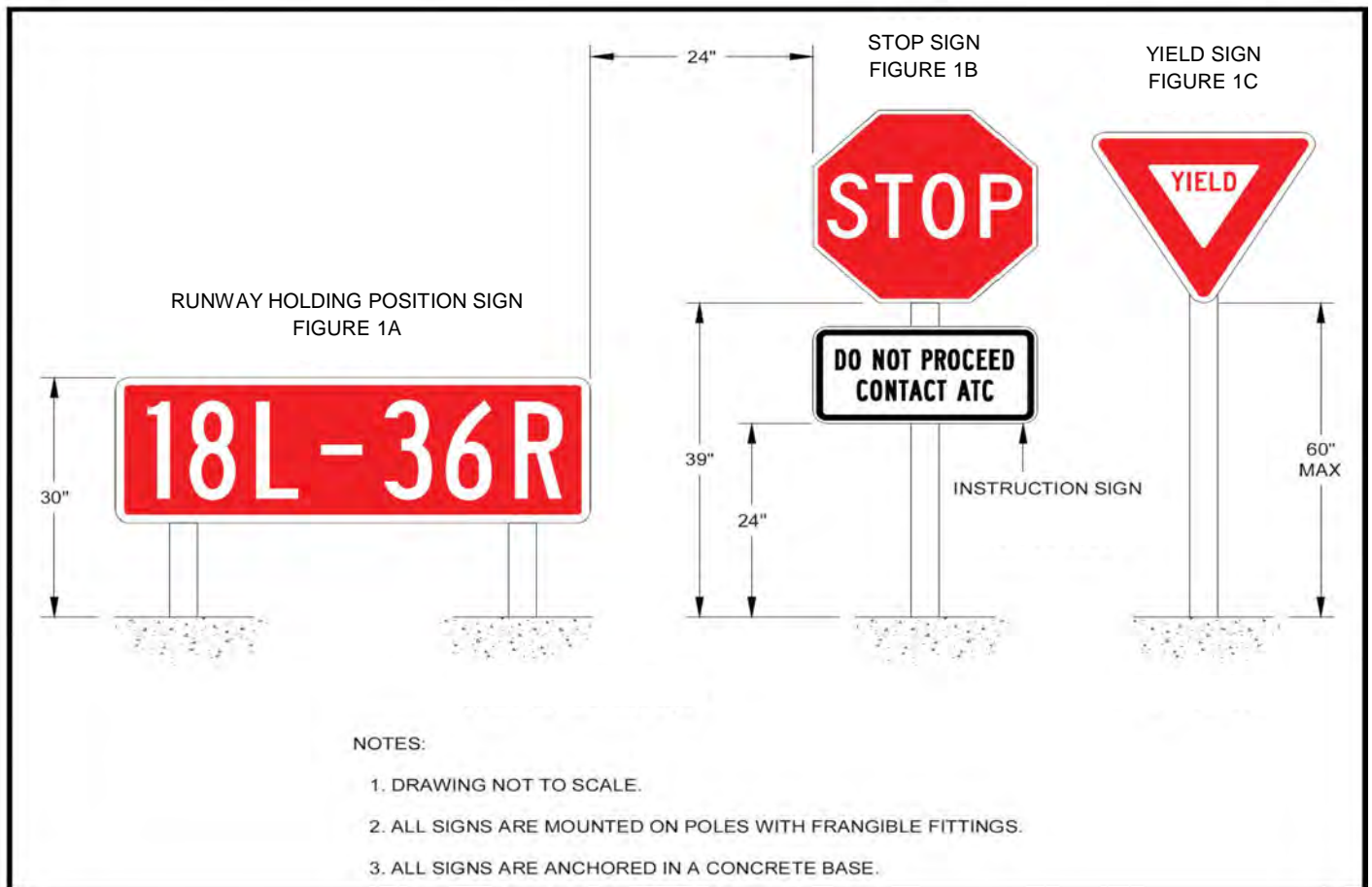
The use of the phonetic equivalents should also be used for single letters and to spell out groups of letters, or difficult words, during adverse communications conditions.

CHARACTER	TELEPHONY	PHONIC (PRONUNCIATION)
A	Alfa	(AL-FAH)
B	Bravo	(BRAH-VOH)
C	Charlie	(CHAR-LEE) or (SHAR-LEE)
D	Delta	(DELL-TAH)
E	Echo	(ECK-OH)
F	Foxtrot	(FOKS-TROT)
G	Golf	(GOLF)
H	Hotel	(HOH-TEL)
I	India	(IN-DEE-AH)
J	Juliet	(JEW-LEE-ETT)
K	Kilo	(KEY-LOH)
L	Lima	(LEE-MAH)
M	Mike	(MIKE)
N	November	(NO-VEM-BER)
O	Oscar	(OSS-CAH)
P	Papa	(PAH-PAH)
Q	Quebec	(KEH-BECK)
R	Romeo	(ROW-ME-OH)
S	Sierra	(SEE-AIR-RAH)
T	Tango	(TANG-GO)
U	Uniform	(YOU-NEE-FORM) or (OO-NEE-FORM)
V	Victor	(VIK-TAH)
W	Whiskey	(WISS-KEY)
X	Xray	(ECKS-RAY)
Y	Yankee	(YANG-KEY)
Z	Zulu	(ZOO-LOO)
1	One	(WUN)
2	Two	(TOO)
3	Three	(TREE)
4	Four	(FOW-ER)
5	Five	(FIFE)
6	Six	(SIX)
7	Seven	(SEV-EN)
8	Eight	(AIT)
9	Nine	(NIN-ER)
0	Zero	(ZEE-RO)

VEHICLE ROADWAY SIGNS

These signs are intended solely for vehicle operators.

If an airport has more than one runway, a standard runway holding position sign (as shown in Figure 1A below) will be installed to help vehicle operators maintain their situational awareness when approaching runways and provide a visual reference to aid in identifying them. In some cases the holding position sign may be attached to the same mounting pole as the STOP and DO NOT PROCEED signs, but typically it is a separate assembly located near the STOP sign. For the holding position sign, the runway designations must be arranged to indicate the direction to the corresponding runway threshold. Figure 1A is a visual cue that tells the vehicle that an intersection with a runway or taxiway is ahead. A standard highway stop or yield sign (as shown in the Figure 1B and Figure 1C below) is installed at the intersection of each roadway with a runway or taxiway. At controlled airports, unless there is a letter of agreement with the air traffic control (ATC) allowing a driver to cross taxiways without clearance, a "DO NOT PROCEED CONTACT ATC" sign will be installed underneath a stop sign (as shown in Figure 1B below). The driver of the vehicle should not proceed past the sign without clearance from ATC.



MANDATORY INSTRUCTION SIGNS

White text with a **black** outline on a **red** background (as seen on following pages)

At controlled airports (airports with an operating ATCT), vehicles and aircraft are required to hold at mandatory instruction signs unless cleared by the ATCT. At uncontrolled airports, vehicles and aircraft may proceed beyond mandatory instruction signs only after appropriate precautions are taken.

Mandatory Instruction Signs are used at:

- Taxiway/runway intersections
- Runway/runway intersections
- Instrument Landing System (ILS) critical zones
- Precision Obstacle Free Zone (POFZ) boundaries
- Runway approach areas
- Category II/Category III (CAT II/III) operation areas
- Military landing zones

Runway Designations—The runway numbers are separated by a dash, and their arrangement indicates the direction to the corresponding runway threshold. For example, "15-33" indicates that the threshold for Runway 15 is to the left and the threshold for Runway 33 is to the right. The sign at each runway end contains the inscription only for the takeoff runway, while all other signs contain both runway designation numbers. A runway is named according to its magnetic heading. Therefore, the name Runway 15 would indicate the runway has a magnetic heading of 150 degrees.



Holding Position Sign



Typical Airport Signage

MANDATORY INSTRUCTION SIGNS (continued)

White text with a black outline on a red background



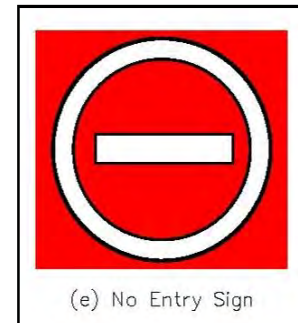
This sign alerts you that you are approaching a runway. When on a taxiway, this sign is accompanied by a runway holding position marking as shown on page 30. This sign indicates that Runway 15 is to the left and Runway 33 is to the right.



ILS stands for Instrument Landing System which is a type of navigational signal used by landing aircraft during inclement weather. This sign tells pilots and vehicle operators where to stop to avoid interruption. If a vehicle proceeds past this sign, it may cause a false signal to be transmitted to the landing aircraft.



This sign is installed on taxiways located in approach areas where an aircraft on a taxiway would either cross through the Runway Safety Area (RSA) or penetrate the airspace required for the approach or departure runway (including clearway). Taxiing past this sign may interfere with operations on the runway, even though it is not located at a runway intersection.



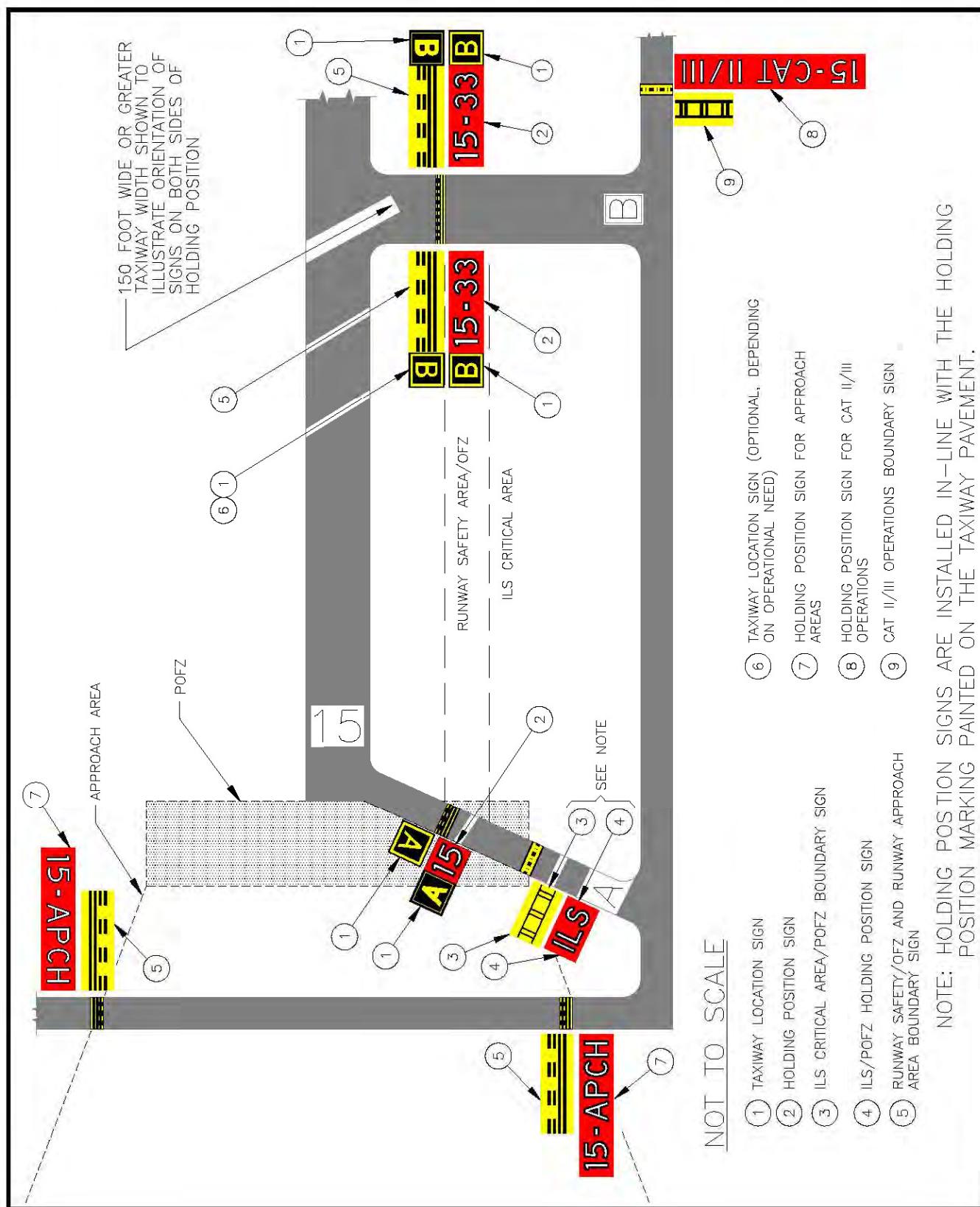
This sign indicates an area prohibited to aircraft but not vehicles. Typically, this sign would be located on a taxiway intended to be used in only one direction or at the intersection of vehicle roadways with runways or taxiways where the roadway may be mistaken as a taxiway.



The sign is installed on a taxiway that is parallel to a runway used during CAT II/III operations to indicate where aircraft are to hold during CAT II/III operations to ensure proper aircraft separation.

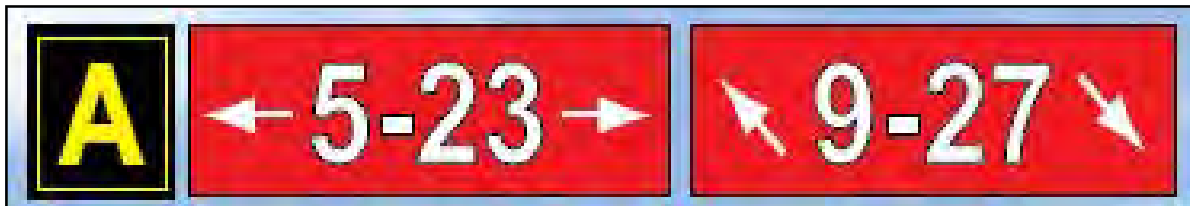
MANDATORY INSTRUCTION SIGNS (continued)

White text with a black outline on a red background

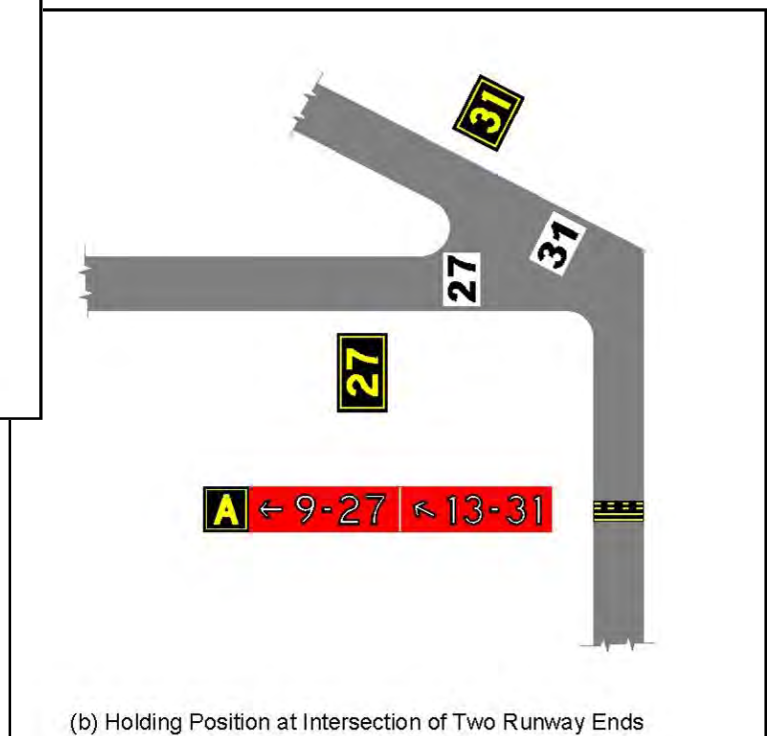
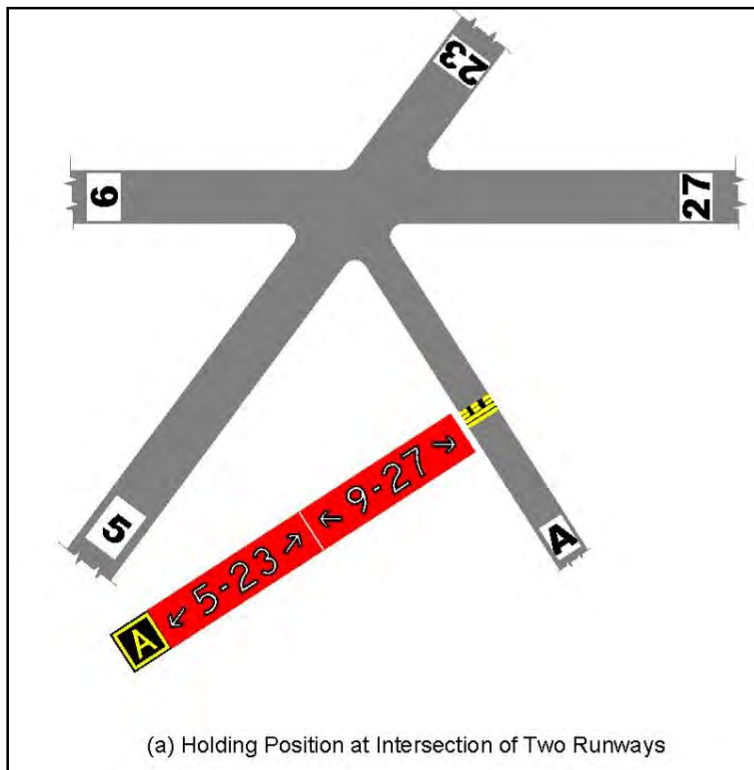


MANDATORY INSTRUCTION SIGNS (continued)

White text with a **black** outline on a **red** background



This signage is located at the intersection of two runways and a taxiway.



LOCATION SIGNS

Yellow text with a **yellow** border on a **black** background

Location signs identify the taxiway or runway upon which the aircraft is located, and do not contain arrows. Location signs include the following:

Taxiway Location Sign—This sign identifies the taxiway on which an aircraft is located. A typical sign is shown below.

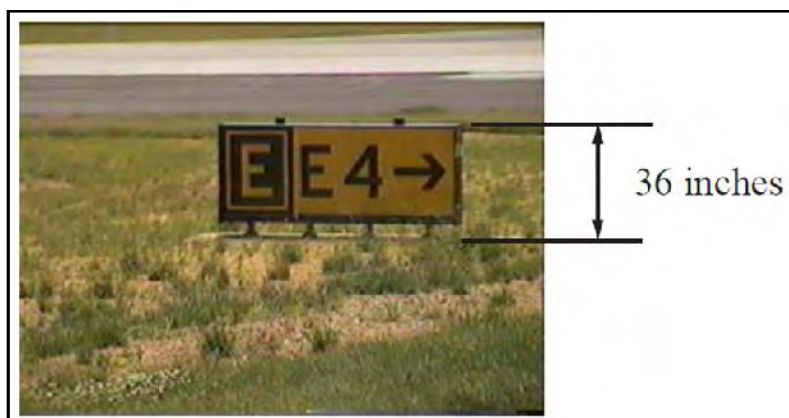
Runway Location Sign—This sign is installed on runways where the proximity of two runways could create confusion, as shown in the figure below. This sign is also installed on runways at runway/taxiway intersections used for intersection takeoffs. This sign is located to clearly identify the runways, and only contains the runway designation for the one runway end.



(a) Taxiway Location Sign



(b) Runway Location Sign



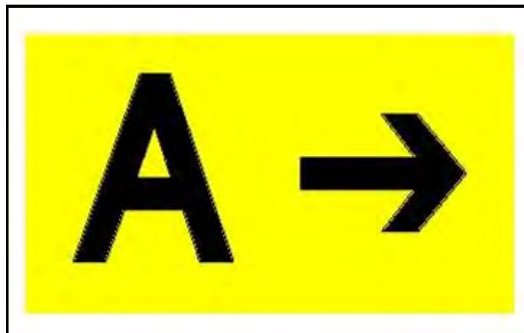
DIRECTION SIGNS

Black text on a **yellow** background, always containing an **arrow**

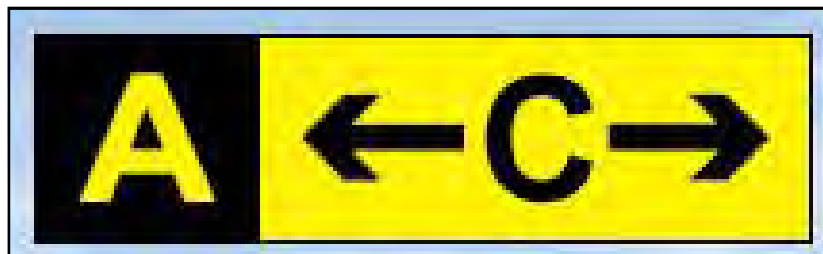
These signs indicate directions of other taxiways leading out of an intersection. The arrows should be oriented to approximate the direction of the turn. Direction signs are not placed adjacent to holding position signs or boundary signs, and are not installed between the holding position marking and the runway. Signs used to indicate the direction of taxiways on the opposite side of a runway are located on the opposite side of the runway.

Taxiway Direction Sign— A typical taxiway direction sign is shown below.

Runway Exit Sign— A typical runway exit sign is shown below. Signs for runway exits are located prior to the runway/taxiway intersection on the side, and in the direction to which the aircraft is expected to exit. “Bracketing” a runway exit sign (where a sign is placed before and after the exit) is not permitted.



This sign is used to identify a taxiway.

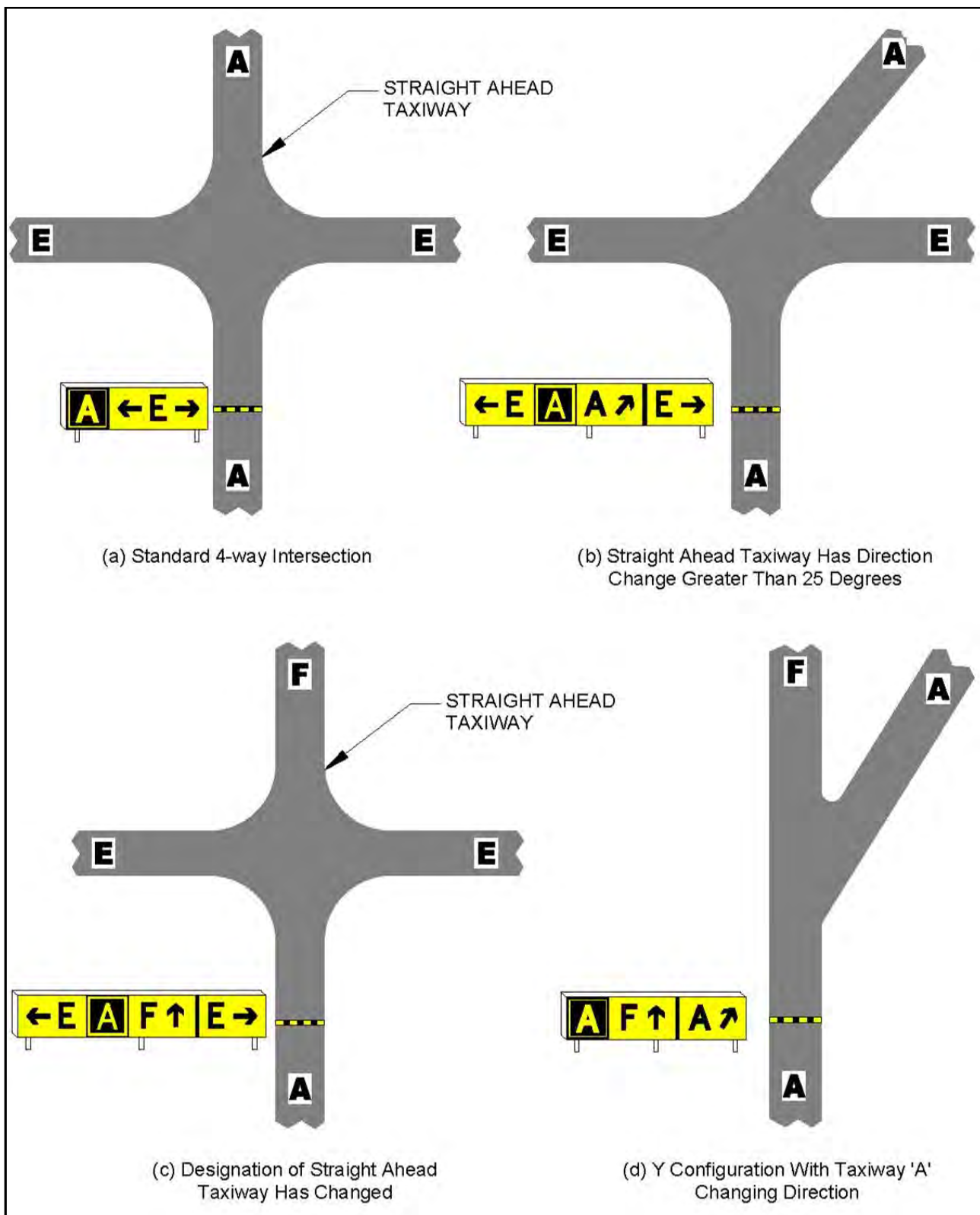


This sign indicates that you are approaching the intersection of two taxiways.

DIRECTION SIGNS (continued)

Black text on a yellow background, always containing an arrow

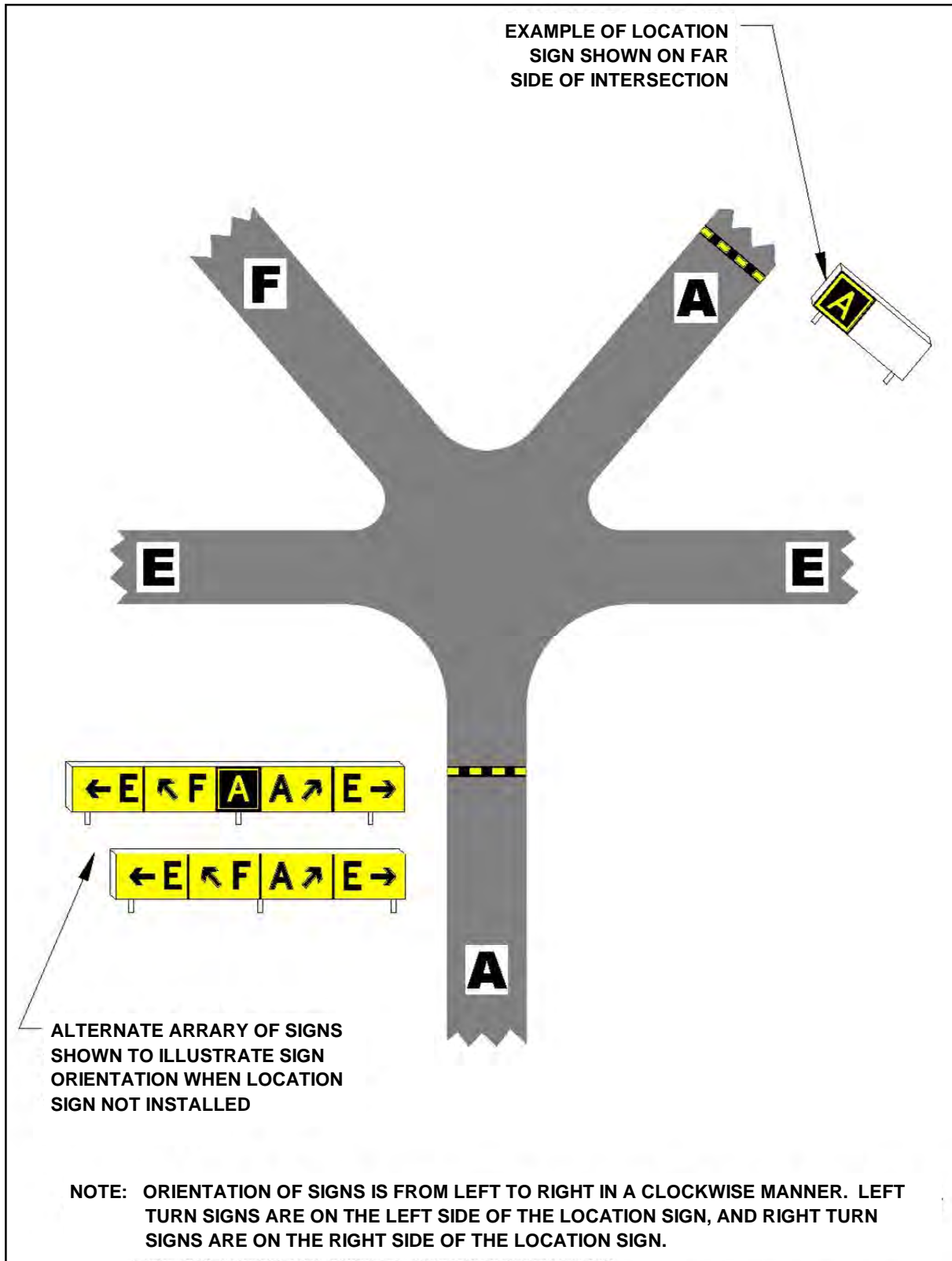
Taxiway / Taxiway Intersection



DIRECTION SIGNS (continued)

Black text on a yellow background, always containing an arrow

Complex Taxiway / Taxiway Intersection



RUNWAY DISTANCE REMAINING SIGNS

White number on a **black** background

The signs shown below indicate thousands of feet remaining to the end of the runway.



Runway Distance Remaining Sign.



One-Half Distance Remaining Sign.



Typical Runway Distance Remaining Sign indicating 1000 feet left until the end of the runway

DESTINATION SIGNS

Black text on a **yellow** background, always containing an **arrow**

This sign indicates the general direction to a remote location. At many larger airports, taxiway routing is a dynamic process, dependent on many variables, including airfield construction and runway use. In such cases, destination signs may provide information that conflicts with air traffic control direction. Therefore, use destination signs at such airports only in cases of remote locations and/or where taxiway location signs and direction signs alone would not adequately guide someone to their desired destination. Destination signs are more beneficial at uncontrolled airports.

Outbound Destination Sign—Outbound destination signs identify directions to takeoff runways. These routes usually begin at the entrance to a taxiway from an apron area. The inscription is the runway number plus an arrow indicating the direction (see graphic below). More than one runway number, separated by a dot, may be shown where the taxiing route is common to both runways (see figure below). The outbound destination sign should always direct the pilot to the beginning of a takeoff runway.

Inbound Destination Sign—Major destination areas are usually shown on inbound destination signs. For example, at many airports, signs indicating the route to the apron may be adequate; whereas at other airports, it may be necessary to make a distinction between passenger aprons, cargo aprons, and military aprons, or between aprons in different locations at the airport, such as the north apron or east apron. At points closer to the major destination areas, more detailed destination signs should be provided to indicate specific areas that are designated for parking service, passenger handling, or military aircraft (see Figure (d) for a typical sign).



(b) Typical Outbound Destination Sign



(c) Outbound Destination Sign to Different Runways

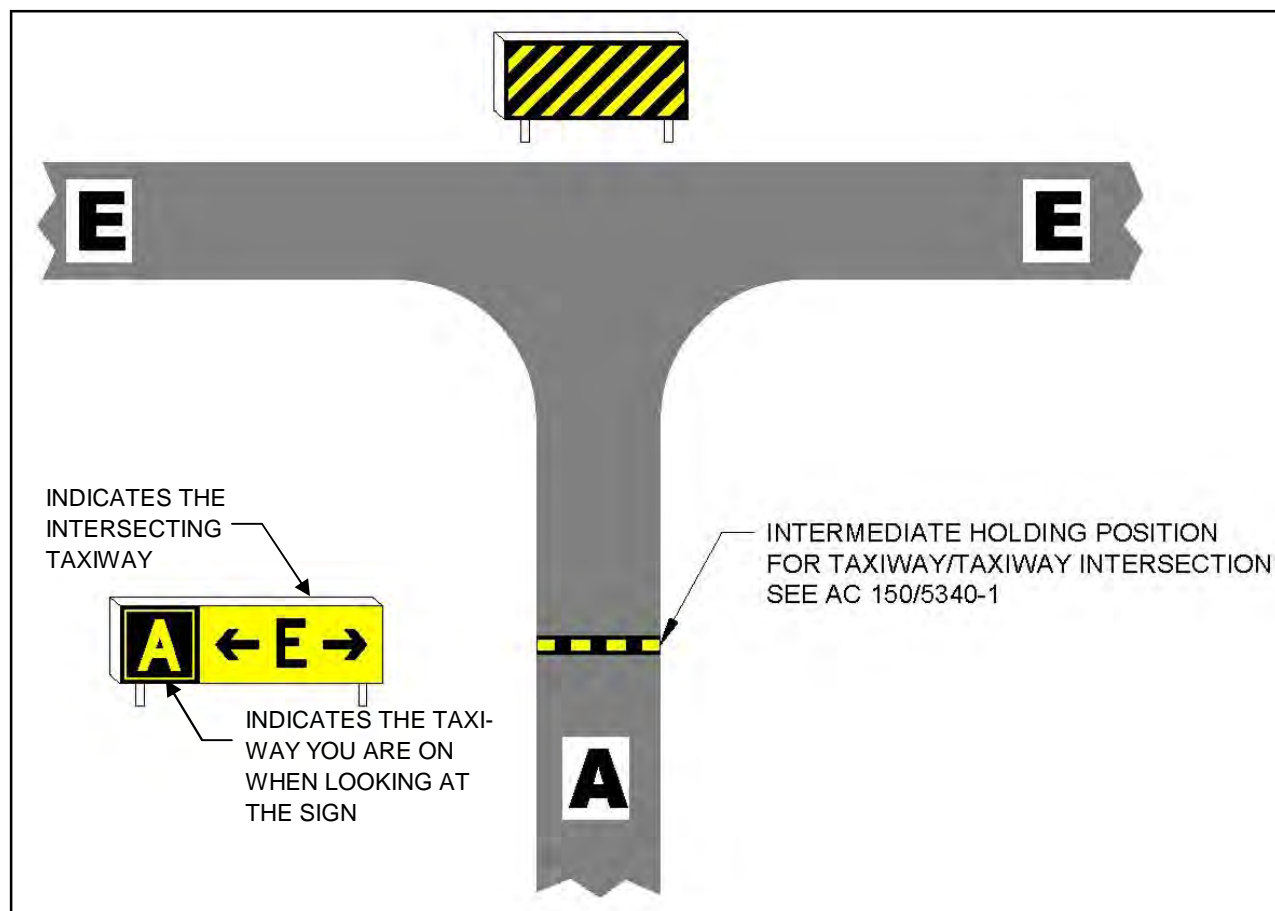


(d) Inbound Destination Sign

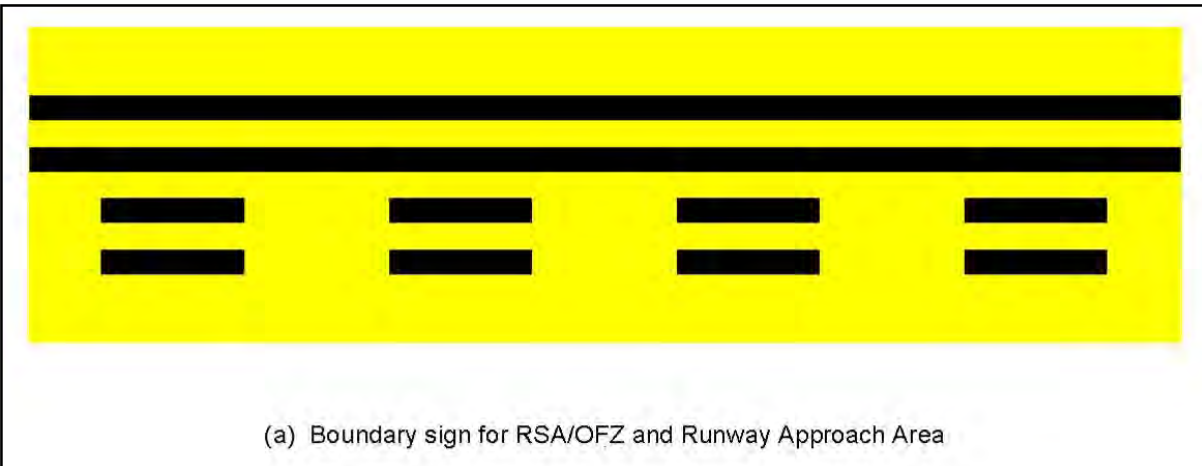
TAXIWAY ENDING MARKERS

In the diagram below, the “A” specifies your current location on the taxiway, and the “E” indicates the intersecting taxiway ahead. The sign with the alternating 45 degree **yellow** and **black** stripes indicates that Taxiway A does not continue further.

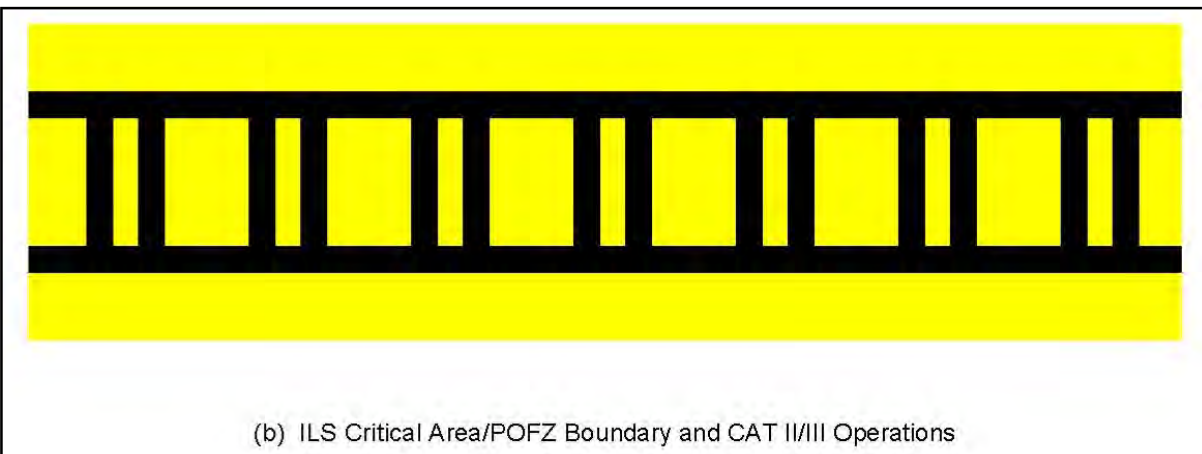
This Taxiway Ending Marker is a frangible retro reflective barrier installed on the far side of an intersection if the normal visual cues, such as marking and lighting, are inadequate.



BOUNDARY SIGNS

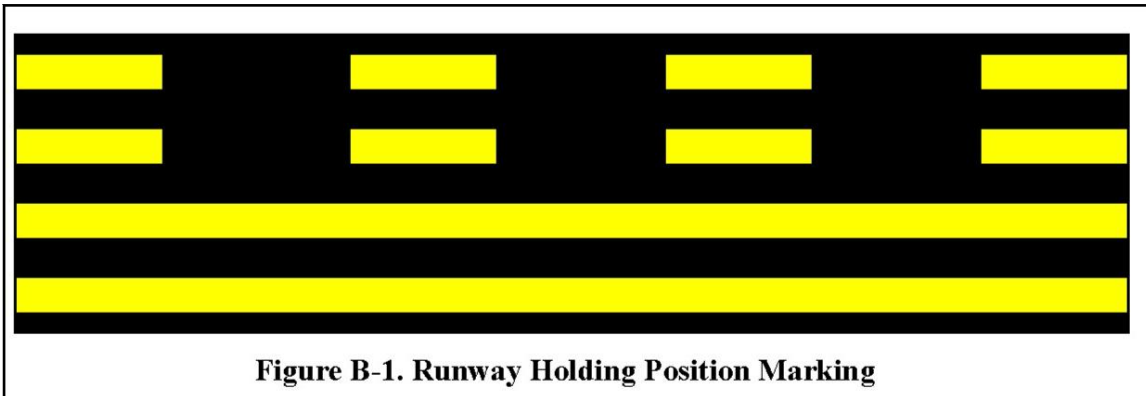


This sign identifies the boundary of the RSA/OFZ or the runway approach area for pilots who are exiting these areas. It is located next to the yellow holding position markings painted on the taxiway pavement. The sign is typically used only at controlled airports upon the request of the ATCT, and is located on taxiways where the controller commonly asks the pilot to report "clear of the runway" or where an aircraft is regularly required to stop upon exiting the runway.

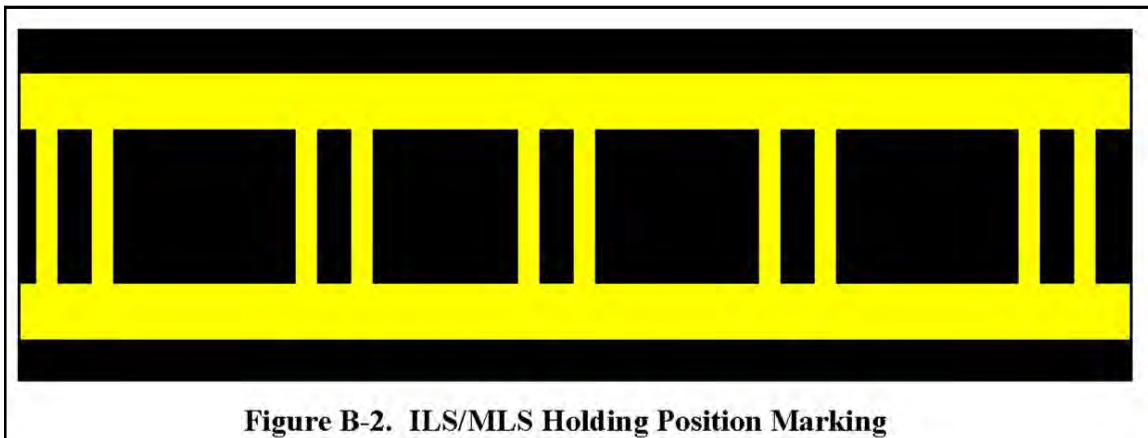


This sign identifies either the boundary of the Instrument Landing System (ILS) critical area, or the POFZ, or the holding position for CAT II/III operations. This sign is used at controlled airports on taxiways where the controller commonly asks pilots to report, "clear of the ILS critical area" when exiting these areas. This sign is installed only on the reverse side of an ILS, POFZ, or CAT II/III operations holding position sign.

TAXIWAY AND RUNWAY HOLDING POSITION PAVEMENT MARKINGS



The Hold Short Line is a critical marking on the airfield. This marking indicates where an aircraft is to hold before entering a runway. If the aircraft is facing the two solid lines, clearance needs to be granted in order to cross. If the aircraft is facing the two dashed lines, taxiing across can be made without clearance.

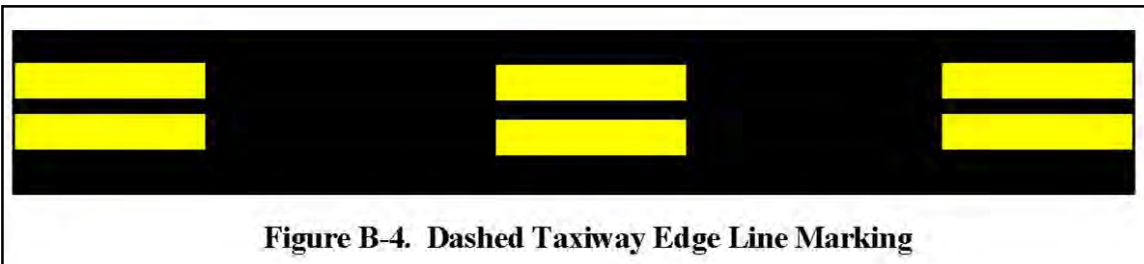
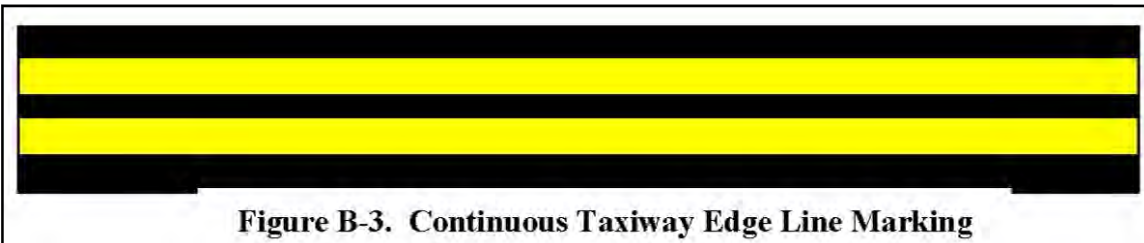


This marking indicates the edge of the Instrument Landing System (ILS) critical area. You may be directed to hold short at this line if an aircraft is using the ILS.

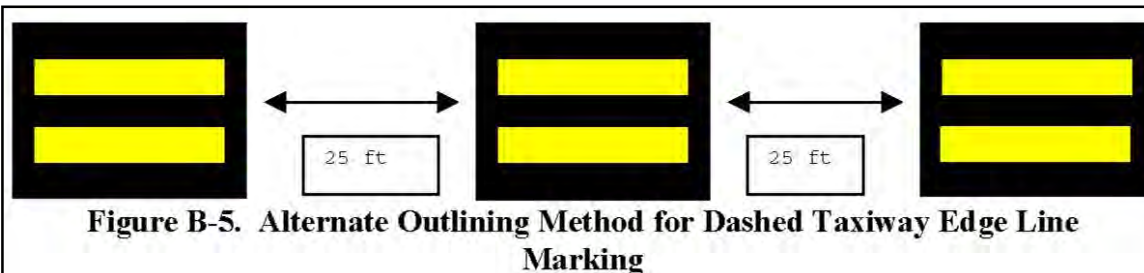
TAXIWAY AND RUNWAY HOLDING POSITION MARKINGS (continued)

The taxiway edge marking, a dual continuous marking (shown in Figure B-3) or dashed marking (shown in Figure B-4), is used along a taxi route when it is deemed necessary by the airport operator or the FAA to:

- Alert pilots where the demarcation line exists between usable pavement for taxi operations and unusable pavement
- Identify the edge(s) of a taxi route located on sizeable paved areas that can be crossed over by the pilot.

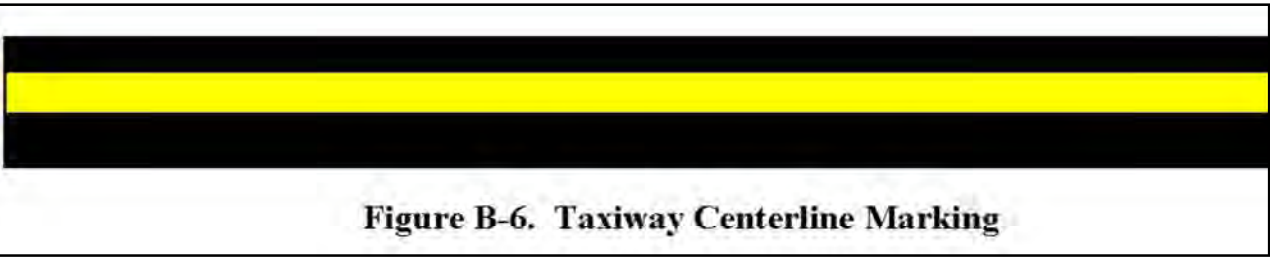


The dashed taxiway edge marking is used where there is an operational need to define the edge(s) of a taxi route on or contiguous to a sizable paved area that permits pilots to cross over this surface marking. A common application for this surface marking is a taxi route along the outer edge of a terminal apron.

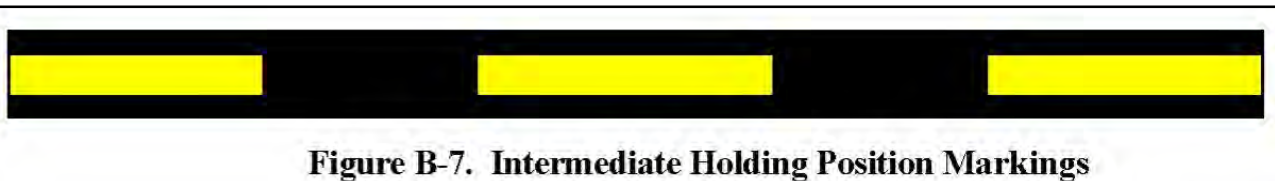


This figure shows an alternate method of indicating the taxiway edge using dashes.

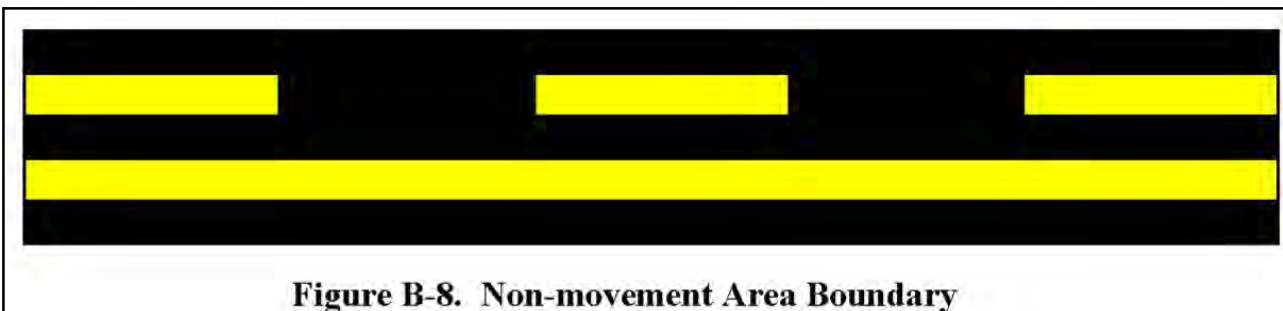
TAXIWAY AND RUNWAY HOLDING POSITION MARKINGS (continued)



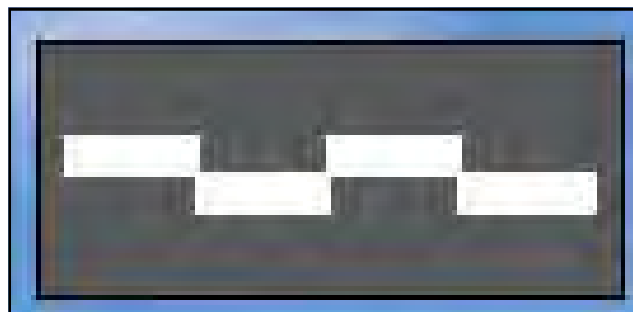
This marking denotes the centerline of the taxiway. All taxiways, regardless of their widths, have a surface painted taxiway centerline. The taxiway centerline marking provides pilots continuous visual guidance to permit taxiing along a designated path.



Stopping behind this marking will ensure wingtip clearance for aircraft on an intersecting taxiway.

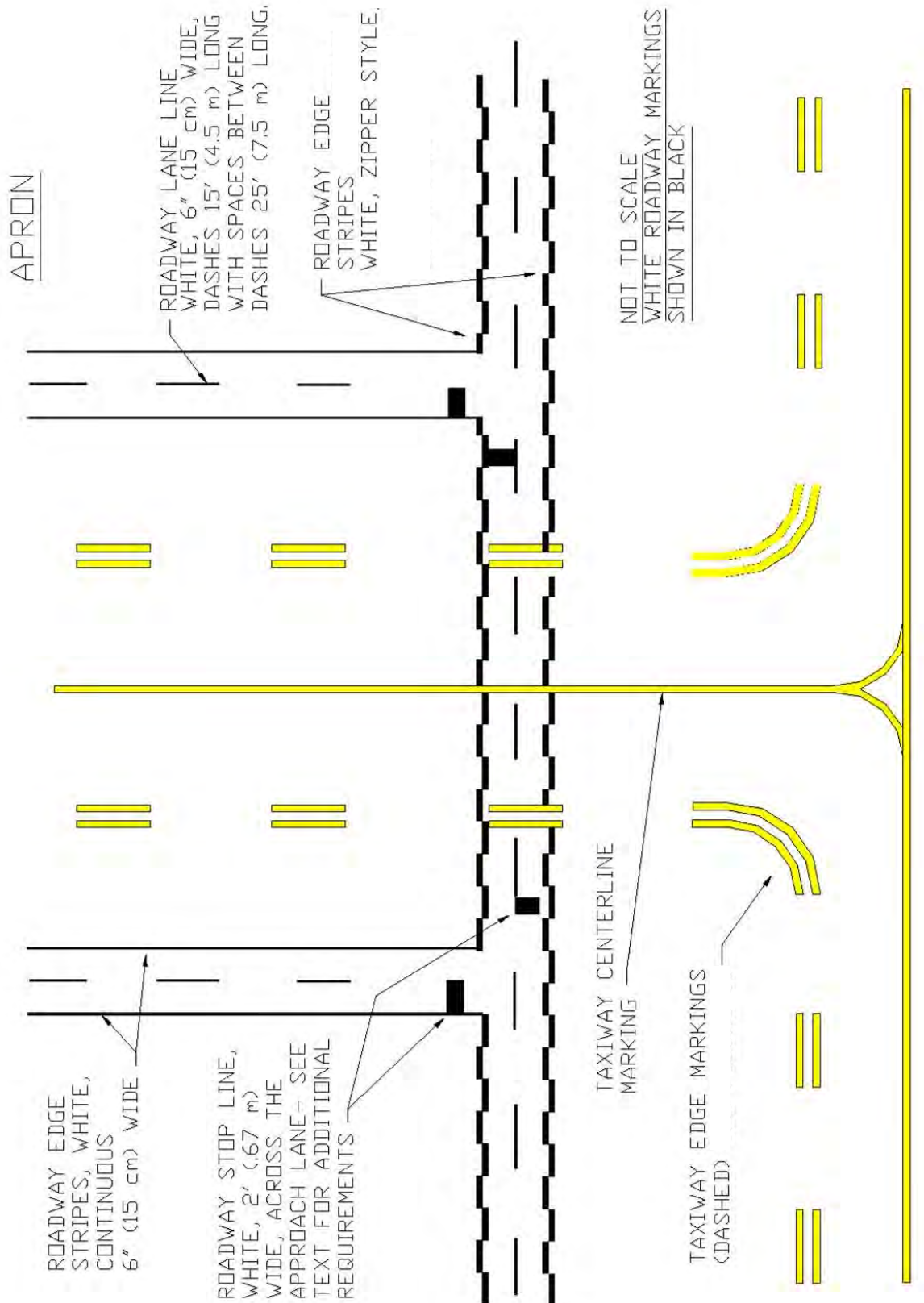


This painted marking indicates the line between a movement area and a non-movement area.



This marking indicates the edge of a path for vehicle traffic on areas also intended for aircraft.

VEHICLE ROADWAY MARKINGS



Appendix C

Example Mutual Aid Agreements/Letters of Agreement

APPENDIX C

EXAMPLE MUTUAL AID AGREEMENTS/ LETTERS OF AGREEMENT

MUTUAL AID AGREEMENTS

Information was gathered from the Federal Aviation Administration Advisory Circular 150 in order to compile *Sample 1* and *Sample 2* mutual aid agreements. A form similar to these can be filled out in order to implement an agreement between an airport and a private, county, or city agency. If a mutual aid agreement or letter of agreement is in place before an emergency occurs, the response time will be much faster, since each party understands their respective duties.

SAMPLE 1

[NAME OF AIRPORT] AIRPORT TRAFFIC CONTROL TOWER AND [NAME OF AIRPORT]

LETTER OF AGREEMENT EFFECTIVE: [DATE]

SUBJECT: AIRPORT EMERGENCY SERVICE

PURPOSE. The purpose of this agreement is to prescribe procedures to be used, to the extent practicable, in the event of an emergency, actual or potential, on or in the vicinity of the [name of airport] during the hours that the [name of airport] is operational.

1. CANCELLATION. [Name of airport] Airport Traffic Control Tower (ATCT) and [name of airport] Letter of Agreement dated [_____].

2. SCOPE. In the event of an aircraft accident, bomb threat, or other emergency, actual or potential, on or in the vicinity of the [name of airport], [name of airport] Airport Traffic Control Tower (ATCT) personnel will alert emergency equipment when any of the following request such action:

- a. A specialist on duty in the operating quarters.
- b. The pilot of the aircraft concerned.
- c. The operator of the aircraft or his/her representative.
- d. A representative of airport management.

The airport will automatically be closed when:

- a. Off-airport fire equipment responds to any emergency which requires travel on the designated Movement Area.
- b. Any aircraft accident or incident, or other emergency, which occurs on, or in the vicinity of, the airport to which airport Aircraft Rescue and Fire Fighting equipment responds.

NOTE: *The airport operator should insert any additional closure criteria specific to the particular airport in this section.*

The airport will remain closed until ATCT personnel have received authorization from the airport manager or designated representative to open partial or complete areas of the airport. In cases of minor incidents, telephone permission will be allowed.

The type and amount of equipment and number of personnel responding to the emergency will be determined by the Incident Commander (IC). After receiving the notification of the emergency, the personnel operating the equipment will be responsible for handling the emergency.

3. RESPONSIBILITIES.

- a. **Airport Traffic Control Tower (ATCT):** It will be the responsibility of *[name of airport]* Airport Traffic Control Tower personnel to:

- (1) Alert emergency response personnel in accordance with established procedures for:

- (a) Each of the three types of alert classifications listed below in paragraph 4.a.(1)(a) through (c).
- (b) Any other emergency, actual or potential, which comes to the attention of ATCT personnel.

- (2) Test the Crash Phone system daily at 09:00. Problems will be reported immediately to the Airport Manager or designated representative.

- (3) Assist the airport operator in the development of necessary emergency plans and procedures, as appropriate.

- b. **Airport Operator:** It will be the responsibility of *[name of airport]* personnel to:

- (1) Ensure that at least one on-scene individual/vehicle maintains two-way radio communications with the ATCT.

- (2) Provide training to emergency response personnel regarding the operation of vehicles on the airport Movement Area, including the use of two-way radios and standard ATCT light signals.
- (3) In coordination with the ATCT, as appropriate, develop and maintain necessary emergency plans and procedures.

4. PROCEDURES.

a. Aircraft Emergencies:

(1) Classifications:

- (a) **ALERT I - Minor Difficulty:** Potential minor emergency; equipment not requested at standby positions. Airport not closed unless off-airport equipment responds to the designated Movement Area. The Airport Traffic Control Tower will:
 - (i) Notify designated emergency response personnel in accordance with established procedures (crash phone, hot line, radio, pager, cell phone).
 - (ii) Notify airport manager or designated representative.
 - (iii) Notify aircraft operator or designated representative, if able.
- (b) **ALERT II - Major Difficulty:** Potential major emergency; aircraft has fire on board, faulty landing gear, no hydraulic pressure, etc. Airport is closed after aircraft lands. The ATCT will:
 - (i) Notify emergency response personnel in accordance with established procedures (crash phone, hot line, radio, pager, cell phone).
 - (ii) Notify airport manager or designated representative.
 - (iii) Notify aircraft operator or designated representative, if able.
 - (iv) Notify fixed-base operator, if appropriate.
 - (v) Provide appropriate ground control clearances to responding emergency vehicles, as needed.
 - (vi) To the extent practicable, keep other aircraft and ground vehicle operators clear of the area involved in the emergency.

- (c) **ALERT III - Aircraft Accident:** Aircraft involved in an actual accident on or near the airport. Airport closed if on-airport or emergency equipment must traverse the airport to reach the scene. ATCT will:
 - (i) Notify emergency response personnel in accordance with established procedures (crash phone, hot line, radio, pager, cell phone).
 - (ii) Close the airport.
 - (iii) Notify airport manager or assistant manager.
 - (iv) Notify aircraft operator or his or her representative, if able.
 - (v) Notify fixed-base operator, if appropriate.
 - (vi) Provide appropriate ground control clearances to responding emergency vehicles, as needed.
 - (vii) Control the movement of aircraft and vehicles in the Movement Area to permit emergency response vehicle access to/from the accident area. The movement of emergency vehicles will take priority over that of taxiing aircraft until the emergency condition has ended.
- (2) **Information.** The [*name of airport*] ATCT will provide the following information to emergency response personnel whenever possible:
 - (a) Aircraft identification.
 - (b) Aircraft type.
 - (c) Nature of emergency.
 - (d) Estimated time of arrival.
 - (e) Runway being used.
 - (f) Number of persons on board (crew and passengers).
 - (g) Amount of fuel on board.
 - (h) Type and location of dangerous cargo on board.
 - (i) Type and location of any animals on board.

(3) **Bomb Threat, Hijack, Dangerous Cargo, and Other Emergencies.** Any time ATCT personnel become aware of an actual or potential situation which may present a threat to the health and safety of the public, the *[name of airport]* ATCT will:

- (a) Notify designated emergency response personnel in accordance with established procedures (crash phone, hot line, radio, cell phone).
- (b) Notify airport manager or designated representative.
- (c) Notify aircraft operator or designated representative, if able.
- (d) Close the airport to all traffic except the distressed aircraft.
- (e) Direct the distressed aircraft to the designated search area.
- (f) Standby to assist in communications, if requested.
- (g) Control the movement of aircraft and vehicles in the Movement Area to permit access to/from the designated search area. The movement of emergency vehicles will take priority over that of taxiing aircraft until the emergency condition has ended.

[Signature]

[Name]

Air Traffic Manager, *[name of airport]* Airport Traffic Control Tower

[Signature]

[Name]

[Name of airport] Director

[Signature]

[Name]

Fire Chief, Off-Airport Fire Department(s)

SAMPLE 2

MUTUAL AID AGREEMENT

STATE OF FLORIDA AND COUNTY OF [_____]

This agreement entered into by and between the County of [_____] Airport Authority and [_____] on the [_____] day of [____], 20[____], for a term of [*months/years/until terminated in writing by either party*]

WHEREAS, the County of [_____] Airport Authority is a political subdivision of the State of Florida established and empowered to operate, maintain, and protect the airports and air facilities of the Authority and to promote the safety of said airports and the public therein; and

WHEREAS, the [_____] is a [*municipality/state agency/political subdivision*] of the State of Florida established and empowered to [*recite powers as appropriate*]; and

WHEREAS, the parties hereto find that the possibility of major disasters threatening life and property within their respective jurisdictions presents a common danger most effectively to be met by collective planning and effort; and

WHEREAS, the parties desire in advance of a major disaster or emergency condition to coordinate life-saving, fire fighting, law enforcement, and other related activities; and

WHEREAS, the parties hereto have, through their respective governing boards or commissions, approved the terms and covenants set forth hereinafter by appropriate resolutions;

NOW THEREFORE the parties hereto do agree and covenant one to another as follows:

ARTICLE ONE—DEFINITIONS

The following terms and phrases shall be understood to mean:

- a. **“Incident Command Post”** – a point where responding agencies are briefed on the situation as they arrive to report and assume control of the individual aspects of the operation.
- b. **“Disaster”** – an occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries.
- c. **“Emergency”** – any occasion or instance—such as a natural disaster (e.g. hurricane, tornado, storm, flood, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mud slide, snowstorm), aircraft crash and/or, fire; structural fire; sabotage, hijack incident, or otherwise unlawful interference with operations; major power failure; nuclear accident; chemical, biological, radiological, nuclear, and high yield explosive (CBRNE incident); or any other natural

or man-made catastrophe—that warrants action to save lives and to protect property, public health, and safety.

- d. **“Emergency Plan”** – a document that describes how people and property will be protected in disaster and disaster threat situations; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies, and other resources available for use in the disaster; and outlines how all actions will be coordinated.
- e. **“Emergency Operations Center”** – a protected site from which emergency officials coordinate, monitor, and direct emergency response activities during an emergency.
- f. **“Incident Commander”** – the individual who directs and controls emergency response personnel and equipment, as well as providing overall management at a specific incident site, including public safety and public information. The goal of the Incident Commander (IC) is to obtain the maximum productivity from all on-scene resources. The individual in this position may change depending on the scope, intensity, and duration of the incident.
- g. **“Incident Command System”** – a standardized organizational structure used to command, control, and coordinate the use of resources and personnel who have responded to the scene of an emergency. The concepts and principles for ICS include common terminology, modular organization, integrated communication, unified command structure, consolidated action plan, manageable span of control, designated incident facilities, and comprehensive resource management.
- h. **“Letter of Agreement”** – a written undertaking by and between the parties hereto for the purpose of supplementing the terms hereof.
- i. **“Party”** – the parties hereto through their respective governing boards or commissions.
- j. **“Requesting Party”** – the party hereto in the jurisdiction of which a major disaster has occurred, including, but not limited to, fire, flood, earthquake, riot, civil commotion, or other emergencies threatening to life and/or property, of such magnitude that the resources of the said party are, in the determination of the Incident Commander (IC) of said party, not sufficient to control or abate the disaster or emergency conditions.
- k. **“Responding Party”** – the party hereto receiving a request for assistance from the requesting party.

ARTICLE TWO – OPERATIONAL PROVISIONS

- a. The responsibility for determining the magnitude of a major disaster or emergency condition and for taking initial measures to meet such disaster or emergency condition shall rest with the party in the jurisdiction of which the disaster or emergency arises in accordance with the emergency plan of said party.
- b. In the event a disaster or emergency condition is found by a party, the said party shall immediately identify an Incident Commander (IC) and establish an Incident Command Post.
- c. The IC shall determine if any requirement exists for assistance from other parties and shall, as the requesting party, communicate such requirement to responding parties.
- d. Both parties agree to implement the National Incident Management System (NIMS) during all emergency responses on and off the airport.
- e. The responding party shall, in accordance with its emergency plan and/or any Letters of Agreement with the requesting party, determine the availability of resources that can be dispatched to the requesting party to serve with the requesting party in controlling or mitigating the disaster or emergency condition.
- f. All resources of the responding party, including but not limited to personnel, law enforcement and firefighting equipment, medical supplies, life-saving equipment, and other emergency supplies, that shall be dispatched to the requesting party, shall be under the direction and control of the (IC) of the requesting party, and shall act as the sole agents of the requesting party for the duration of the disaster or emergency condition or until such time as the said resources are released by the requesting party.

NOTE: *In Florida, the responding mutual aid forces remain under the operational control of the agency requesting the mutual aid, unless the requesting agency asks the assisting mutual aid agency to take over certain parts or all of the operation. In some other states, the control of the assisting mutual aid forces remains under the operational control of the jurisdiction, department, or agency furnishing the force. This should be reviewed before developing a Mutual Aid Agreement.*

- g. The rendering of assistance by a responding party under the terms of this Agreement shall be voluntary and not mandatory as conditions in the jurisdiction of the responding party shall warrant. The inability of a responding party to render aid shall in no case give rise to liability of the responding party to the requesting party or any third person for damages as a result of such inability, and the parties hereto expressly agree that the responding party shall be indemnified and held harmless by the requesting party for any and all damages resulting from rendering of or failure to render assistance under the provisions hereof. If a responding party is not able to provide the requested assistance, or any portion of it, to the requesting party, the responding party will advise the requesting party of such incapacities.

- h. The rendering of assistance by a responding party under the terms of this Agreement shall be without compensation and at no cost to the requesting party.

ARTICLE THREE – AMENDMENT

- a. This Agreement may be supplemented by the Letters of Agreement between the parties for the purpose of exchanging information, identifying responsible officials, coordinating specific operations, or in any other manner providing detailed guidance for discharge of the mutual responsibilities undertaken by the term hereof.
- b. Any change of the responsibilities, procedures and/or liabilities set forth herein above shall be written modification of this Agreement and not otherwise.

IN WITNESS WHEREOF the parties hereto have set their hands and seals to this Agreement as of the date first set forth at, State of Florida

ATTEST:

County of _____.

AIRPORT AUTHORITY

BY: __[Signature]_____

Its __[Title]_____

ATTEST:

BY: __[Signature]_____

Its __[Title]_____

LETTERS OF AGREEMENT

The *Sample 3* Letter of Agreement can be used as an agreement between an airport with an airport traffic control tower (ATCT) and an outside agency that will aid in emergency response at the airport. The agreement will set forth the responsibilities each party will handle during an emergency, as well as the designated locations on the airfield to which the outside agency is granted access and the designated locations on the airfield from which the outside agency should be restricted. If both parties follow their duties, a faster, more efficient response can be made. The *Sample 4* Letter of Agreement can be used as an agreement between an airport without an ATCT and an outside agency that will aid in emergency response at the airport.

SAMPLE 3

[*Name of airport*] Management and [*Outside agency*]

Letter of Agreement

Effective: [*date*]

SUBJECT: Aircraft Accident/Emergency Procedures

I. **PURPOSE:** To prescribe procedures utilized to the fullest extent practicable in the event of an aircraft accident/incident, emergency or potential emergency on or in the vicinity of the [*name of airport*].

2. **CANCELLATION:** [*Name of airport*] Air Traffic Control Tower and [*name of airport*] Management, subj. Aircraft Accident/Emergency Procedures dated [_____].

3. **SCOPE:** In case of an aircraft accident/incident, emergency or potential emergency on or in the vicinity of the [*name of airport*], [_____] shall alert [*outside agency*] dispatcher when one of the following personnel request such action:

- a. The specialist on duty in the [*name of airport*] Airport Traffic Control Tower.
- b. The pilot or operator of the aircraft concerned or his representative.
- c. A representative of the airport management.

4. **ALERT DEFINITIONS:** [*Name of airport/Specific airport control tower*] shall utilize one of the following terms when advising [*outside agency*] of an aircraft accident or emergency requiring their assistance:

ALERT 1 - Minor Difficulty: Indicates a deferred potential emergency exists that may require dispatch of emergency equipment at a later time. Emergency equipment and crews will stand by for further instructions.

ALERT 2 - Major Difficulty: Indicates a potential emergency exists requiring immediate dispatch of emergency equipment to the standby position on the airfield. See Attachment 1.

ALERT 3 - Aircraft Accident: Indicates an aircraft accident on or near the airport has occurred. Immediate dispatch of emergency equipment to the scene is required.

5. **RESPONSIBILITIES:**

a. [*Specific airport control tower*]:

(1) Shall notify [*outside agency*] via the [*type of radio*] (primary) or telephone 911 (secondary) of the Alert classification and pertinent information.

(2) Shall advise [*outside agency*] of the required staging area for their response. [] will be the primary entrance point for responding emergency vehicles. Staging areas are depicted in Attachment 1.

(3) Shall issue any necessary runway crossing clearances to the [] or Designated Representative (DR) on ground frequency [which frequency and/or channel] as coordinated.

(4) Notify the [*name of airport*] Management.

b. [*Outside agency*]:

(1) Shall determine the amount and type of equipment and number of personnel required to respond to an emergency after receiving an Alert.

(2) The [] or DR will establish communications with [*name of airport*]

Airport Traffic Control Tower (ATCT) on the [*type of radio and/or frequency*] upon arrival at the airport.

(3) The [] or DR will be responsible for all responding emergency vehicles and ensuring they remain clear of all runways/taxiways unless otherwise directed by [name of airport] ATCT.

(4) No emergency vehicle shall cross any runway or taxiway unless clearance is received from [name of airport] ATCT.

(5) The [] or DR shall advise [name of airport] ATCT when they cancel the emergency.

c. [Name of airport] Management:

(1) Shall make any other notifications to agencies or personnel that may be required.

(2) Shall determine if runway inspection is required and will notify [name of airport] ATCT when the affected runway is returned to service.

[Signature]

[Name]

Air Traffic Manager, [Name of airport] Airport Traffic Control Tower

[Signature]

[Name]

[Name of airport] Director

[Signature]

[Name]

[Outside Agency]

Attachment 1: Airport Fire Rescue Staging Area (Include diagram of staging area locations)

[*Name of airport*] Management and [*Outside agency*]

Letter of Agreement

Effective: [*date*]

SUBJECT: Aircraft Accident/Emergency Procedures

I. **PURPOSE:** To prescribe procedures utilized to the fullest extent practicable in the event of an aircraft accident/incident, emergency or potential emergency on or in the vicinity of the [*name of airport*].

2. **CANCELLATION:** [*Name of airport*] Management, subj. Aircraft Accident/Emergency Procedures dated [_____].

3. **SCOPE:** In case of an aircraft accident/incident, emergency or potential emergency on or in the vicinity of the [*name of airport*], [_____] shall alert [*outside agency*] dispatcher when one of the following personnel request such action:

- a. The pilot or operator of the aircraft concerned or his representative.
- b. A representative of the airport management

4. **ALERT DEFINITIONS:** [*Name of airport/Local emergency communication center*] shall utilize one of the following terms when advising [*outside agency*] of an aircraft accident or emergency requiring their assistance:

ALERT 1 - Minor Difficulty: Indicates a deferred potential emergency exists that may require dispatch of emergency equipment at a later time. Emergency equipment and crews will stand by for further instructions.

ALERT 2 - Major Difficulty: Indicates a potential emergency exists requiring immediate dispatch of emergency equipment to the standby position on the airport. See Attachment 1.

ALERT 3 - Aircraft Accident: Indicates an aircraft accident on or near the airport has occurred. Immediate dispatch of emergency equipment to the scene is required.

5. RESPONSIBILITIES:

a. *[Local emergency communication center]:*

- (1) Shall notify *[outside agency]* via the *[type of radio]* (primary) or telephone 911 (secondary) of the Alert classification and pertinent information.
- (2) Shall advise *[outside agency]* of the required staging area for their response. *[_____]* will be the primary entrance point for responding emergency vehicles. Staging areas are depicted in Attachment 1.
- (3) Shall issue any necessary runway crossing clearances to the *[_____]* or Designated Representative (DR) on ground frequency *[which frequency and/or channel]* as coordinated.
- (4) Notify the *[name of airport]* Management.

b. *[Outside Agency]:*

- (1) Shall determine the amount and type of equipment and number of personnel required to respond to an emergency after receiving an Alert.
- (2) The *[_____]* or DR will establish communications with *[specific airport]* personnel on the *[type of radio and/or frequency]* upon arrival at the airport.
- (3) The *[_____]* or DR will be responsible for all responding emergency vehicles and ensuring they remain clear of all runways/taxiways unless otherwise directed by *[specific trained escort]*.
- (4) No emergency vehicle shall cross any runway or taxiway unless clearance is received from *[specific trained escort]*.
- (5) The *[_____]* or DR shall advise *[name of airport]* Management when they cancel the emergency.

c. *[Name of airport]* Management:

(1) Shall make any other notifications to agencies or personnel that may be required.

(2) Shall determine if runway inspection is required, and will notify [*specific airport*] Management when the affected runway is returned to service.

[*Signature*]

[*Name*]

[*Name of airport*] Director

[*Signature*]

[*Name*]

[*Outside Agency*]

Attachment 1: Airport Fire Rescue Staging Area (Include diagram of staging area locations)

Appendix D

Emergency Response Plan Templates

AIRPORT EMERGENCY PLAN GUIDE

FOR

AIRPORTS CERTIFICATED IN ACCORDANCE WITH

TITLE 14 CODE OF FEDERAL REGULATIONS, PART 139



February 2012

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PART 1 – INTRODUCTION TO THE AIRPORT EMERGENCY PLAN GUIDE

OVERVIEW

Airports differ in complexity, but each has unique features. Some are small, uncomplicated facilities serving a more rural environment, while others represent a good-sized community complete with residential, industrial, and commercial installations serving major metropolitan areas. Airports are operated by the local government, such as a city or county; or by an authority representing multiple local governments; and some are operated by the State. However, one thing they all have in common is that they are all subject to emergencies and incidents.¹

Notes provided in the right margin of the page provide important information and useful resources to further assist in the development of your facility's plan.

This *Airport Emergency Plan Guide* provides information to staff at Florida airports on the processes and procedures involved with responding to an emergency, and can be revised to meet the specific needs of individual airports.

A. PURPOSE OF AN AIRPORT EMERGENCY PLAN (AEP)?

The purpose of an Airport Emergency Plan (AEP) is to provide guidance to the local government, the Airport Authority, and the State in assuring prompt response to airport emergencies and other unusual conditions, minimizing the possibilities and extent of personal injury and property damage on the airport. The AEP is intended to facilitate the timely and appropriate responses performed by the emergency response agencies having responsibilities for responding to emergencies occurring on or in the immediate vicinity of the airport. The following is a sample list of agencies and facilities that should be provided with a copy of the completed AEP:

As defined in AC 150-5200-31C, "An airport emergency is any occasion or instance, natural or man-made that warrants action to save lives and protect property and public health."

- | | | |
|--|-------------------------------------|--|
| • Local airport authorities | • Local Emergency Operations Center | • Local American Red Cross |
| • On-site airport maintenance shop | • Local/regional health facilities | • Florida Highway Patrol |
| • Transportation Security Administration | • Local police department | • Local Military Support Facilities |
| • Local fire department | • Local sheriff department | • Florida Division of Emergency Management |

All persons/agencies involved with the creation of the AEP should have a copy of the plan and their emergency contact information should be posted.

It is recognized that not all emergencies can be anticipated and, if an emergency situation arises that is not covered by this plan, the Executive Director, Operations Manager, or the Aircraft Rescue and Fire Fighting personnel have the authority to modify the plan to manage the emergency.

¹ Introduction in the U.S. Department of Transportation, FAA, AC 150-5200-31C.

B. PURPOSE OF THE EXAMPLE AIRPORT EMERGENCY PLAN GUIDE

The purpose of the *Airport Emergency Plan Guide* is to provide information to staff at Florida airports on the processes and procedures to be included when preparing an Airport Emergency Plan (AEP) for their facility. The *Airport Emergency Plan Guide* is to be used as a basic template that can be revised to meet the specific needs of each airport and their community. While every emergency situation cannot be anticipated and prepared for, a strong emergency preparedness program can assist in limiting the negative impacts of these events, including liability and other post-emergency issues.

To be effective, all entities involved in emergency response should be familiar with the contents of the plan and involved in regular trainings and exercises.

The recommendations and guidelines provided in the U.S. Department of Transportation, Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5200-31C, and the recommendations in 14 Code of Federal Regulations (CFR), Part 139 are outlined within this document. These recommendations and guidelines are included for certificated airports, which are required to develop and implement an AEP. The general guidelines prescribed by Homeland Security Presidential Directive-5 (HSPD-5), *Management of Domestic Incidents* and Homeland Security Presidential Directive-8 (HSPD-8), *National Preparedness* should be incorporated into an airport's AEP as well. The FAA also recommends that all airports (certificated and non-certificated) use, as guidance, certain provisions in the *National Fire Protection Agency (NFPA) Standards* [i.e. 424, 1500, 1561, and 1600 (latest editions)].

The *Airport Emergency Plan Guide* is not all-inclusive, but rather, is intended to serve as a tool to facilitate the process of developing an AEP. This template is intended to be used by Title 14 CFR, Part 139 certificated airports in the development or update of their own emergency response plan specific for their facility. The template provides an outline and checklist of processes and procedures to be tailored to each region, mission, and operational location. The practices and procedures outlined in this plan provide support to the Florida Department of Transportation (FDOT) by assisting Federal, State, tribal, and local governmental entities, voluntary organizations, nongovernmental organizations, and the private sector in the management of aviation facilities during domestic threats or in response to emergencies. The *Airport Emergency Plan Guide* carries out the FDOT's statutory responsibilities, including regulation of transportation, management of the State's airspace, and ensuring the safety and security of the State transportation system.

C. HOW TO USE THIS GUIDE: PLAN DEVELOPMENT AND MAINTENANCE

Personnel preparing this plan should be familiar with existing emergency response procedures prepared and practiced by the local airport, as well as with any regional and state emergency response policies and procedures in place. Training that covers changes to these policies and procedures should be provided to ensure that all personnel are familiar with the most current information.

The sections listed below are described in detail throughout the *Airport Emergency Plan Guide*, including questions and examples to assist each airport in gathering information, guidance for deciding what issues to be included in the plan, and suggestions on how they can be incorporated to best support the facility. Not all sections or scenarios in the *Airport Emergency Plan Guide* will be applicable for every airport facility; in addition, some airports may require additional sections to be included to address areas or events specific to that facility. Those sections will need to be addressed on a case-by-case basis.

Outline of sections to be included in an Airport Emergency Plan:

- Introduction
- Functional Sections
- Hazard Specific Sections
- Appendices

THINGS TO THINK ABOUT:

The “Things to Think About” sections placed throughout the Airport Emergency Plan Guide are recommended additional information that can be included in each section. Though these suggestions are optional and not required, consideration should be given to including them in the plan.

PART 2 – AIRPORT EMERGENCY PLAN TEMPLATE

INTRODUCTION

This section should provide a brief introduction to the Airport Emergency Plan (AEP), including an overview of what information will be presented, and how it should be implemented before, during, and following an emergency. Sample language has been provided below that can be used to create the introduction section of the AEP.

A. SAMPLE INTRODUCTION

The Airport Emergency Plan (AEP) is a comprehensive set of policies and procedures to be followed by all agencies involved in and responsible for public protection in an emergency or disaster situation involving the *(insert name of airport facility)*. The AEP has been created in coordination with *(list those agencies and organizations involved in the creation of this plan)*, and a copy of the completed plan has been provided to the following:

- *(List those agencies that received a copy of the completed plan)*

In the following pages the Functional Sections of an AEP will be outlined. Each Functional Section should include the following parts: Introduction, Purpose, Situation and Assumptions, Operations, Organization and Assignment of Responsibilities, Administration and Logistics, Development and Maintenance, and Authorities and References. Below is the standard outline of the sections that should be included and addressed in each Functional Section.

BASIC PLAN²

The introduction should provide an overview of the airport's approach to emergency operations. It also should define related policies, describe the response organization, and assign tasks. The primary purpose of the Basic Plan portion of the AEP is to meet the informational needs of the airport's executive body and other agency heads. An AEP should also provide the following documents to enhance credibility: promulgation documents, signature pages, and a record of changes and distribution.

It is strongly encouraged that stakeholder agencies and organizations involved in the creation of the AEP continue to be involved when updates to the plan are needed. The other agencies listed as receiving a copy of the plan will need to be notified upon the completion of each update and provided with an updated version or with a narrative of the changes to the plan.

A. PURPOSE

The Basic Plan should contain a general statement of the intent of the AEP. The general statement of intent should be supported by a brief synopsis of the Basic Plan, the Functional Annexes, and the Hazard-Specific Sections.

² Language for the Basic Plan was taken from AC 150/5200-31C, Chapter 5

B. SITUATION AND ASSUMPTIONS

This section narrows the scope of the AEP by outlining what hazards the AEP addresses (as drawn from the Hazards Analysis included in **Appendix D**); what characteristics of the airport may affect response activities; and how and what information used in preparing the AEP must be treated as assumption, rather than fact. Policies can be included as a part of the situation or in a separate section, if desired. It is valid to include even “obvious” assumptions: that identified hazards will occur, that individuals and organizations are familiar with the AEP and will execute their assigned responsibilities, that assistance may be needed, and that assistance will be available, if applicable.

C. OPERATIONS

This section should cover an airport’s overall scope to an emergency situation. Key facts that should be included are:

1. What should happen during different phases of an emergency situation
2. When should they happen
3. At whose direction should such steps be put in place

Note: This section should include potential inter-jurisdictional responsibilities.

D. SAMPLE LIST OF POSSIBLE PARTICIPATING AGENCIES AND ORGANIZATIONS

This section of the Basic Plan establishes the emergency organization that will be relied on to respond to an emergency situation. It includes a listing by position and organization responsibilities, along with related tasks to be performed. It provides a “snapshot” view of who does what without the procedural details that are found in the Functional Sections. When two or more organizations perform the same kind of task, one should be given primary responsibility with the others given a supporting role.

The following are examples of individuals/organizations that should be considered for inclusion in the AEP:

Facility Operations and Departments

- Director of Aviation
- Airport Administrative and Operations Coordinator
- Airport maintenance personnel
- Airport Traffic Control Tower (ATCT)
- Fixed Base Operators (FBOs) and airport tenants

State and Federal Agencies

- Florida Highway Patrol (FHP)
- Federal Bureau of Investigation (FBI)
- U.S. Department of the Treasury -Bureau of Alcohol, Tobacco, and Firearms (ATF)
- U.S. Secret Service
- U.S. Postal Service (USPS)

- U.S. Air Force Explosive Ordinance Disposal (EOD)
- Florida Division of Emergency Management

Local Agencies

- Fire department
- Police department
- Sheriff’s office
- Health department
- Public Works department
- Local/amateur radio club
- Salvation Army
- Funeral director(s)
- Public Information Officer (PIO)
- Local Emergency Manager

This sample list of agencies is not all-inclusive as some airport facilities may have additional points of contact or resources not listed to the left. Please add any additional agencies or organizations involved or in the immediate vicinity of the airport.

THINGS TO THINK ABOUT:

It may be beneficial to include a brief description of your airport facility in the Introduction section describing its location, size and the general type of aviation activities that take place at the facility on a daily or annual basis. This will help those agencies/organizations not local to the airport become more familiar with the facility and its surrounding areas.

E. ADMINISTRATION AND LOGISTICS

This section of the AEP covers general support considerations, including:

1. Availability of services and support for all types of emergencies
2. General policies for managing resources
3. A reference of mutual aid agreements
4. Authorities and policies on augmenting staff by reassignment of public employees and soliciting volunteers, along with general liability provisions
5. Policies for financial recordkeeping, reporting, and tracking resources

F. DEVELOPMENT AND MAINTENANCE

The Development and Maintenance section of the Basic Plan should cover the following sections:

- General
- Schedule of Review
- Training, Drills, and Exercises

It is recommended that the review schedule be set to take place at least annually.

Examples of how to complete these sections are included below

GENERAL

These policies and procedures are not effective unless properly implemented. With implementation comes the responsibility of updating the information and materials as new rules and regulations are passed and new emergency response procedures are created.

This section of the plan should discuss the schedule in which a review of the AEP will take place, describing also the process of how revisions or updates will be performed and executed.

SCHEDULE OF REVIEW

The airport shall conduct a review of the AEP once every 12 months, or more frequently, as needed, when new regulations and policies are adopted. An ongoing assessment and open dialogue will take place with off-airport facilities that may affect the airport's emergency response efforts, such as road construction, road closures, and major utility work. All agencies that have responsibilities under the AEP will be invited and encouraged to participate in the review process. Suggested changes and additions should be submitted in writing to the Director of Aviation (or other appropriate contact person), (insert airport name, facility address, and phone number). At a minimum, the following items will be reviewed and updated upon each annual review.

- Telephone numbers - assigned to specific agencies or individuals listed in the plan, specifically those listed as direct points of contact in the case of an emergency (a typical emergency telephone directory can be found in **Appendix A**)
- Emergency resources [e.g. local fire, police and emergency medical services (EMS)]
- Mutual Aid compacts - should be reviewed and renewed, as needed, to avoid expiration or loss of assistance

Note: Following the annual review, all responsible parties must sign a signature page to acknowledge the review.

THINGS TO THINK ABOUT:

The best way to update phone numbers and contacts is to call the individuals/organizations listed. This will provide an opportunity for both the airport and the agency to discuss any changes that have taken place in the past year, or any concerns that either agency or individual may have.

TRAINING, DRILLS, AND EXERCISES

An important part of the plan, maintenance and validation, comes from the overall training, drill, and exercise program. As training, drills and exercises are conducted, it is important that a functional critique/feedback program be in place. The training section of the plan should discuss the types of programs available to assist other agencies and organizations on how to best implement the emergency response procedures. All entities included in the AEP are responsible for the training and familiarization of each of their employees on the procedures contained within the plan.

TRAINING AND REVIEW

This section should outline the training and review times necessary to ensure personnel remain current with the latest version of the AEP and to ensure the AEP is kept up-to-date. A table top, or review of the plan, is required at least once over 12 consecutive calendar months for all classes of airports; this will ensure that all agencies with responsibilities in the plan are familiar with their roles.

For Aircraft Rescue and Fire Fighting personnel, there are training requirements in at least 11 additional subject areas plus a live fire training requirement. All of these subject areas require personnel to be trained and have documentation prior to the initial performance of such duties at least once every 12 consecutive calendar months (Part 139.319(i)(2)).³

³ Information taken from the CertAlert Number SO-10-04, issued September 23, 2010 by DOT/Federal Aviation Administration, Southern Region Airport Division, Airport Certification Safety Team (ASO-620).

SAMPLE TRAINING LOG

AIRPORT NAME ARFF TRAINING 200X REPORT

NAME: TITLE: ID. #														
Subject	Jan.	Feb.	Mar.	Apr.	May	Hours Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
AIRPORT FAMILIARIZATION													0	
AIRCRAFT FAMILIARIZATION													0	
ARFF PERSONNEL SAFETY													0	
EMERGENCY COMMUNICATIONS													0	
USE OF HOSES, NOZZLES, TURRETS													0	
APPLICATION OF EXTINGUISHING AGENTS													0	
EMERGENCY AIRCRAFT EVACUATION													0	
FIREFIGHTING OPERATIONS													0	
ADAPTING STRUCTURAL EQUIPMENT TO ARFF													0	
AIRCRAFT CARGO HAZARDS													0	
FAMILIARIZATION WITH FIREFIGHTER DUTIES IN AEP													0	
LIVE FIRE TRAINING													0	
TOTAL HOURS TRAINING	0	0	0	0	0	0	0	0	0	0	0	0	0	

Note: This form must be revised if personnel perform extra functions such as self-inspection, fuel fire safety inspections, etc.

TRAINING EXERCISE TYPES

The FAA Office of Airport Safety and Standards has developed a new training DVD entitled "Aircraft Rescue and Fire Fighting – Aircraft Forcible Entry, Fire Fighting with the HRET, Cargo Aircraft Fire Fighting" to supplement initial and recurrent ARFF curriculum.

THINGS TO THINK ABOUT:

This DVD was scheduled to be sent out to all Part 139 certificated airports and safety inspectors. Non-certificated airports may obtain a copy by contacting the FAA Southern Region, Airport Division at (404) 305-6700.

The following types of exercises should be included in the AEP:⁴

- **Table Tops**

A table top exercise is a brainstorming and problem solving session among all agencies involved in airport emergency response. It can be used to create an action plan that can be implemented in the event of an emergency. This session is usually held in a group setting, with very little structure, and is stress-free. It is recommended that a table top exercise be held at an emergency operations center, because it provides the most realistic setting where maps and plans for the airport are readily available.

In order to be most effective, table top exercises should at least be held quarterly.

- **Functional Exercises**

Functional exercises simulate an emergency in the most realistic manner possible, short of moving real people and equipment to an actual site. As the name suggests, the goal of a functional exercise is to test or evaluate the capability of one or more functions in the context of an emergency event.

Night training is a best management practice that allows airports to simulate an emergency and execute a plan if the incident occurs outside of normal daylight hours.

Periodic follow-up training is suggested in order to make sure knowledge from the training is maintained.

THINGS TO THINK ABOUT:

It is important not to confuse “functional exercises” with emergency “functions.” All exercises (tabletop, functional, and full-scale) test and evaluate functions contained in the AEP. In Emergency Planning, “functions” refers to actions or operations required in emergency response.

- **Full-scale Exercises**

Full-scale exercises are as close to simulating real events as possible. They are lengthy exercises which take place on location, using, to the extent possible, equipment and personnel that would be called upon in a real event. Full-scale exercises combine the interactivity of functional exercises with a field element. They differ from drills in that a drill focuses on a single operation and exercises only one organization. A Full Scale Exercise is required at least once every 36 consecutive calendar months for Class I airports.

More information regarding any of these exercise types can be found at <http://training.fema.gov/emiweb/is/is139lst.asp>.

THINGS TO THINK ABOUT:

Eventually, every emergency response organization must hold a full-scale exercise because of the necessity to test capabilities in an environment as near to the real one as possible.

AUTHORITIES AND REFERENCES

The Basic Plan should indicate the legal basis for emergency operations. Laws, statutes, ordinances, regulations, and formal agreements relevant to emergencies should be listed, along with any authority that has been delegated.

Note: For more detailed information on what to include in the Basic Plan, please refer to AC 150/5200-31C, Chapter 5

⁴ Information obtained from the Independent Study IS-139 Exercise Design manual created by FEMA March 2003.

FUNCTIONAL SECTIONS⁵

Ten functional sections address critical services necessary to manage, communicate, respond, and mitigate airport-related emergency situations. They are broad functional responsibilities and may be applied to all emergencies. However, each is a critical component of an AEP because these functions enable an airport to cope with and respond to unforeseen emergencies. These ten functional sections include:

1. Command and Control
2. Communications
3. Alert Notifications and Warning
4. Emergency Public Information
5. Protective Actions
6. Law Enforcement and Security
7. Firefighting and Rescue
8. Health and Medical
9. Resource Management
10. Airport Operations and Management

In general, the organization of this chapter's sections parallels that of the Basic Plan Section. Specific sections can be developed to expand upon information contained in the Basic Plan. Plan development and content are outlined in 14 CFR §139.325, *Airport Emergency Plan*.

To ensure uniformity in plan development, the functional sections should follow the same general format as the Basic Plan:

1. Purpose
2. Situation and Assumptions
3. Operations
4. Organization and Assignment of Responsibilities
5. Administration and Logistics
6. Plan Development and Maintenance
7. Reference and Authorities

⁵ Language in the Functional Sections was taken from AC 150/5200-31C, Chapter 6 Sections 1-10

These functional sections provide AEP functionality and direction for AEP development. In general, and as a baseline for development, each section should:

1. Focus on specific operations, i.e., what the function is and who or what agency has responsibility for execution of the function
2. Emphasize specific responsibilities, tasks, and operational actions that pertain to the function being performed
3. Cover, in general terms, the activities to be performed by anyone with a responsibility under the function
4. Identify actions that ensure effective response and aid in preparing for emergencies and disasters
5. Clearly define and describe the policies, processes, roles and responsibilities inherent to the various functions before (mitigation/preparedness), during (response), and after (recovery) an emergency period
6. Identify clear lines of authority, incident command structure and communications

Note: In the following pages an introduction will be included for each functional section. The remainder of the information must be provided by individual airports to include all information mandated by AC 150/5200-31C, Chapter 6. Not all of the functional sections are needed for every airport.

A. COMMAND AND CONTROL

Command and Control is the most critical element of the emergency management functions. Effective central control is essential to manage an incident, provide for up/down communications, lateral functional support, and the central control of resources. Emergency response organizations (ARFF, law enforcement, EMS, public works, etc.) normally execute their respective services as a joint effort during emergencies. However, difficulties often arise in the overall management of an emergency when other agencies, disciplines, or organizations not accustomed to working together merge to provide collateral support. This is particularly true for aircraft emergencies where there may be a significant number of entities arriving at the scene. Many of these responders do not normally work together, especially under emergency conditions, yet they all have defined responsibilities. It is, therefore, essential that all responders have an understanding of who is responsible for what tasks during each type of emergency.

The Incident Command System (ICS)⁶ is a management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. ICS establishes common terminology, standards, and procedures that enable diverse organizations to work together effectively. These include:

- A standard set of predesignated organizational elements and functions
- Common names for resources used to support incident operations
- Common “typing” for resources to reflect specific capabilities
- Common identifiers for facilities and operational locations used to support incident operations.

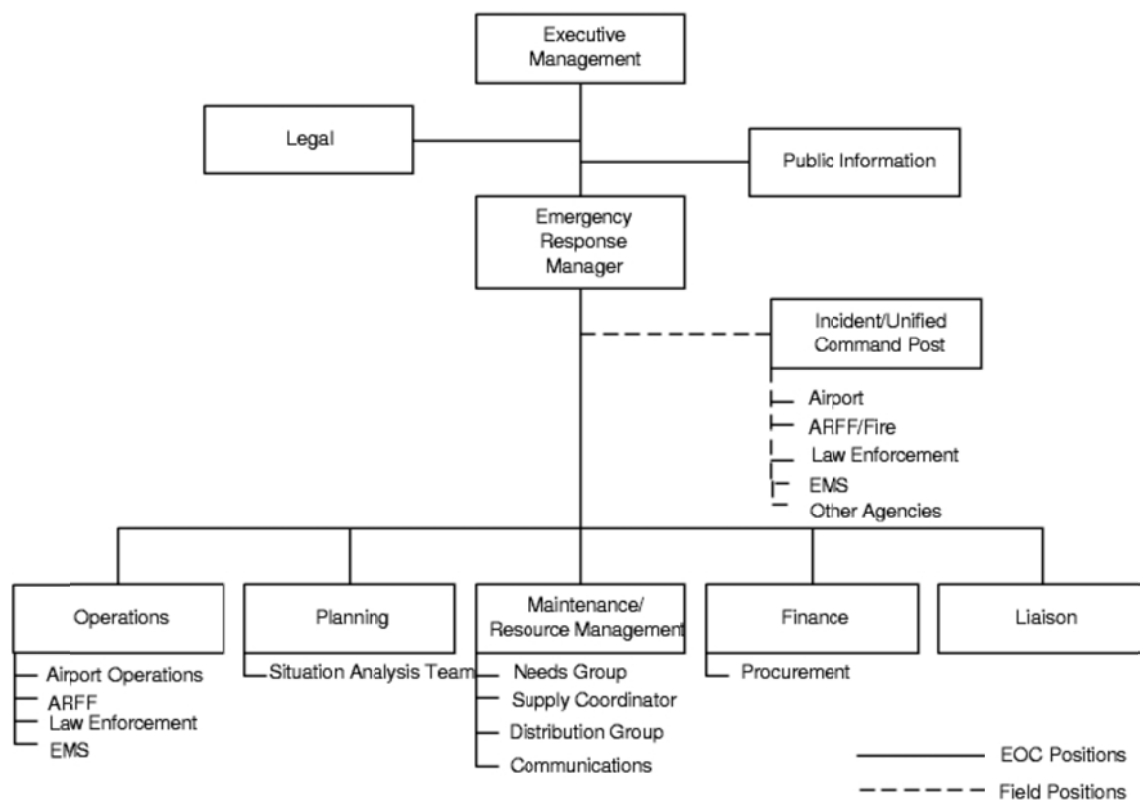
⁶ The Incident Command System is an element of the FEMA National Incident Management System (NIMS).

The information developed for this section should address centralized command and control operational activities for all types of emergencies. It may be also used as the baseline upon which detailed centralized command and control information is developed for each hazard-specific section.

Airport emergencies can vary in type, intensity, severity and duration. Because of this, the direction and control functions can change dramatically, even during the course of a single emergency (e.g., it can change as it progresses from response activities to recovery activities). To be effective, an incident management system must be functional regardless of the type of incident or agencies involved. Business management techniques should be applied to emergency incident management. The tasks that business managers perform are very similar to those performed by an Incident Commander (IC), (e.g., planning, organizing, directing, coordinating, controlling, communicating, delegating, and evaluating).

However, while these similarities do exist and some similar management principles can be applied, there is one factor which makes emergency incident management more difficult - the elements of inherent danger, property damage, and jeopardy to life. Decisions that are made can make the difference between life or death.

An organizational structure chart is required to visually describe the chain of command. The following is a sample organization chart:



Note: Other organizational structures are possible; the chart suggests functions that should be addressed.

Consideration should be given to the following organizations for inclusion in the AEP:

AIRLINES AND AIRPORT TENANTS/STAFF

- **Air Carrier(s)/Aircraft Operator(s)**
 - Provide full details of aircraft information, as appropriate, to include number of persons, fuel and dangerous goods on board
 - Coordinate transportation, accommodations, and other arrangements for unharmed passengers
 - Coordinate utilization of their personnel and other supplies and equipment for all types of emergencies occurring at the airport
- **Airport Authority/Management**
 - Establish, maintain and implement the AEP
 - Coordinate the closing of the airport, when necessary, and assume responsibility for response and recovery operations
- **Air Traffic Control (ATC)**
 - Contact Aircraft Rescue Fire Fighting (ARFF) service regarding aircraft incidents/accidents and provide them with information relevant to the emergency
 - Coordinate the movement of support aircraft to and from the emergency scene, and the movement of non-support aircraft away from the emergency scene
- **Airport Tenants**
 - Coordinate with the airport tenants to make use of their available equipment, supplies, and personnel during emergency situations

THINGS TO THINK ABOUT:

Not all tenants located at an airport are aviation-related. Some airports include local shops and services inside the airport provided for passenger convenience. In this section, specific notification procedures need to be established to address communication obstacles that may arise in the event of an emergency related to communicating with these services and stores.

FEDERAL AGENCIES

- **FAA-Air Traffic Control (FAA-ATC)**
 - Notify a member of the local airport when FAA-ATC personnel are aware that a potential or actual emergency exists, as categorized below:
 - Aircraft emergency
 - Structural fires
 - Bomb threats, civil disturbances and other types of emergencies

If time permits, the Air Traffic Control Tower shall notify the aircraft owner/operator, if known. During the hours of operation of the ATCT, the ATCT shall control air and ground traffic so as to facilitate the handling of the emergency by those responding to it.

- **Federal Aviation Administration (FAA)**

- Ensure that practices and procedures of the aviation industry are followed
- Potentially provide investigative services after the emergency

Note: For review or approval of emergency plans contact:

FAA Southern Region – Airports Division – ASO 620
P.O. Box 20636
Atlanta, GA 30320
Phone: (404) 305-6700

Airports in Florida are covered by the Orlando Airports District Office, under the Southern Region Airport Division of FAA.
http://www.faa.gov/airports/southern/about_airports/airports_district_offices

Contact information can be obtained from the website above to be included in the plan.

- **Federal Bureau of Investigation (FBI)**

- Assume command in the event of certain criminal and hijacking situations
- Investigate activities involving federal criminal offenders

THINGS TO THINK ABOUT:

The FBI has 56 field offices (also called divisions) centrally located in major metropolitan areas across the U.S. and Puerto Rico. In Florida, the field offices are located in Jacksonville, Tampa, and North Miami Beach. Each field office is overseen by a special agent in charge. Within these field offices are a total of about 400 resident agencies located in smaller cities and towns. Resident agencies are managed by supervisory special agent. Coordination should be arranged with the local office, and their contact information should be included in the plan.

- **National Transportation Safety Board (NTSB)**

- Conduct and control all accident investigations involving civil aircraft, or civil and military aircraft, within the United States, its territories, and possessions.
- Reports of accidents or incidents should be made to the Regional Office at the location listed below.

Eastern Region – Doral, Florida – Regional Office

Phone: (305) 597-4600 or (305) 597-4610

Address:

8240 NW 52nd Terrace, Suite 418
Doral, Florida 33166

- **Military**

- Where a military facility is located in the vicinity of an airport, coordination between the airport and the military facility should be sought in the development of the AEP.

STATE AGENCIES

- **Florida Highway Patrol (FHP)**

- Provide traffic control operations and emergency assistance if the emergency affects a State-maintained highway.
- Including a map of Florida's State Highway System as an appendix to the AEP may be helpful for identifying Florida Highway Patrol jurisdictions.

- **Florida Department of Transportation – Aviation Office**

- Serve as an informational resource and provide technical assistance related to aviation emergencies and AEPs.

- **Florida Department of Environmental Protection (FDEP)**

- Provide support for hazardous material or other environmental emergencies.

- **Florida Division of Emergency Management (FDEM)**

- Provide assistance with emergencies that are beyond the capabilities of the local agencies.
- The Florida Division of Emergency Management (FDEM) should be considered for inclusion in the AEP and to coordinate with any Comprehensive Emergency Management Plan (CEMP).
- A map depicting the seven FDEM regions, along with a list of the Region Coordinators, is included in this document as **Appendix B**.

- **U.S. Coast Guard/Harbor Patrol**

For airports located near large bodies of water, consideration should be given for inclusion of the U.S. Coast Guard/Harbor Patrol in the AEP.

- The U.S. Coast Guard/Harbor Patrol can aid in search and rescue for an aircraft accident that occurs over water.

The U.S. Department of Transportation publishes the Emergency Response Guide (ERG) as a primary guide for first responders involved in hazardous materials incidents.

A map of the FDEM Districts and their contact information is provided in the appendices. Additional information can be found here: <http://www.dep.state.fl.us/secretary/dist/>

Contact information specific for each region of Florida and division of the U.S. Coast Guard can be found at, <http://www.uscg.mil/d7> The District 7 command center phone number is 305-415-6800.

THINGS TO THINK ABOUT:

The U.S. Coast Guard has several districts which are then split into smaller units. It is recommended under this heading that the specific unit that would be closest to your facility be identified and their contact information included.

- **National Guard**

- Where a National Guard facility is located in the vicinity of an airport, coordination between the airport and the National Guard facility should be considered in the development of the AEP.

LOCAL AGENCIES

- **Aircraft Rescue and Firefighting**

- Manage and direct firefighting and rescue operations until life, property, and safety threats have been eliminated.

- **Animal Care/ Control**

- Agencies such as the Humane Society or other non-profit organizations can provide professional assistance for handling animal cargo during emergencies.
- Consideration should be given for the inclusion of animal care/control in the AEP.

- **Clergy and Therapists (Grief Counselors)**
 - Provide comfort to survivors and the relatives of the victims during an emergency. Coordination of duties should be outlined to avoid duplication of effort between other health and human service agencies that may play a similar role.
- **Communications Providers**
 - Provide additional personnel, equipment, and facilities during an emergency to augment the airport's communications.
 - Identify and coordinate repairs to the communication system in the event it is damaged during an emergency.
- **Coroner**
 - Identification of bodies and other investigative activities, including determining the cause and time of death, if needed.
- **Explosive Ordnance Disposal (EOD)**
 - Provide assistance to the airport with explosive ordinance disposal during the event of a bomb threat.
 - Contact information and procedures for addressing bomb threats should be included in the plan. A sample of *Bomb Threat Call Procedure* and a *Bomb Threat Checklist* is included as **Appendix C**.
- **Governmental Authorities**
 - Some circumstances, such as bomb threats, bombings, and post-accident investigations, may fall under the jurisdiction of authorities other than the Airport Authority.
 - The AEP should outline the controls and limitations placed on the Airport Authority by these other governmental authorities.
- **Hazardous Materials Response Team**
 - Provide response and recovery support for hazardous material emergencies in accordance with 29 CFR, Part 1910; 40 CFR, Part 311; Chapters 376 and 403, Florida Statutes; and Rules 62-700.160, 62-770.200, 62-770.250, and 62-770.300, Florida Administrative Code.
- **Local Police and Fire Department**
 - Depending on the size and resources of the airport, the local police and fire departments may be responsible for responding to airport emergencies. Coordination between the airport and these agencies during the development of the AEP should take place, and the roles and responsibilities of each agency should be outlined.
- **Public Works and Engineering**
 - Coordination with the local public works and engineering departments during the development of the AEP can be beneficial, because they can manage public works resources, direct public works operations, and coordinate the shutdown of power and gas with private utility companies during an emergency.

- **Red Cross**
 - Coordinate and provide support services to victims, their families, and to emergency responders.
- **Search and Rescue**
 - Identify appropriate entities, such as the civil air patrol, to coordinate and provide search and rescue services as needed, usually for off-airport aircraft emergencies.

MEDICAL PROVIDERS

- **Emergency Medical Services**
 - Provide emergency assistance and coordination with local hospitals, the American Red Cross, and the airport during airport emergencies.
- **Hospital(s)**
 - Provide medical treatment to victims of an emergency.
 - Local hospitals should be included in the AEP, and hospital disaster plans should be considered when developing the AEP.
- **Mental Health Agencies**
 - Provide a program for addressing possible long-term effects to individuals involved in an emergency. These would include, but are not limited to, survivors, relatives and emergency response personnel.

PUBLIC INFORMATION OFFICERS

- **National Weather Service**
 - Provide assistance with alerts and warnings during weather-related emergencies.
 - Coordination should be sought with the National Weather Service in the development of the AEP.
- **Public Information/Media**
 - During an emergency, transmit factual information efficiently to the public.

B. COMMUNICATIONS

The communications function addresses the processes used to reliably and efficiently transfer, delineate, and disseminate information from one point to another during emergency situations. The entire communication system and process should be discussed in detail. Information should be provided for the establishment, maintenance, and use of the communication system needed during an emergency response situation. It should also outline all tasked organizations and individuals, along with their responsibilities for maintaining their equipment and ensuring redundancy in their system. Identification of alternate radio frequencies for use in the event that the primary communications system fails should be included, as well as specific communications responsibilities assigned to specific entities such as the airport manager and the communications coordinator.

This section should include a schedule of regular, daily, or weekly, tests of the emergency notification system.

THINGS TO THINK ABOUT:

It is important for the Public Information Officer (PIO) to be clear about the times when information will be released. The PIO should say something similar to, "We will provide an update on (the accident) from (location) starting at (time) and then every (set interval) thereafter." The PIO should also provide a phone number for family members to call, if available.

C. ALERT NOTIFICATION AND WARNING

The alert notification and warning function outlines the procedures for notifying the airport tenants and other users of the airport of the emergency situation, as warranted, as well as procedures for facilitating a response to an emergency. In the event that either a portion of or the entire airport has to be closed, a plan should be set up to notify and evacuate tenants. The following precautionary measures should take place to avoid further incidents with civilians or tenants:

- Respond to the initial notification of crowd gatherings or unsecured areas and contact the police department
- Ensure that passenger perimeter gates are locked, and check as often as necessary to prevent unauthorized entrance to passenger loading ramps
- Evacuate any necessary areas
- Advise Fixed Based Operations (FBO) and airline tenants to be prepared to hanger aircraft or move aircraft to a remote area
- Secure all fuel tanks, discontinue any fuel deliveries, and move all fuel trucks to a remote area

ACTIVATION/NOTIFICATION

During operational hours, the control tower shall use the emergency phone to notify airport operations, fire and rescue, and the local police department of the emergency. During the hours that the control tower is not operating, a method of notification should be outlined. This may include using other local ATCT, the local 911 dispatch center, or emergency communication centers. Once it has been determined that an airport/aircraft emergency exists, the following agencies and individuals should be notified. For convenience, these numbers should appear in an appendix that can be easily updated and replaced as personnel change.

It is suggested that a laminated wallet sized card of entities to be contacted during an emergency be made available for immediate access to pertinent information.

Local Fire/Police Department	Emergency: 911 Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Florida Highway Patrol	Emergency: *FHP (*347) Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Airport Operations Manager	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
City/County Manager/Mayor	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
FAA Operations Center	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Other Staff <i>(If Operations can't be reached)</i>	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Public Works	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX

D. EMERGENCY PUBLIC INFORMATION

The Emergency Public Information function addresses the activities associated with providing timely, accurate, and useful information and instructions to the public throughout the emergency period. For most emergencies, the Emergency Public Information (EPI) organization will initially focus on the dissemination of information to the public at risk on the airport property. However, the EPI organization must also deal with the wider public's interest and desire to help or seek information about friends, family, employees, or co-workers. Quality and timely information can assist in preventing an overload of an airport's communications network, its transportation infrastructure, and its staff.

An ineffective, unorganized, and inaccurate public information program during an emergency can result in very serious problems. Ineffectiveness can raise the anxiety level in the community-at-large, disorganization can feed inaccurate impressions of the situation, and inaccuracy can significantly exaggerate the potential for harm.

For the airport EPI organization to develop and execute an effective information program, it must develop a mutual working partnership and relationship with all local media outlets. These include television, radio, newspapers, and web-based media outlets. These relations can carry over from strictly emergency response matters (when the airport has something to say and needs the media to relay it) into news coverage (when the media have to relay their stories and need the airport to say or show something). For most airports, media relations become a natural extension of the emergency public information function—all part of a Public Information Officer's (PIO) job. FEMA offers training resources for public information systems. Refer to the National Incident Management System (NIMS) – Public Information Systems.

Local media, like the EPI organization, remain after the emergency. They share concern for the airport and surrounding communities' welfare, and they answer to the communities for the service they provide. Local media, being sensitive to the communities' needs, can work with the PIO to focus on strict EPI concerns and deal with the news aspects as time and circumstance permit. Media relations can become a challenge during major emergency events when the demand for news information overwhelms the EPI organization's ability to perform its basic mission: to provide timely, accurate, and useful information to the public. It is beneficial during such times to have pre-established strong professional relations with the local media, especially with the potential convergence of national media and local media from outside the immediate area. If the locals know they will get their information based on their previous experiences with the EPI organization, they may be less inclined to be a hindrance during the height of the event. A sample of the media control element is included below.

SAMPLE: MEDIA CONTROL

News media representatives will be asked to report to the *(insert room or facility name and address)* for all news briefings. All available information and updates pertaining to an emergency will be disseminated at the regularly scheduled intervals by a designated Public Information Office from this location only. All escorted camera trips to the scene of the emergency will be coordinated from this location.

Provide the name of the room or facility where media personnel and equipment will be staged.

Mobile Network Satellite Trucks and similar equipment will be grouped and located *(provide a designated area for this equipment to be located)*.⁷

⁷ Language taken from the Salina Municipal Airport Emergency Plan.

E. PROTECTIVE ACTIONS

The purpose the Protective Actions functional section is to outline emergency measures intended to eliminate and/or reduce exposure to the consequences of an emergency or disaster by either evacuation or shelter-in-place. When designing this section, special consideration should be employed by identifying situations that may require some type of protective action, as well as addressing factors such as characteristics of the hazard, magnitude, intensity, speed of onset, duration, and impact on the airport.

F. LAW ENFORCEMENT AND SECURITY

The Law Enforcement and Security functional section should provide information that identifies the methods used to mobilize and manage law enforcement services in response to emergencies. A summary of all the personnel and equipment, where they are located, general notification procedures, and overall statement of capabilities should be included.

In addition, this functional section should provide general information on the process by which law enforcement and related security services are to be provided at the airport and how these efforts will be coordinated with off-airport response organizations during times of emergency.

G. FIREFIGHTING AND RESCUE

The Firefighting and Rescue functional section addresses emergency services available to the airport and any other emergency responses that may affect life, property, and safety mitigation. For the purposes of this section, fire and rescue includes response capabilities for: Aircraft Rescue and Fire Fighting (ARFF), structural fire, rescue situations, and hazardous materials incidents.

H. HEALTH AND MEDICAL

The Health and Medical functional section addresses the activities associated with the provision of emergency health and medical services at the airport. For the purposes of this section, health and medical includes emergency medical service (EMS), public health, environmental health, mental health, and mortuary services. Related activities include:

1. Treatment, transport, and evacuation of the injured
2. Removal of the dead, and disease control activities related to sanitation
3. Prevention of contamination of water and food supplies during response operations during and after an emergency
4. Depending on the needs and resources of a particular airport, consideration may be given to the preparation of separate sections for these functions

I. RESOURCE MANAGEMENT

Because an emergency requires many diverse resources, a section of the AEP is needed to describe the processes by which an airport will identify requirements, and expeditiously locate, acquire, allocate, and distribute those resources to satisfy needs that are generated by the emergency. All emergencies, regardless of their severity, will require the dispatch of well qualified and trained personnel with unique specialties, equipment, supplies, and facilities. The Resource Management function is necessary to ensure that:

1. A comprehensive list of resources required to support potential emergencies to which the airport is vulnerable (reference the Airport's Hazards Analysis) is developed
2. A complete picture of these resources and their availability is known to decision-makers
3. All resources are used appropriately, and arrive where and when they are most needed
4. Additional resources can be obtained for responders as their own resources are expended or damaged
5. Accountability is maintained for the airport's use of resources

J. AIRPORT OPERATION AND MANAGEMENT

The Airport Operation and Management functional section addresses operations and maintenance at the airport. It includes a summary of personnel and equipment, where they are located, general notification procedures, and an overall statement of capabilities. For the purposes of this section, Operations and Maintenance will be presented as a single entity. The day-to-day roles of an Operations and Maintenance function are different, as they are often separate within the airport's organizational structure.

AIRCRAFT EMERGENCY RESPONSE PROCEDURES

This section focuses on special planning procedures and needs pertaining to typical hazards that airports may encounter. Airports certificated in accordance with 14 CFR, Part 139 must ensure that their AEP contains procedures and instructions for responding to the following potential hazards:

- Aircraft incidents and accidents
- Bomb incidents, including bomb incidents in designated parking areas
- Structural fires
- Fuel farm fire or fuel storage areas
- Natural disasters
- Hazardous materials and dangerous goods incidents
- Sabotage, hijack and other unlawful interference with operations
- Failure of power for movement area lighting
- Water rescue situations, as appropriate

The following sections within this chapter provide guidance for assessing the airport's vulnerability to hazards, provide standard language related to emergency response procedures, and provide an explanation of the different emergency classifications.

A. HAZARDS VULNERABILITY ASSESSMENT⁸

A hazard vulnerability assessment is a recommended technique for airports to use in prioritizing hazards with a higher probability of occurring in their area. The vulnerability assessment can be used to:

⁸ AC 150/5200-31C – Appendix 1 General Procedures for Hazard Analysis

- Develop planning priorities
- Develop hazard maps
- Educate emergency response personnel, elected officials and other decision-makers, as well as the general public
- Develop realistic plans and resources management strategies
- Prepare mitigation programs

A broad-based team approach should be used for the hazard vulnerability assessment. In addition to airport employees, have stakeholders from agencies outside the airport participate in the emergency planning, mitigation, response or recovery activities. More diversity in the people and the organizations involved will achieve better results.

Appendix D is a sample *Hazards Vulnerability Analysis Worksheet* that can be used as a guide to rate the probability of hazards most likely to occur in your area. Probability is the number of chances per year that an incident of specific or greater size will occur. This can be based on historical factors, experience, and to some degree, scientific reasoning. The following scoring system can be used to rate the probability of the hazards.

- 0 Points - Not possible in our community (e.g. volcanic eruption in Florida)
- 1 Point - It is possible, but probably will not happen
- 2 Points - It will probably happen, but not very often
- 3 Points - It is possible and is likely to happen

THINGS TO THINK ABOUT:

The hazards list is not all inclusive. There is always a potential for new and unexpected hazards, and hazards may not be independent of one another (e.g. an aircraft crash might also initiate a major structure fire.)

Once the probability of the hazards occurrence has been assessed, the response management difficulty needs to be reviewed. This step is mainly concerned with the magnitude and duration of the emergency, the airport/community's capabilities to direct and control responses activities, and the effects of time on those activities. Having the local community involved to assess resource utilization as part of the planning process is important. The scoring system for this step is as follows:

- 0 Points - Absolutely no problem, routine
- 1 Point - Can be managed with local resources
- 2 Points - Would require assistance from local communities
- 3 Points - Would require considerable support from state and federal agencies

To complete the hazards vulnerability assessment, record the vulnerability factor which is determined by adding the points across the row of categories for each hazard. Once completed, a list should be developed ranking the hazards from highest to lowest vulnerability. It is recommended that the analysis be reassessed regularly to accommodate changing situations and technologies.

THINGS TO THINK ABOUT:

This is only one suggested method for assessing hazards in your area. You may find that a more detailed analysis is necessary to assess your current response procedures or to account for other factors.

GENERAL

An aircraft emergency is defined as any crash, accident, fire or other casualty involving aircraft or any potential mishap for which emergency response equipment is required.

An aircraft emergency will normally be declared by:

- The pilot in command
- Local air traffic control
- Aircraft owner
- Airport authority management
- Local flight services station
- Local Army National Guard
- Local or State level government

This section outlines the initial actions that should be taken during an emergency and the controlling authority. In accordance with NTSB 8-30, the first authority on the scene shall assume command until the authority appropriate to the situation arrives.

THINGS TO THINK ABOUT:

Where generic titles or agencies are listed as guides, it is beneficial to include the actual division office or agency department specific to the region in which the airport is located.

B. EMERGENCY CLASSIFICATION

The Emergency Classification section should set standards for outlining the emergency type classifications. Standards should be set up to facilitate a quick assessment of the emergency. Flowcharts that show a typical sequence of events during each type of emergency classification are provided in the *Summary of Agencies Involved* section of the *Aviation Emergency Response Guidebook* and also as Figures 12 through 15 in **Appendix E** of this document. These flowcharts should be adopted and utilized as part of the Plan. The following Alerts demonstrate the emergency type examples as defined by AC 150/5200-31C, 7-1-4.⁹

SAMPLE EMERGENCY TYPE CLASSIFICATIONS

Alert I (Local Standby Alert)

The typical sequence of events that occurs during an Alert I is illustrated as Figure 12 in **Appendix E**. This type of alert is warranted when an aircraft is known or suspected to have an operational defect that should not normally cause serious difficulty in achieving a safe landing. This is notification only and no response is required, but precautionary efforts may sometimes be taken. The emergency response outlined for Alert I should be followed, and emergency equipment and responders should be placed on standby.

Additional examples are provided in International Civil Aviation Organization (ICAO) Airport Services Manual, Part 7: Airport Emergency Planning, and NFPA 424: Guide for Airport Community Planning.

Alert II (Full Emergency Alert)

The typical sequence of events that occurs during an Alert II is illustrated as Figure 13 in **Appendix E**. This type of alert is warranted when an approaching aircraft has a known or suspected operational defect that affects normal flight operations to the extent that there is danger of an accident. Emergency responders should proceed to predetermined standby locations and alert the ATCT before proceeding onto any taxiways or

⁹ AC 150/5200-31C, 7-1-4

runways. If the airport does not have an ATCT, or the ATCT is non-operational, the emergency responders should broadcast their intentions onto a previously defined frequency before moving onto taxiways or runways.

Alert III (Aircraft Accident Alert)

The typical sequence of events that occurs during an Alert III is illustrated as Figures 14 and 15 in **Appendix E**. This type of alert is warranted when an accident has occurred on airport property or is imminent on or in the vicinity of an airport. Emergency equipment and responders should be notified immediately and should proceed to the scene of the accident, following the standard notifications for entering the taxiway and runway. The emergency response to an Alert III is different depending on if the accident occurs on or off of airport property.

*Note: There is also an emergency type called Alert on the Ground. For more information on this alert as well as Alerts I –III see **Appendix E***

CLASSIFICATION RESPONSE PROCEDURES

This section outlines the procedures for notifying the airport tenants and other users of the airport of the emergency situation, as warranted. In the event that a portion of or the entire airport has to be closed, a plan should be set up to notify and evacuate tenants. This section should also outline the response procedures for notifying the first responders. For airports certificated under 14 CFR Part 139, Certification of Airports, 14 CFR 139.325, Airport Emergency Plan, 139.325(e) requires that procedures be in place:

“...for notifying the facilities, agencies, and personnel who have responsibilities under the plan of the location of an aircraft accident, the number of persons involved in that accident, or any other information necessary to carry out their responsibilities, as soon as that information is available.”

The typical sequence of events that occurs during an “Alert on the Ground” is illustrated as Figure 11 in **Appendix E**.

ALERT I (LOCAL STANDBY ALERT)

Notification

In the event that an aircraft is having a minor emergency such as an oil leak, engine shutdown or other minor flight problem that could lead to a major emergency, the pilot will notify the ATCT or entity responsible for notifications in the absence of an ATCT.

Response

The ATCT or notifying agency should provide the following information to emergency responders in the event of an emergency:

1. Nature of emergency
2. Flight number
3. Type of aircraft

An aircraft having hydraulic or wheel problems that manages to land safely will have mechanical down locks installed, emergency equipment should escort aircraft to the parking ramp.

An aircraft with an uncontrolled fire (e.g. engine, fuselage) will evacuate passengers and crew without delay as emergency units initiate firefighting and rescue operations.

Airport fire fighters and other rescue personnel should understand the basic need for, and the techniques and procedures used, in aircraft accident investigation. Emergency first responders should adhere to the criteria contained in AC 150/5200-12, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident.

4. Location of emergency
5. Estimated time of arrival (ETA)
6. Number of people involved
7. Amount of and type of fuel (if known)
8. Other Information deemed to be important

Additional response procedures for the control tower, the local fire department, and first responder personnel should be established in this section.

If the emergency is upgraded to Alert II, responders should go to standby positions. After the aircraft lands, they should follow the aircraft to the parking ramp and stand by until the aircraft engine shuts down.

ALERT II (FULL EMERGENCY ALERT)

Notification

An aircraft with faulty landing gear, engine fire, loss of hydraulic pressure or any other problem that could likely result in a crash is classified as Alert II. Once the ATCT is notified of the problem by the pilot, Alert II response procedures should be initiated.

Response

1. ATCT personnel should be provided with the same information as in an Alert I scenario, plus any additional details that will allow preparation for likely contingencies. The fire/police dispatcher should advise airport staff of the applicable fire department radio talk group or provide a radio patch to facilitate efficient response coordination. A full response should be made with the emergency equipment manned and positioned with the response vehicle engines running. All emergency lights should be in operation so that rapid response to the emergency site can be accomplished.
2. Standby locations on the airfield should be accessed through the terminal apron gates, and responding units should position themselves to have a clear view of the runway and taxiways.
3. Airport staff should communicate with the aircraft on the guard frequency (121.5 MHz) and pass information on to the fire/police department. This provides a safety factor for rollout and, should an emergency vehicle be required, it could be moved to the aircraft stopping point from the upwind direction.

THINGS TO THINK ABOUT:

The person in charge of response equipment, such as the fire department, should anticipate the aircraft's rollout and station emergency response vehicles some distance upwind from the rollout area.

At the termination of the Alert II emergency, the fire officer in charge will dispatch the emergency equipment for return to the station.

ALERT III (AIRCRAFT ACCIDENT ALERT)

1. Full ATCT procedures should be put into effect. All pertinent updated information should be relayed by the airport staff or dispatching agency to responding emergency units, and should include the location of the accident

Contact information for entities, such as the FAA Operations Center should be readily accessible in the plan.

using direction and distance from the terminal building, thresholds, mid-field, road intersections or landmarks.

2. When complete aircraft-related information is not available, the ARFF personnel should anticipate the worst-case situation and prepare accordingly.
3. Notify the FAA Operations Center of conditions at the site, particularly if such conditions could interfere with flight operations. Airport staff should issue applicable Notice to Airmen (NOTAM) to ensure that appropriate Common Traffic Advisory Frequency (CTAF) advisories are communicated.

Whenever possible, wreckage should remain undisturbed until the arrival of the first National Transportation Safety Board (NTSB) accident investigator. Prior to the time the NTSB or its authorized representatives take custody of aircraft wreckage, mail or cargo, such material may not be disturbed or moved except to the extent necessary for emergency response including:

1. To remove persons injured or trapped
2. To protect the wreckage from further damage
3. To protect the public from injury¹⁰

THINGS TO THINK ABOUT:

When it is necessary to move aircraft wreckage including mail or cargo, sketches, descriptive notes and photographs will be made, if possible. Otherwise, original position and condition of the wreckage and any significant impact marks will be recorded. (Refer to 49 CFR, Part 831, Accident/Incident Investigation Procedures.).

HAZARD-SPECIFIC SECTION¹¹

The Hazard-Specific Section provides additional detailed information applicable to the performance of a particular function in support of a specific hazard. Per CFR, Part 139.325, *Airport Emergency Plan*, the airport operator must develop plans and procedures in response to the following emergencies:

- Aircraft incidents and accidents
- Bomb incidents, including bomb incidents in designated parking areas
- Structural fires
- Fuel farm fire or fuel storage areas
- Natural disasters
- Hazardous materials dangerous goods incidents
- Sabotage, hijack, and other unlawful interference with operations
- Failure of power for movement area lighting
- Water rescue situations, as appropriate

The responsibility for making the decision on what to include in the hazard-specific section is vested with the airport's planning team.

¹⁰ AC 150/5200-31C, 7-1-4(h)

¹¹ Language was taken from AC150/5200-31C, Chapter 7 sections 1-9

Through the Hazards Analysis Program, guidance has been provided to assist in the identification of hazards and disasters specific to an airport that warrant planning attention. The following sections within this chapter provide a basic description of the hazards listed above to assist in the development of functional hazard-specific plans and procedures. Below is the standard outline, from the Basic Plan, of the sections that should be included and addressed in response to each hazard.

A. HAZARD-SPECIFIC APPENDIX OUTLINE

Introduction

This section describes the specific hazards, discusses the areas at risk, and breaks down the risk assessment measures that should be taken to prepare the response plan.

Situation and Assumption

Within this section information should be included that discusses the airport's susceptibility to the specific hazard. Assumptions are advance judgments concerning what might happen in the event of the specific hazard. The situation includes major findings from the:

- Hazard analysis and risk assessment
- Identified facilities that may be impacted
- Included maps and descriptions of geographic features
- Sensitive environmental areas
- Transportation routes
- Pertinent climates and weather factors, as well as any other critical variables which may impact the emergency response

Operations

This section explains the airport's overall approach to the emergency situation, and discusses what action should take place and the person/agency that should be in command. Topics should include:

1. Division of airport and local responsibilities to include roles and relationships of emergency response organizations
2. A list of mutual aid agreements relative to specific emergency
3. Criteria for activation of the Emergency Operations Center (EOC)
4. A description of the sequence of actions before, during, and after the emergency situation

As with other emergencies and emergency-specific Standard Operating procedures (SOPs), a checklist should be prepared. Associated training programs should be developed and implemented.

Organization and Assignment of Responsibilities

- Airport Traffic Control Tower (ATCT)
- Aircraft Rescue and Fire Fighting (ARFF)
- Law enforcement
- Emergency Medical Services (EMS)

- Airport operator
- Communications

Administration and Logistics

This section of the document should cover those general support requirements specific to the hazard.

Plan Development

This section should identify who is responsible for coordinating revisions to each hazard-specific appendix, keeping its attachments current, and ensuring that SOPs and checklists are developed and maintained.

Authorities and References

This section should identify any hazard-specific statutes, regulations, etc. that address related authority, (e.g. Building Codes). Any documents used as guidance or for information should be included as an appendix.

Unique Planning Considerations

This section should contain a listing of the functional sections that would typically be required in the preparation of a hazard-specific appendix. It also identifies the unique and/or regulatory planning considerations that should be used by the airport AEP planning team.

Standard Operating Procedures (SOP) and Checklists

This section should outline the Standard Operating Procedures to be performed and checklists to be followed before, during, and after an emergency.

B. AIRCRAFT INCIDENTS AND ACCIDENTS

An aircraft accident is any occurrence associated with the operations of an aircraft that takes place between the time a person boards the aircraft with the intention of flight and the time such person has disembarked; in which a person suffers death or suffers serious injury as a result of the occurrence; or in which the aircraft, including cargo aircraft, receives substantial damage.¹² An incident is an occurrence that an accident affects or could affect the safety of operations.

(See 49 CFR, Part 830.)

Refer to 'Reporting an Accident to the NTSB'

THINGS TO THINK ABOUT:

The degree of involvement from the NTSB may vary from situation to situation. (See [Responding to An Airport Accident – How to Support the NTSB \(A Guide for Police and Public Safety Personnel\)](#) at www.nts.gov.)

This section should include an emergency preparedness plan for an aircraft incident or accident, including cargo aircraft, under a number of circumstances:

- On the airport premises
- Off the airport on adjacent property, but within an area for which the airport has the authority and responsibility to respond

¹² AC 150/5200-31C

C. TERRORISM: BOMB INCIDENTS

The history of terrorism incidents is such that no report or rumor, however vague, can be ignored. Each case must be thoroughly investigated in a manner that will safeguard the public and minimize damage if the bomb is actually present.

The information contained in this section is intended to supplement the Basic Plan and Functional Section of the Airport Emergency Plan. It should define responsibilities and describe actions that should be taken in the event of a bomb threat or an actual incident occurrence at the airport.

The FBI is the agency responsible for investigating bomb threats. In the event that a bomb threat is made or an explosive device is located, the recipient should contact the Airport Authority and begin the predetermined notification procedures.

This section should be divided into two parts, one for bomb threats involving aircraft, and one for bomb threats involving buildings. Outline the procedures for both scenarios. A bomb threat call procedure brochure is included in **Appendix C**.

Specific information regarding terrorism incidents is considered Sensitive Security Information (SSI). Specific information is contained in the appropriate sections in the Airport Security Program. As SSI the information is published and distributed on a need-to-know basis only.

D. STRUCTURAL FIRES, FUEL FARM, AND FUEL STORAGE AREA FIRES

This section should address practical procedures to address structural fires occurring at or in airport properties, structures, facilities, buildings, equipment and/or infrastructure support systems.

A risk assessment should be prepared by the AEP planning team which identifies the facilities, properties, or equipment that may be vulnerable to structural or fuel fire. The assessment provides the team with the essential data it needs to determine the type of equipment and other resources necessary to effectively respond to fires at the various types of structures or fuel facilities. The assessment should identify those facilities which may present special response concerns, such as the terminal, cargo buildings or fuel storage areas. Once identified, each section should be addressed. A typical Fuel Farm Quality and Material Safety Data Sheet (MSDS) is included as **Appendix F**.

Significant information is available concerning hazardous materials through the FDOT Pipeline and Hazardous Materials Safety Administration website at www.phmsa.dot.gov

Hazardous Material Emergency Preparedness Training that addresses response, planning and prevention is available from the U.S. Fire Administration (www.usfa.dhs.gov). Additionally, OSHA provides online hazardous materials training.

E. NATURAL DISASTERS

Natural disasters are events that all airports face, and nothing can be done to avert these weather-caused emergencies. There are actions that can be taken to minimize impact and damages to the airport and to aid in restoration of services. Mitigation actions for each type of natural disaster facing the airport should be outlined and addressed in this section. The primary natural disasters that Florida airports face are:

- Hurricanes
- Tornados
- Flooding
- Lightning strikes

F. HAZARDOUS MATERIALS INCIDENTS

Hazardous materials are defined as any substance or material that, when involved in an accident or released in sufficient quantities, poses a risk to people's health, safety, and/or property. These substances and material include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins and corrosive materials.¹³ The severity of these hazards depends on the types and quantities of the hazardous material produced, processed, used, or stored near or on airport property. A hazardous material spill or release can pose a risk to life, health, or property. An incident can result in the evacuation of a few people, part of a building, or a whole neighborhood.

G. SABOTAGE, HIJACKING, AND OTHER UNLAWFUL INTERFERENCE WITH OPERATIONS

This section should outline the notification procedures in the event that the airport is the destination of sabotage, hijack, or other unlawful interference with normal operations. Provide a brief description of the ATCT responsibilities when notifying airport personnel and FAA. A more detailed description of responsibilities should be given for each party involved.

THINGS TO THINK ABOUT:

Airports regulated under 49 CFR, Part 1542, Airport Security, have established response procedures for sabotage, hijack and other criminal interference of Civil Aviation as specified in their Airport Security Program (ASP).

H. FAILURE OF POWER FOR MOVEMENT AREA LIGHTING

This section should provide guidance to the airport operator for any situation, which involves the failure of power for movement area lighting that may potentially impact that airport.

Airfield lighting criteria are contained in the Advisory Circular 150-5345.

THINGS TO THINK ABOUT:

Alternative lighting resources should be identified and described within this section, along with procedures to expedite repowering the original lighting source. If no alternative lighting is available, steps should be made to address this potential hazard prior to an actual emergency.

I. WATER RESCUE SITUATIONS

This section should prescribe procedures for responding to water rescue situations, including those in *Certification of Airports*, 14 CFR §139.325(f), *Airport Emergency Plan* (www.access.gpo.gov) which states that:

"The plan required by this section shall contain provisions, to the extent practicable, for the rescue of aircraft accident victims from significant bodies of water or marsh lands adjacent to the airport that are crossed by the approach and departure flight paths of air carriers. A body of water or marsh land is significant if the area exceeds one-quarter square mile and cannot be traversed by conventional land rescue vehicles. To the extent practicable, the plan should provide for rescue vehicles with a combined capacity for handling the maximum

Advisory Circular 150/5210-13, Water Rescue Plans, Facilities, and Equipment, provides requirements for airports located near water bodies.

¹³ AC 150/5210-13C, Hazardous Materials Incidents

*number of persons that can be carried on board the largest air carrier aircraft that the airport can reasonably be expected to serve."*¹⁵

THINGS TO THINK ABOUT:

Significant bodies of water, as defined above, located within two miles of the end of an airport runway should be included in the emergency plan area of response. As additional information, a map should be created and included in this plan illustrating the locations of all water bodies and boat ramps/public accesses near the airport.

¹⁵ AC 150/5200-31A, 7-8-1 Water Rescue Situations

APPENDICES

Appendix A – Emergency Telephone Directory

Appendix B – Florida Department of Emergency Management Regions

Appendix C – Bomb Threat Call Procedures and Checklist

Appendix D – Hazards Vulnerability Analysis Worksheet

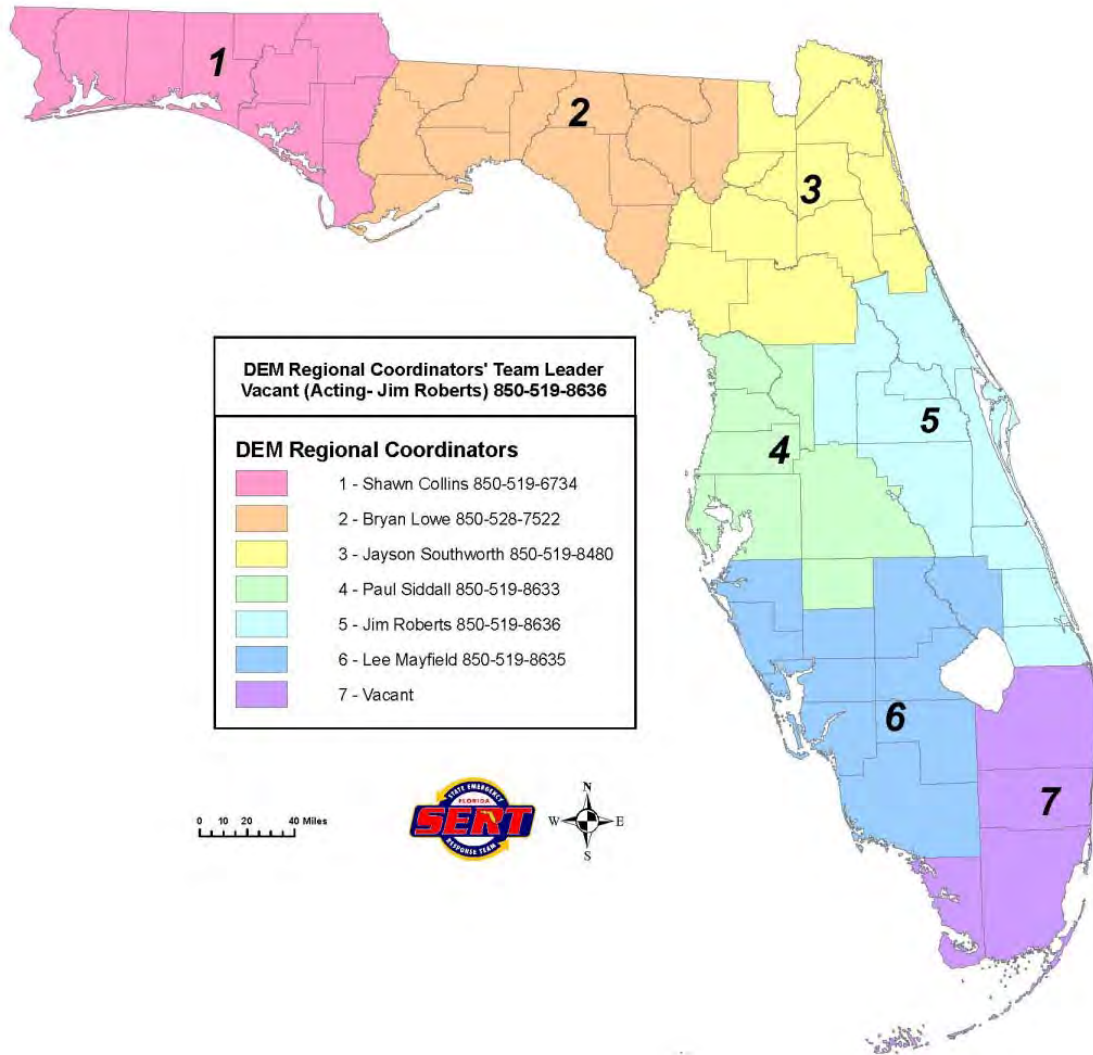
Appendix E – Generated Emergency Response Flowchart

Appendix F – Fuel Farm Qualities and Material Safety Data Sheets (MSDS)

APPENDIX A – EMERGENCY TELEPHONE DIRECTORY

AGENCY	TELEPHONE NUMBER
<u>FLORIDA, STATE OF</u>	
Highway Patrol	XXX-XXX-XXXX
<u>XXXX, COUNTY OF</u>	
Civil Defense	XXX-XXX-XXXX
Emergency Medical Services (EMS).....	XXX-XXX-XXXX
Sheriff (Emergency 911)	XXX-XXX-XXXX
<u>HOSPITAL AND AMBULANCE</u>	
AMT Ambulance (Emergency 911	XXX-XXX-XXXX
(Local) Medical Center	XXX-XXX-XXXX
<u>XXXX, CITY OF</u>	
Police Department (Emergency 911)	XXX-XXX-XXXX
Fire Department (Emergency 911).....	XXX-XXX-XXXX
Fire Department Station #X.....	XXX-XXX-XXXX
(Local) Utilities Commission	XXX-XXX-XXXX
General Aviation Department	
Director of Aviation.....	XXX-XXX-XXXX
Airport Operations	XXX-XXX-XXXX
Airport Maintenance.....	XXX-XXX-XXXX
<u>UNITED STATES GOVERNMENT</u>	
Federal Aviation Administration	
Control Tower.....	XXX-XXX-XXXX
Air Force Base (AFB) Explosive Ordnance Disposal (EOD)	XXX-XXX-XXXX
Federal Bureau of Investigation (FBI)	XXX-XXX-XXXX
Postal Service	XXX-XXX-XXXX
Secret Service	XXX-XXX-XXXX
U.S. Department of the Treasury	
Bureau of Alcohol, Tobacco and Firearms (ATF)	XXX-XXX-XXXX
Customs	XXX-XXX-XXXX
Weather Bureau	XXX-XXX-XXXX

APPENDIX B – FLORIDA DEPARTMENT OF EMERGENCY MANAGEMENT REGIONS



APPENDIX C – BOMB THREAT CALL PROCEDURES AND CHECKLIST

BOMB THREAT CALL PROCEDURES

Most bomb threats are received by phone. Bomb threats are serious until proven otherwise. Act quickly, but remain calm and obtain information with the checklist on the reverse of this card.

If a bomb threat is received by phone:

1. Remain calm. Keep the caller on the line for as long as possible. DO NOT HANG UP, even if the caller does.
2. Listen carefully. Be polite and show interest.
3. Try to keep the caller talking to learn more information.
4. If possible, write a note to a colleague to call the authorities or, as soon as the caller hangs up, immediately notify them yourself.
5. If your phone has a display, copy the number and/or letters on the window display.
6. Complete the Bomb Threat Checklist (reverse side) immediately. Write down as much detail as you can remember. Try to get exact words.
7. Immediately upon termination of the call, do not hang up, but from a different phone, contact FPS immediately with information and await instructions.

If a bomb threat is received by handwritten note:

- Call _____
- Handle note as minimally as possible.

If a bomb threat is received by e-mail:

- Call _____
- Do not delete the message.

Signs of a suspicious package:

- No return address
- Excessive postage
- Stains
- Strange odor
- Strange sounds
- Unexpected Delivery
- Poorly handwritten
- Misspelled Words
- Incorrect Titles
- Foreign Postage
- Restrictive Notes

DO NOT:

- Use two-way radios or cellular phone; radio signals have the potential to detonate a bomb.
- Evacuate the building until police arrive and evaluate the threat.
- Activate the fire alarm.
- Touch or move a suspicious package.

WHO TO CONTACT (select one)

- Follow your local guidelines
- Federal Protective Service (FPS) Police
1-877-4-FPS-411 (1-877-437-7411)
- 911

BOMB THREAT CHECKLIST

Date: _____ Time: _____

Time Caller Hung Up: _____ Phone Number where Call Received: _____

Ask Caller:

- Where is the bomb located?
(Building, Floor, Room, etc.) _____
- When will it go off? _____
- What does it look like? _____
- What kind of bomb is it? _____
- What will make it explode? _____
- Did you place the bomb? Yes No
- Why? _____
- What is your name? _____

Exact Words of Threat:

Information About Caller:

- Where is the caller located? (Background and level of noise) _____
- Estimated age: _____
- Is voice familiar? If so, who does it sound like? _____
- Other points: _____

Caller's Voice

- ☐ Accent
- ☐ Angry
- ☐ Calm
- ☐ Clearing throat
- ☐ Coughing
- ☐ Cracking voice
- ☐ Crying
- ☐ Deep
- ☐ Deep breathing
- ☐ Disguised
- ☐ Distinct
- ☐ Excited
- ☐ Female
- ☐ Laughter
- ☐ Lisp
- ☐ Loud
- ☐ Male
- ☐ Nasal
- ☐ Normal
- ☐ Ragged
- ☐ Rapid
- ☐ Raspy
- ☐ Slow
- ☐ Slurred
- ☐ Soft
- ☐ Stutter

Background Sounds:

- ☐ Animal Noises
- ☐ House Noises
- ☐ Kitchen Noises
- ☐ Street Noises
- ☐ Booth
- ☐ PA system
- ☐ Conversation
- ☐ Music
- ☐ Motor
- ☐ Clear
- ☐ Static
- ☐ Office machinery
- ☐ Factory machinery
- ☐ Local
- ☐ Long distance

Threat Language:

- ☐ Incoherent
- ☐ Message read
- ☐ Taped
- ☐ Irrational
- ☐ Profane
- ☐ Well-spoken

Other Information:



Homeland Security

APPENDIX D – HAZARDS VULNERABILITY ANALYSIS WORKSHEET

HAZARDS VULNERABILITY ANALYSIS WORK SHEET			
Hazard	Probability	Response Difficulty	Vulnerability Factor
Aircraft accident - off airport			
Aircraft accident - on airport			
Aircraft accident - rough terrain			
Aircraft accident - water			
Boating accident			
Bomb threat/found			
Bridge collapse			
Building collapse			
Civil disturbance			
Communications system failure			
Computer system failure			
Dam/levee failure			
Drought			
Earthquake			
Epidemic, disease			
Fire - major structure			
Fire - brush, forest, prairie			
Flood			
Food poisoning - extensive			
Fuel shortage			
Hazardous materials incident			
Hostage situation (non-terrorist)			
Hurricane			
Labor problems - serious			
Landslide			
Lost person(s)			

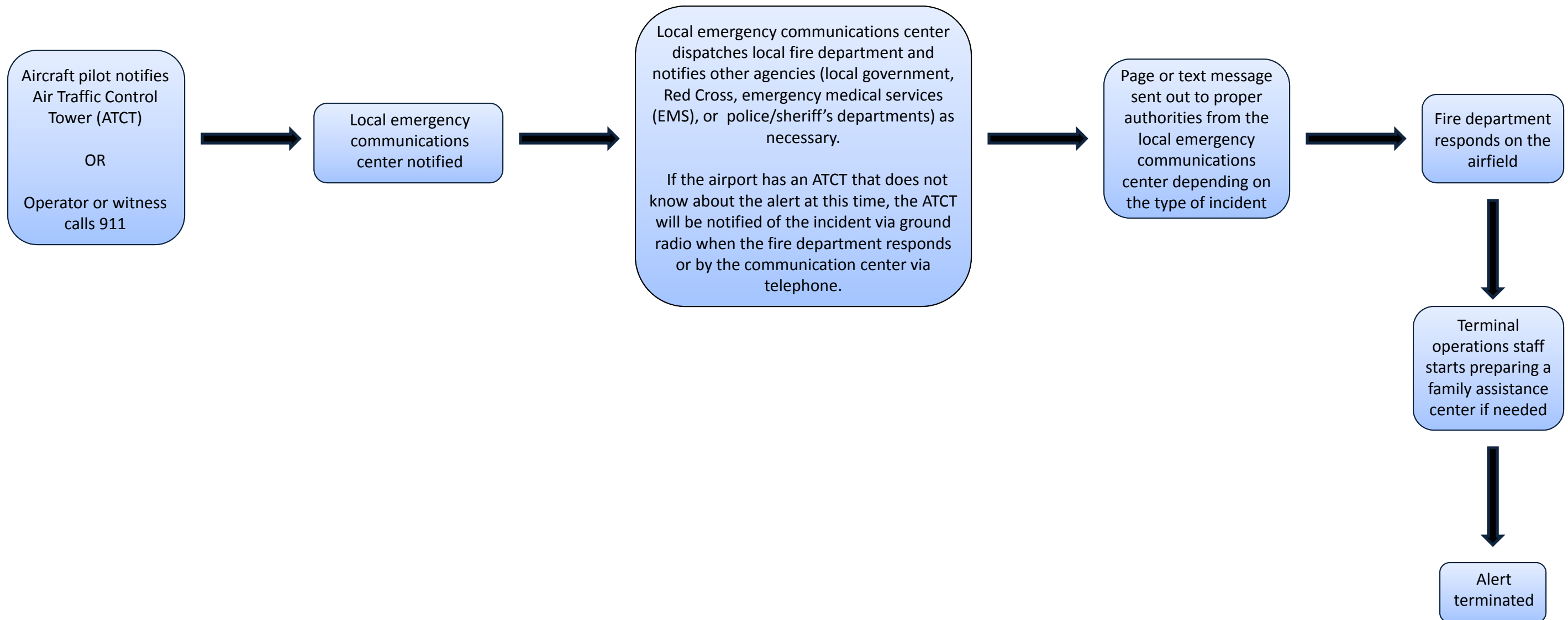
HAZARDS VULNERABILITY ANALYSIS WORK SHEET			
Hazard	Probability	Response Difficulty	Vulnerability Factor
Mass casualty incident			
Natural gas outage			
Nuclear attack			
Nuclear facility incident			
Pollution - air			
Pollution - water			
Power failure			
Radiological incident			
Rapid transit accident			
Sandstorm/Dust storm			
Sewer explosion			
Sewer system failure			
Ship incident - harbor			
Terrorist			
Tornado			
Train accident - freight			
Train accident - passenger			
Tsunami (tidal wave)			
Vehicular accident - major			
Volcano eruption			
Water supply failure			
Winds - damaging			
Winter storm - severe			

APPENDIX E – GENERATED EMERGENCY RESPONSE FLOWCHART

GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT ON THE GROUND

ALERT ON THE GROUND REFERS TO WHEN THE AIRCRAFT IS LOCATED ON THE GROUND ON AIRPORT PROPERTY



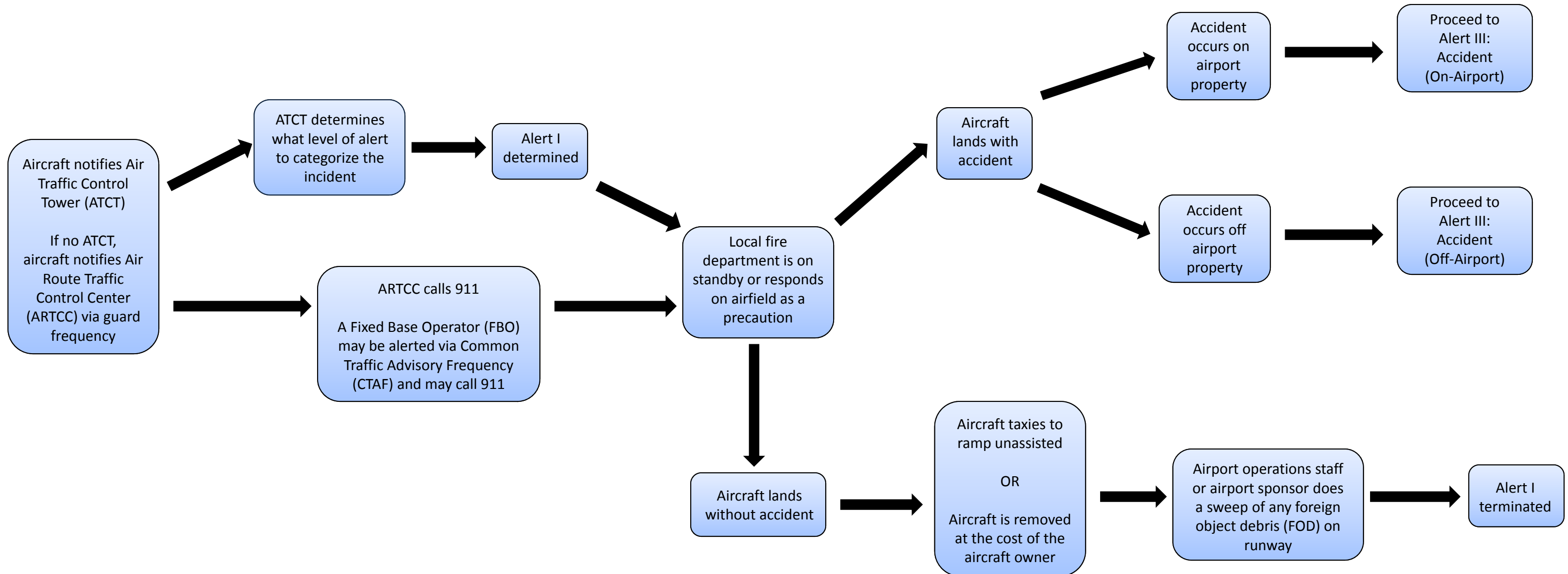
GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT I - MINOR PROBLEM

INCLUDES:

- FUEL OR OIL LEAK
- ONE ENGINE OUT ON A THREE OR FOUR ENGINE AIRCRAFT
- ONE ENGINE OUT ON A TWIN ENGINE GENERAL AVIATION AIRCRAFT WEIGHING < 12,500 LBS.

NOTE: OPERATIONS PERSONNEL MAY CATEGORIZE AN ALERT I AS AN ALERT II AS A PRECAUTIONARY EFFORT

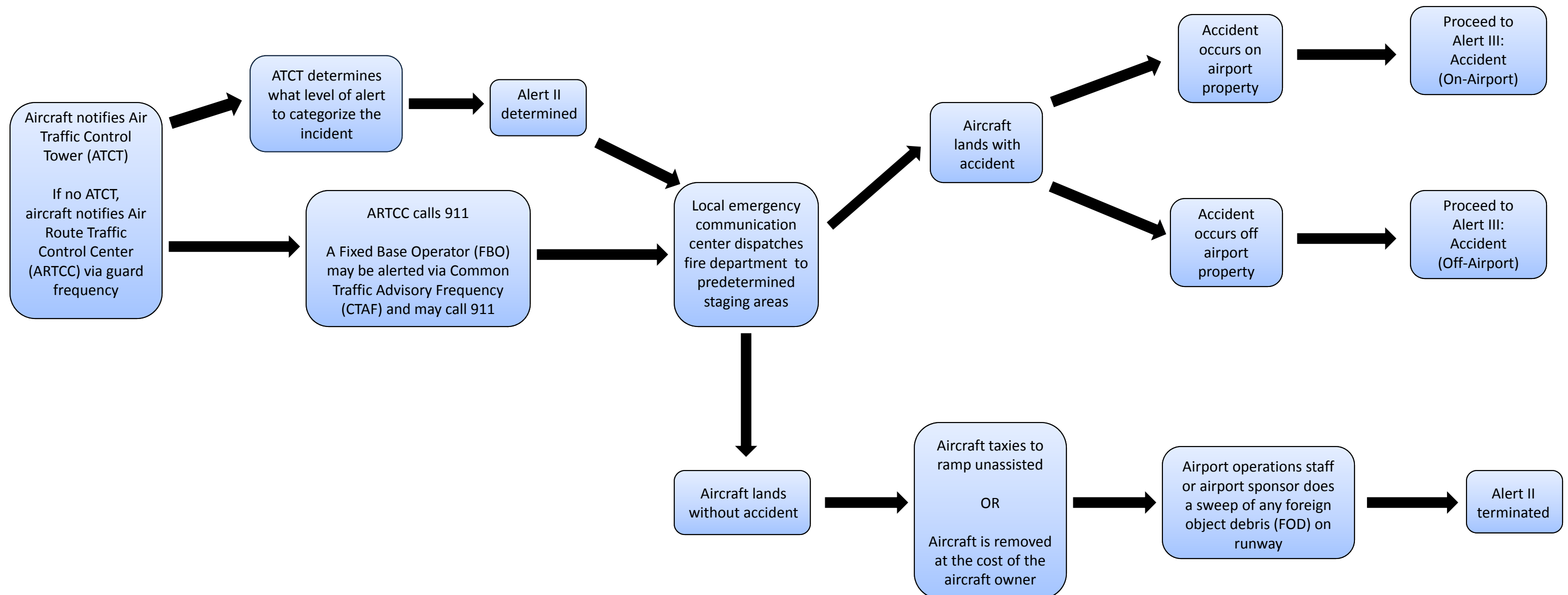


GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT II - MAJOR DIFFICULTY

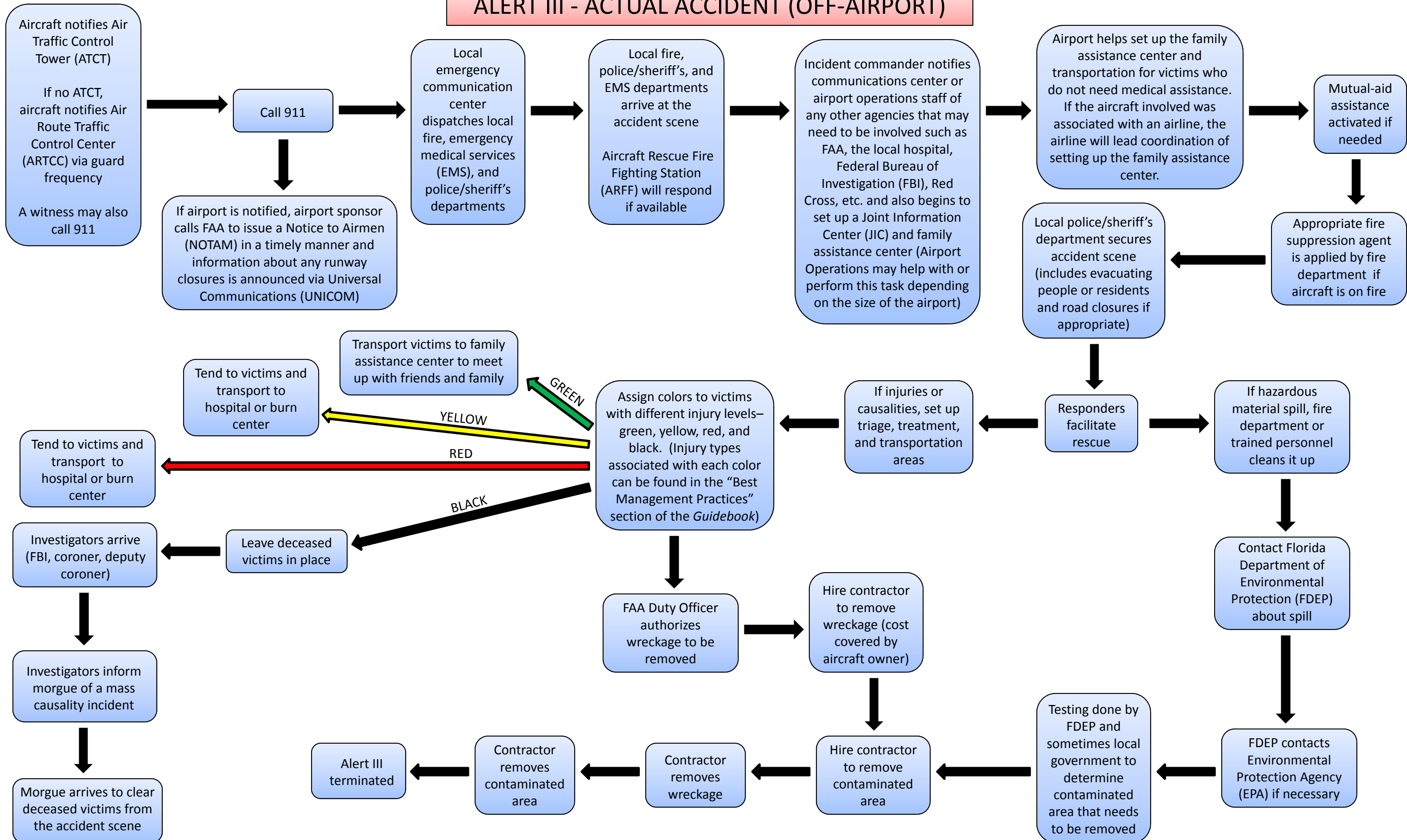
INCLUDES:

- SMOKE IN THE CABIN
- ENGINE ON FIRE
- FAULTY LANDING GEAR
- LOSS OF HYDRAULIC PRESSURE
- ONE ENGINE OUT ON A TWIN ENGINE AIRCRAFT WEIGHING > 12,500 LBS.



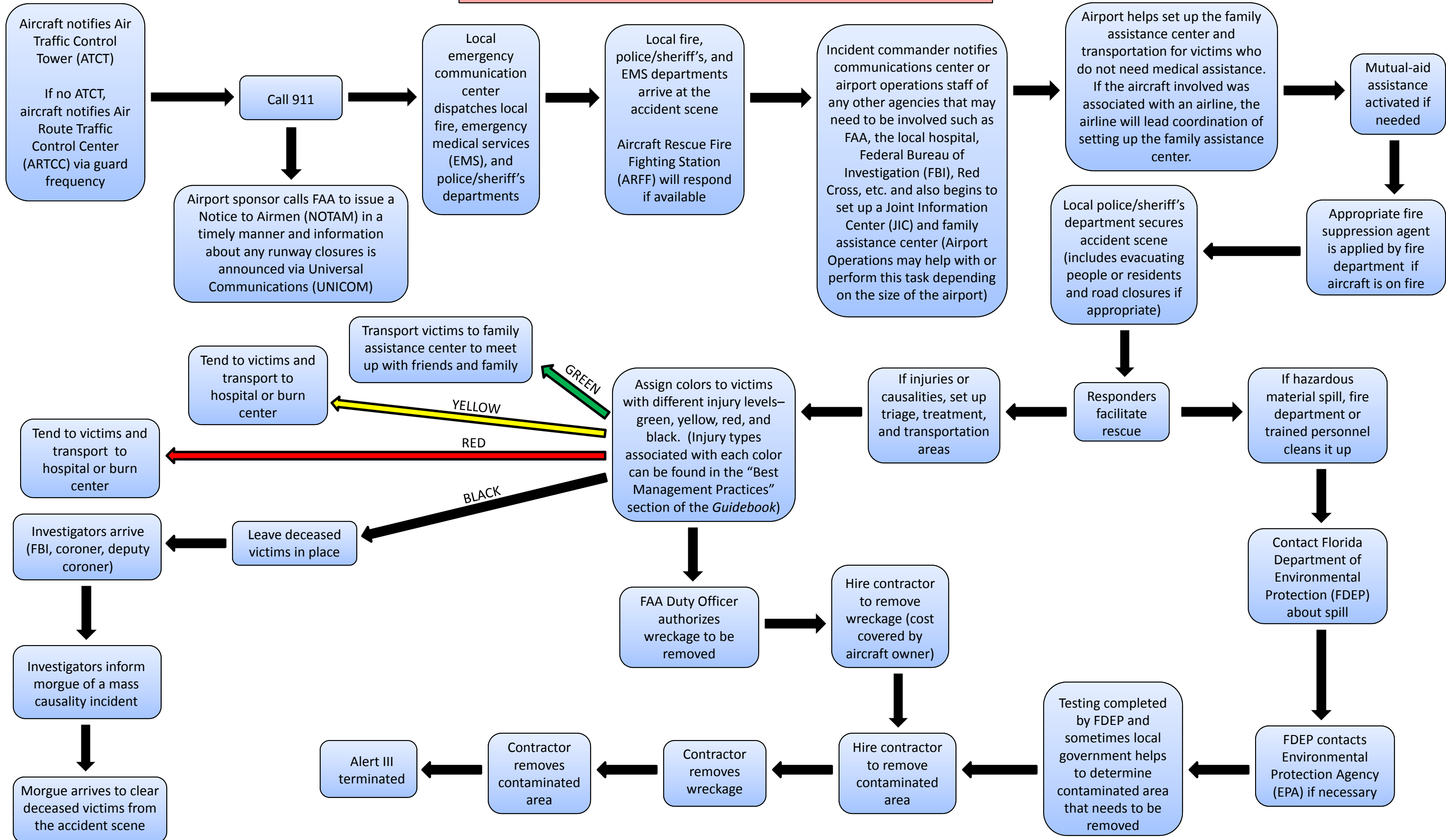
GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT III - ACTUAL ACCIDENT (OFF-AIRPORT)



GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT III - ACTUAL ACCIDENT (ON-AIRPORT)



APPENDIX F – FUEL FARM QUALITIES AND MATERIAL SAFETY DATA SHEETS (MSDS)

Fuel Farms					
Location	Size - Gallons	Quantity	Type	Permanent/Mobile	Above/Below Ground
WarBird	xxx	1	AVGAS	Mobile	-
Euroflight	xxx	1	AVGAS	Mobile	-
Ranger/Atlantic	Xx,xxx	1	JETA	Permanent	Above
Ranger/Atlantic	Xx,xxx	1	AVGAS	Permanent	Above
OFT	Xxx,xxx	2	AVGAS/JETA	Permanent	Above
Marathon	xxx	2	AVGAS/JETA	Permanent	Below
Signature (Future)	xxx	1	JETA	Permanent	Above
Signature (Future)	xxx	1	AVGAS	Permanent	Above
Signature South	-	-	-	Decommissioned	Below
	xxx	2	AVGAS/JETA	Permanent	Below

AIRPORT EMERGENCY PLAN GUIDE

FOR

AIRPORTS NOT CERTIFICATED IN ACCORDANCE WITH

TITLE 14 CODE OF FEDERAL REGULATIONS, PART 139



February 2012

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PART 1 – INTRODUCTION

OVERVIEW

Airports differ in complexity, but each has unique features. Some are small, uncomplicated facilities serving a more rural environment, while others represent a good sized community complete with residential, industrial, and commercial installations serving major metropolitan areas. Airports are operated by the local government such as a city or county; or by an authority representing multiple local governments; and some are operated by the State. However, one thing they all have in common is that they are all subject to emergencies and incidents.¹

Notes provided in the right margin of the page provide important information and useful resources to further assist in the development of your facility's plan.

This *Airport Emergency Plan Guide* provides information to staff at Florida airports on the processes and procedures involved with responding to an emergency and can be revised to meet the specific needs of individual airports.

A. WHAT IS AN AIRPORT EMERGENCY PLAN (AEP)?

The purpose of an Airport Emergency Plan (AEP) is to provide guidance to the local government, the Airport Authority and the State in assuring prompt response to airport emergencies and other unusual conditions, minimizing the possibilities and extent of personal injury and property damage on the airport. The AEP is intended to facilitate the timely and appropriate responses performed by the emergency response agencies having responsibilities for responding to emergencies occurring on or in the immediate vicinity of the airport. The following is a sample list of agencies and facilities that should be provided with a copy of the completed AEP.

As defined in AC 150-5200-31C, "An airport emergency is any occasion or instance, natural or man-made that warrants action to save lives and protect property and public health."

- | | | |
|--|-------------------------------------|--|
| • Local airport authorities | • Local Emergency Operations Center | • Local American Red Cross |
| • On-site airport maintenance shop | • Local/regional health facilities | • Florida Highway Patrol |
| • Transportation Security Administration | • Local police department | • Local Military Support Facilities |
| • Local fire department | • Local sheriff department | • Florida Division of Emergency Management |

All persons/agencies involved with the creation of the AEP should have a copy of the plan and their emergency contact information should be posted.

It is recognized that not all emergencies can be anticipated and, if an emergency situation arises that is not covered by this plan, the Executive Director, Operations Manager, or the Aircraft Rescue and Fire Fighting personnel has the authority to modify the plan to manage the emergency.

¹ Introduction in the U.S. Department of Transportation, FAA, AC 150-5200-31C.

B. PURPOSE OF THE EXAMPLE AIRPORT EMERGENCY PLAN GUIDE

The purpose of the *Airport Emergency Plan Guide* is to provide information to staff at Florida airports on the processes and procedures to be included when preparing an Airport Emergency Plan (AEP) for their facility. The *Airport Emergency Plan Guide* is to be used as a basic template that can be revised to meet the specific needs of each airport and their community. While every emergency situation cannot be anticipated and prepared for, a strong emergency preparedness program can assist in limiting the negative impacts of these events, including liability and other post-emergency issues.

To be effective, all entities involved in emergency response should be familiar with the contents of the plan and involved in regular trainings and exercises.

The recommendations and guidelines provided in the U.S. Department of Transportation, Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5200-31C, and the recommendations in 14 Code of Federal Regulations (CFR), Part 139 are outlined within this document. Although it is not mandatory for non-certificated airports to follow all requirements outlined in the AC they must follow the general guidelines prescribed by Homeland Security Presidential Directive 5 (HSPD-5), *Management of Domestic Incidents* and Homeland Security Presidential Directive 8 (HSPD-8), *National Preparedness*. The FAA also recommends that all airports (certificated and non-certificated) use certain provisions in the *National Fire Protection Agency (NFPA) Standards* [i.e. only 424, 1500, 1561, and 1600 (latest editions)]. The *Airport Emergency Plan Guide* is not all-inclusive, but rather is intended to serve as a tool to facilitate the process of developing an AEP.

This template is intended to be used by an airport not certificated in accordance with Title 14 CFR, Part 139 in the development or update of its own emergency response plan specific for its facility. The template provides an outline and checklist of processes and procedures to be tailored to each region, mission, and operational location. The practices and procedures outlined in this plan provide support to the Florida Department of Transportation (FDOT) by assisting federal, state, tribal and local governmental entities, voluntary organizations, non-governmental organizations and the private sector in the management of aviation facilities during domestic threats or in response to emergencies. This guide carries out the FDOT's statutory responsibilities, including regulation of transportation, management of the State's airspace and ensuring the safety and security of the State transportation system.

C. HOW TO USE THIS GUIDE: PLAN DEVELOPMENT AND MAINTENANCE

Personnel preparing this plan should be familiar with existing emergency response procedures prepared and practiced by the local airport as well as with any regional and state emergency response policies and procedures in place. Training that covers changes to these policies and procedures should be provided to ensure that all personnel are familiar with the most current information.

The sections listed below are described in detail throughout the *Airport Emergency Plan Guide*, including questions and examples to assist each airport in gathering information, guidance for deciding what issues to be included in the plan, and suggestions on how they can be incorporated to best support the facility. Not all sections or scenarios in the *Airport Emergency Plan Guide* will be applicable for every airport facility; in addition, some airports may require additional sections to be included to address areas or events specific to that facility. Those sections will need to be addressed on a case by case basis by individual airports.

Outline of sections to be included in an Airport Emergency Plan:

- Introduction
- Emergency Response Participants
- Training and Review
- Aircraft Emergency Response Procedures
- Hazard Specific Sections
- Appendices

THINGS TO THINK ABOUT:

The “Things to Think About” sections placed throughout the Airport Emergency Plan Guide are recommended additional information that can be included in each section. Though these suggestions are optional and not required, consideration should be given to including them in the plan.

PART 2 - PLAN SECTIONS AND CHECKLIST

INTRODUCTION

A. GENERAL

This section should provide a brief introduction to the Airport Emergency Plan (AEP), including an overview of what type of information will be presented in the plan and how it should be implemented before, during, and following an emergency at your facility. Sample language has been provided below that can be used to create the introduction section of the plan.

SAMPLE INTRODUCTION LANGUAGE:

The Airport Emergency Plan (AEP) is a comprehensive set of policies and procedures to be followed by all agencies involved in and responsible for public protection in an emergency or disaster situation involving the (insert name of airport facility). The AEP has been created in coordination with (list those agencies and organizations involved in the creation of this plan), and a copy of the completed plan has been provided to the following:

- (List those agencies that received a copy of the completed plan)

SAMPLE LIST OF POSSIBLE PARTICIPATING AGENCIES AND ORGANIZATIONS:

- **Facility Operations and Departments**
 - Director of Aviation
 - Airport Administrative and Operations Coordinator
 - Airport maintenance personnel
 - Airport Traffic Control Tower (ATCT)
 - Fixed Base Operators (FBOs) and airport tenants
- **State and Federal Agencies**
 - Florida Highway Patrol (FHP)
 - Federal Bureau of Investigation (FBI)
 - U.S. Department of the Treasury - Bureau of Alcohol, Tobacco, and Firearms (ATF)
 - U.S. Secret Service
 - U.S. Postal Service (USPS)
 - U.S. Air Force Explosive Ordnance Disposal (EOD)
 - Florida Division of Emergency Management

- **Local Agencies**
 - Public Information Officer (PIO)
 - Local/amateur radio club
 - Public Works department
 - Fire department
 - Police department
 - Sheriff's office
 - Health Department
 - Salvation Army
 - Funeral director(s)
 - Local emergency manager

It is strongly encouraged that stakeholder agencies and organizations involved in the creation of the AEP continue to be involved when updates to the plan are needed. The other agencies listed as receiving a copy of the plan will need to be notified upon the completion of each update and provided with an updated version or with a narrative of the changes to the plan.

This sample list of agencies is not all-inclusive as some airport facilities may have additional points of contact or resources not listed to the left. Please add any additional agencies or organizations involved or in the immediate vicinity of the airport.

THINGS TO THINK ABOUT:

It may be beneficial to include a brief description of your airport facility in the Introduction section; describing its location, size and the general type of aviation activities that take place at the facility on a daily or annual basis. This will help those agencies/organizations not local to the airport become more familiar with the facility and its surrounding areas.

B. REVIEW

The purpose of the AEP is to provide guidance to the local government, the Airport Authority and the State in assuring prompt response to airport emergencies and other unusual conditions, minimizing the possibilities and extent of personal injury and property damage on the airport. This plan is intended to facilitate the timely and appropriate responses performed by the emergency response agencies. These policies and procedures are not effective unless properly implemented. With implementation comes the responsibility of updating the information and materials, as new rules and regulations are passed and new emergency response procedures are created.

It is recommended that the review schedule be set to take place at least annually.

This section of the plan should discuss the schedule in which a review of the AEP will take place, describing also the process of how revisions or updates will be performed and executed.

SAMPLE REVIEW SCHEDULE LANGUAGE

The airport shall conduct a review of the AEP once every 12 months, or more frequently as needed when new regulations and policies are adopted. An ongoing assessment and open dialogue will take place with off-airport facilities that may affect the airport's emergency response efforts, such as road construction, road closures, and major utility work. All agencies that have responsibilities under the AEP will be invited and encouraged to participate in the review process. Suggested changes and additions should be submitted in writing to the Director of Aviation (or other appropriate contact person), (insert airport name, facility address, and phone number). At a minimum, the following items will be reviewed and updated upon each annual review.

1. Telephone numbers - assigned to specific agencies or individuals listed in the plan, specifically those listed as direct points of contact in the case of an emergency (as typical emergency telephone directory can be found in **Appendix A**)
2. Emergency resources [e.g.: local fire, police and emergency medical services (EMS)]
3. Mutual Aid compacts - should be reviewed and renewed as needed to avoid expiration or loss of assistance

THINGS TO THINK ABOUT:

The best way to update phone numbers and contacts is to call the individuals/organizations listed. This will provide an opportunity for both the airport and the agency to discuss any changes that have taken place in the past year or any concerns that either agency or individual may have.

C. TRAINING

An important part of the plan, maintenance and validation comes from the overall training, drill and exercise program. As training, drills and exercises are conducted, it is important that a functional critique/feedback program be in place. The training section of the plan should discuss the types of programs available to assist other agencies and organizations on how to best implement the emergency response procedures. All entities included in the AEP are responsible for the training and familiarization of each of their employees of the procedures contained within the plan.

AIRPORT EMERGENCY RESPONSE PARTICIPANTS

A. GENERAL

The Executive Director or the Airport Operations Manager shall be in charge of all airport operations and shall coordinate responses with all other agencies until the conclusion of the emergency situation and normalization of airport operations. In the case that an emergency occurs within the airport property, be mindful of all aspects of the safety and security requirements of the airport.

B. ACTIVATION OF THE EMERGENCY RESPONSE PLAN

The Air Traffic Control Tower (ATCT) will normally activate applicable sections of this plan by means of radio and/or telephone communications with the Communication Center. The airport staff may also activate portions of this plan by means of radio or telephone communications to the ATCT and the Communications Center.

Airports with a low volume of general aviation traffic and airports without an ATCT rely on the Common Traffic Advisory Frequency (CTAF) which is a frequency that allows an aircraft to communicate with airport staff. If an aircraft has an emergency it should contact the Air Route Traffic Control Center (ARTCC) on the guard frequency (121.5 MHz). This contact point activates the emergency response plan and notifications about runway closures or important information regarding the specific airport are broadcast on CTAF to notify all aircraft in close proximity.

Radio frequencies and direct phone numbers designated for communications during emergency responses should be tested regularly and visibly posted in active workstations.

THINGS TO THINK ABOUT:

*Radio frequencies and direct phone numbers designated as active emergency communication resources should be listed within this section as well as in **Appendix A** the plan for easy accessibility.*

C. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

This section should outline the individual/agency and provide a brief description of their roles and responsibilities. Depending on the size, operations and location of the airport, it may not be necessary to include all of the agencies listed below. Consideration should be given to the following organizations for inclusion in the AEP:

AIRLINES AND AIRPORT TENANTS/STAFF

- **Air carrier(s)/Aircraft operator(s)**
 - Provide full details of aircraft information, as appropriate, to include number of persons, fuel, and dangerous goods on board
 - Coordinate transportation, accommodations, and other arrangements for unharmed passengers
 - Coordinate utilization of their personnel and other supplies and equipment for all types of emergencies occurring at the airport
- **Airport Authority/Management**
 - Establish, maintain and implement the AEP

- Coordinate the closing of the airport when necessary and assume responsibility for response and recovery operations
- **Air Traffic Control (ATC)**
 - Contact Aircraft Rescue Fire Fighting (ARFF) service regarding aircraft incidents/accidents and provide them information relevant to the emergency
 - Coordinate the movement of support aircraft to and from the emergency scene, and the movement of non-support aircraft away from the emergency scene
- **Airport Tenants**
 - Coordinate with the airport tenants to make use of their available equipment, supplies, and personnel during emergency situations

THINGS TO THINK ABOUT:

Not all tenants located at an airport are aviation related. Some airports include local shops and services inside the airport provided for passenger convenience. In this section, specific notification procedures need to be established to address communication obstacles that may arise in the event of an emergency related to communicating with these services and stores.

FEDERAL AGENCIES

- **FAA-Air Traffic Control (FAA-ATC)**

- Notifying a member of the local airport when in the opinion of the supervisor on duty, the Tower, or when a potential or actual emergency exists, as categorized below:
 - Aircraft emergency
 - Structural fires
 - Bomb threats, civil distributions and other types of emergencies

If time permits, the Air Traffic Control Tower shall notify the aircraft owner/operator, if known. During the hours of operation of the ATCT, the ATCT shall control air and ground traffic so as to facilitate the handling of the emergency by those responding to it.

Airports in Florida are covered by the Orlando Airports District Office, under the Southern Region Airport Division of FAA.
http://www.faa.gov/airports/southern/about_airports/airports_district_offices

Contact information can be obtained from the website above to be included in the plan.

- **Federal Aviation Administration (FAA)**

- Ensure that practices and procedures of the aviation industry are followed
- Potentially provide investigative services after the emergency

FAA Southern Region – Airports Division – ASO 620

P.O. Box 20636

Atlanta, GA 30320

Phone: (404)305-6700

- **Federal Bureau of Investigation (FBI)**

- Assuming command in the event of certain criminal and hijacking situations
- Investigate activities involving federal criminal offenders

Contact information can be obtained from the below site pertaining to local FBI offices in Florida.
<http://www.fbi.gov/contact-us/field/listing-by-state#>

THINGS TO THINK ABOUT:

The FBI has 56 field offices (also called divisions) centrally located in major metropolitan areas across the U.S. and Puerto Rico. In Florida, the field offices are located in Jacksonville, Tampa, and North Miami Beach. Each field office is overseen by a special agent in charge. Within these field offices are a total of about 400 resident agencies located in smaller cities and towns. Resident agencies are managed by supervisory special agent. Coordination should be arranged with the local office and their contact information should be included in the plan.

- **National Transportation Safety Board (NTSB)**

- Conduct and control all accident investigations involving civil aircraft, or civil and military aircraft, within the United States, its territories and possessions.
- Reports of accidents or incidents should be made to the Regional Office.

Eastern Region – Doral, Florida – Regional Office

8240 NW 52nd Terrace, Suite 418

Doral, Florida 33166

Phone: (305) 597-4600 or (305) 597-4610

The U.S. Department of Transportation publishes the Emergency Response Guide (ERG) as a primary guide for first responders involved in hazardous materials incidents.

- **Military**

Where a military facility is located in the vicinity of an airport, coordination between the airport and the military facility should be sought in the development of the AEP.

- Military personnel help recover bodies from a large scale accident as was the case with the 185th Air National Guard in the Sioux City United Airlines Flight 232 accident.

STATE AGENCIES

- **Florida Highway Patrol (FHP)**

- Provide traffic control operations and emergency assistance if the aircraft incident affects a State maintained highway system.
- Including a map of the Florida's State Highway System as an appendix to the AEP may be helpful for identifying Florida Highway Patrol jurisdictions.

Contact information for the FHP local to you can be found at
<http://www.flhsmv.gov/offices/>

- **Florida Department of Transportation – Aviation Office**

- Serve as an informational resource and provide technical assistance related to aviation emergencies and AEPs.

- **Florida Department of Environmental Protection (FDEP)**

- Provide support for hazardous material or other environmental emergencies.

A map of the FDEP Districts and their contact information is provided in the appendices. Additional information can be found here:
<http://www.dep.state.fl.us/secretary/dist/>

- **Florida Division of Emergency Management (FDEM)**

- Provide assistance with emergencies that are beyond the capabilities of the local agencies.
- The Florida Division of Emergency Management (FDEM) should be considered for inclusion in the AEP and to coordinate with any Comprehensive Emergency Management Plan (CEMP).
- A map depicting the seven FDEM regions along with a list of the Region Coordinators is included in this document as **Appendix B**.

- **U.S. Coast Guard/Harbor Patrol**

For airports located near large bodies of water, consideration should be given for inclusion of the U.S. Coast Guard/Harbor Patrol in the AEP.

- The U.S. Coast Guard/Harbor Patrol can aid in search and rescue for an aircraft accident that occurs over water.

Contact information specific for each region of Florida and division of the U.S. Coast Guard can be found at, <http://www.uscg.mil/d7> The District 7 command center phone number is 305-415-6800.

THINGS TO THINK ABOUT:

The U.S. Coast Guard has several districts which are then split into smaller units. It is recommended under this heading that the specific unit that would be closest to your facility be identified and their contact information included.

- **National Guard**

Where a National Guard facility is located in the vicinity of an airport, coordination between the airport and the National Guard facility should be considered in the development of the AEP.

- The National Guard can help recover bodies from a large scale accident as was the case with the 185th Air National Guard in the Sioux City United Airlines Flight 232 accident.

LOCAL AGENCIES

- **Aircraft Rescue and Firefighting**

- Manage and direct firefighting and rescue operations until life, property and safety threats have been eliminated.

- **Animal Care/ Control**

- Agencies such as the Humane Society or other non-profit organizations can provide professional assistance for handling animal cargo during emergencies.
- Consideration should be given for the inclusion of animal care/control in the AEP.

- **Clergy and Therapists (Grief Counselors)**

- Provide comfort to survivors and the relatives of the victims during an emergency. Coordination of duties should be outlined to avoid duplication of effort between other health and human service agencies that may play a similar role.

- **Communications Providers**

- Provide additional personnel, equipment and facilities during an emergency to augment the airport's communications.
- Identify and coordinate repairs to the communication system in the event it is damaged during an emergency.

- **Coroner**
 - Identification of bodies and other investigative activities including determining the cause and time of death, if needed.
- **Explosive Ordnance Disposal (EOD)**
 - Provide assistance to the airport with explosive ordinance disposal during the event of a bomb threat.
 - Contact information and procedures for addressing bomb threats should be included in the plan. A sample of *Bomb Threat Call Procedure* and a *Bomb Threat Checklist* is included as **Appendix C**.
- **Governmental Authorities**
 - Some circumstances, such as bomb threats, bombings and post-accident investigations may fall under the jurisdiction of authorities other than the Airport Authority.
 - The AEP should outline the controls and limitations placed on the Airport Authority by these other governmental authorities.
- **Hazardous Materials Response Team**
 - Provide response and recovery support for hazardous material emergencies in accordance with 29 CFR, Part 1910; 40 CFR, Part 311; Chapters 376 and 403, Florida Statutes; and Rules 62-700.160, 62-770.200, 62-770.250, and 62-770.300, Florida Administrative Code.
- **Local Police and Fire Department**
 - Depending on the size and resources of the airport, the local police and fire departments may be responsible for responding to emergencies on the airport. Coordination between the airport and these agencies during the development of the AEP should take place and the roles and responsibilities of each agency should be outlined.
- **Public Works and Engineering**
 - Coordination with the local public works and engineering departments during the development of the AEP can be beneficial because they can manage public works resources and direct public works operations, and coordinate the shutdown of power and gas with private utility companies during an emergency.
- **Red Cross**
 - Coordinate and provide support services to victims, their families and to emergency responders.
- **Search and Rescue**
 - Identify appropriate entities, such as the civil air patrol, to coordinate and provide search and rescue services as needed, usually for off-airport aircraft emergencies.

MEDICAL PROVIDERS

- **Emergency Medical Services**
 - Provide emergency assistance and coordination with local hospitals, the American Red Cross and the airport during airport emergencies.

- **Hospital(s)**
 - Provide medical treatment to victims of an emergency.
 - Local hospitals should be included in the AEP and hospital disaster plans should be considered when developing the AEP.
- **Mental Health Agencies**
 - Provide a program for addressing possible long-term effects to individuals involved in an emergency. These would include, but are not limited to survivors, relatives and emergency response personnel.

PUBLIC INFORMATION OFFICERS

- **National Weather Service**
 - Provide assistance with alerts and warnings during weather related emergencies.
 - Coordination should be sought with the National Weather Service in the development of the AEP.
- **Public Information/Media**
 - During an emergency, transmit factual information efficiently to the public.

TRAINING AND REVIEW

This section should outline the training and review times necessary to ensure personnel remain current with the latest version of the AEP and to ensure the AEP is kept up to date. The airport should conduct a review of the AEP at least once every 12 months to ensure the effectiveness of the plan and to ensure that all agencies with responsibilities in the plan are familiar with their roles.

For Aircraft Rescue and Fire Fighting personnel, there are training requirements in at least 11 additional subject areas plus a live fire training requirement. All of these subject areas require personnel to be trained and have documentation prior to the initial performance of such duties at least once every 12 consecutive calendar months (Part 139.319(i)(2)).²

SAMPLE TRAINING LOG

Subject Area	Last Trained	Due by end of
Aircraft Familiarization	Mar-10	Mar-11
NOTAM Procedures	Sep-10	Sep-11
Use of Hoses, Nozzles, Turrets	Apr-10	Apr-11
Application of Extinguishing Agent	Feb-10	Feb-11
Airport Self Inspection	Mar-10	Mar-11
Live Fire Training	Sep-10	Sep-11

THINGS TO THINK ABOUT:

Record of training must include, at a minimum, a description and the date of the training received. Records must be maintained for 24 consecutive calendar months after completion of training.

² Information taken from the CertAlert Number SO-10-04, issued September 23, 2010 by DOT/Federal Aviation Administration, Southern Region Airport Division, Airport Certification Safety Team (ASO-620).

TRAINING EXERCISE TYPES

The FAA Office of Airport Safety and Standards has developed a new training DVD entitled “Aircraft Rescue and Fire Fighting – Aircraft Forcible Entry, Fire Fighting with the HRET, Cargo Aircraft Fire Fighting” to supplement your initial and recurrent ARFF curriculum.

THINGS TO THINK ABOUT:

This DVD was scheduled to be sent out to all Part 139 certificated airports and Safety Inspectors. Non-certificated airports may obtain a copy by contacting the FAA Southern Region, Airport Division at (404) 305-6700.

The following types of exercises should be included in the AEP:³

- **Table Tops**

A table top exercise is a brainstorming and problem solving session among all agencies involved in airport emergency response. It can be used to create an action plan that can be implemented in the event of an emergency. This session is usually held in a group setting, with very little structure, and is relatively stress-free. It is recommended that a table top exercise be held at an emergency operations center because it provides the most realistic setting where maps and plans for the airport are readily available.

In order to be most effective, table top exercises should at least be done quarterly.

- **Functional Exercises**

Functional exercises simulate an emergency in the most realistic manner possible, short of moving real people and equipment to an actual site. As the name suggests, the goal of a functional exercise is to test or evaluate the capability of one or more functions in the context of an emergency event.

Night training is a best management practice that allows airports to simulate an emergency and execute a plan if the incident occurs outside of normal daylight

THINGS TO THINK ABOUT:

It is important not to confuse “functional exercises” with emergency “functions.” All exercises (tabletop, functional, and full-scale) test and evaluate functions contained in the AEP. In Emergency Planning, “functions” refers to actions or operations required in emergency response.

- **Full-scale Exercises**

Full-scale exercises are as close to simulating real events as possible. They are lengthy exercises which take place on location, using, to the extent possible, equipment and personnel that would be called upon in a real event. Full-scale exercises combine the interactivity of functional exercises with a field element. They differ from drills in that a drill focuses on a single operation and exercises only one organization.

Periodic follow-up training is suggested in order to make sure knowledge from the training is maintained.

THINGS TO THINK ABOUT:

Eventually, every emergency response organization must hold a full-scale exercise because of the necessity to test capabilities in an environment as near to the real one as possible.

More information regarding any of these exercise types can be found at <http://training.fema.gov/emiweb/is/is139lst.asp>.

³ Information obtained from the Independent Study IS-139 Exercise Design manual created by FEMA March 2003.

AIRCRAFT EMERGENCY RESPONSE PROCEDURES

This section focuses on special planning procedures and needs pertaining to typical hazards that airports may encounter. Airports certificated in accordance with 14 CFR, Part 139 must ensure that their AEP contains procedures and instructions for responding to the following potential hazards:

- Aircraft incidents and accidents
- Bomb incidents, including bomb incidents in designated parking areas
- Structural fires
- Fuel farm fire or fuel storage areas
- Natural disasters
- Hazardous materials and dangerous goods incidents
- Sabotage, hijack and other unlawful interference with operations
- Failure of power for movement area lighting
- Water rescue situations, as appropriate

The following sections within this chapter provide sample standard language that should be included within your plan, including definitions and procedural operations that are universal for emergency response procedures.

A. HAZARDS VULNERABILITY ASSESSMENT⁴

A hazard vulnerability assessment is a recommended technique for airports to use to prioritize hazards with higher probability to occur in their area. The vulnerability assessment can be used to:

- Develop planning priorities
- Develop hazard maps
- Educate emergency response personnel, elected officials and other decision-makers, as well as the general public
- Develop realistic plans and resources management strategies
- Prepare mitigation programs

A broad based team approach should be used for the hazard vulnerability assessment. In addition to airport employees, stakeholders from agencies outside of the airport should participate in the emergency planning, mitigation, response or recovery activities. The more people that are involved and the more diverse the organizations involved are, the better the results will be.

Appendix D is a sample *Hazards Vulnerability Analysis Worksheet* that can be used as a guide to rate the probability of hazards most likely to occur in your area. Probability is the number of chances per year that an

⁴ AC 150/5200-31C – Appendix 1 General Procedures for Hazard Analysis

incident of specific or greater size will occur. This can be based on historical factors, experience, and to some degree scientific reasoning. The following scoring system can be used to rate the probability of the hazards.

- | | |
|------------|---|
| 0 Points - | Not possible in our community (e.g. volcanic eruption in Florida) |
| 1 Point - | It is possible, but probably will not happen |
| 2 Points - | It will probably happen, but not very often |
| 3 Points - | It is possible and is likely to happen |

THINGS TO THINK ABOUT:

The hazards list is not all inclusive. There is always a potential for new and unexpected hazards, and hazards may not be independent of one another (e.g. an aircraft crash might also initiate a major structure fire.)

Once the probability of the hazards occurrence has been assessed the response management difficulty needs to be reviewed. The step is mainly concerned with the magnitude and duration of the emergency, the airport/community's capabilities to direct and control responses activities, and the effects of time on those activities. Having the local community involved to assess resource utilization as part of the planning process is important. The scoring system for this step is as follows:

- | | |
|------------|--|
| 0 Points - | Absolutely no problem, routine |
| 1 Point - | Can be managed with local resources |
| 2 Points - | Would require assistance from local communities |
| 3 Points - | Would require considerable support from state and federal agencies |

To complete the hazards vulnerability assessment, record the vulnerability factor which is determined by adding the points across the row of categories for each hazard. Once completed a list should be developed ranking the hazards from highest to lowest vulnerability. It is recommended that the analysis be reassessed regularly to accommodate changing situations and technologies.

THINGS TO THINK ABOUT:

This is only one suggested method to assess hazards in your area. You may find that a more detailed analysis is necessary to assess your current response procedures or to account for other factors.

B. GENERAL

An aircraft emergency is defined as any crash, accident, fire or other casualty involving aircraft or any potential mishap for which emergency response equipment is required.

An aircraft emergency will normally be declared by:

- The pilot in command
- Local Air Traffic Control
- Aircraft owner
- Airport Authority management
- Local Flight Services Station
- Local Army National Guard
- Local or State level government

THINGS TO THINK ABOUT:

Where generic titles or agencies are listed as guides it is beneficial to include the actual division office or agency department specific to the region in which the airport is located.

This section outlines the initial actions that should be taken during an emergency and the controlling authority. In accordance with NTSB 8-30, the first authority on the scene shall assume command until the authority appropriate to the situation arrives.

COMMUNICATION

This section should provide information for the establishment, maintenance and use of the communication system needed during an emergency response situation. It should also outline all tasked organizations and individuals along with their responsibilities for maintaining their equipment and ensuring redundancy in their system. Clearly identify alternate radio frequencies for use in the event that the primary communications system goes down.

This section should include a schedule of regular, daily or weekly, tests of the emergency notification system.

THINGS TO THINK ABOUT:

It is important for the Public Information Officer (PIO) to be clear about the times when information will be released. The PIO should say something similar to, "We will provide an update on (the accident) from (location) starting at (time) and then every (set interval) thereafter." The PIO should also provide a phone number for family members to call if available.

STAGING FOR OFF-SITE RESOURCES

This section should identify staging areas for off airport agencies responding to the emergency. Typically at least one primary and one secondary location should be identified.

PUBLIC INFORMATION

This section should outline the public involvement procedures prior to, during and after an emergency. Prior to the arrival of the identified Public Information Officer (PIO), the airport director or other identified person should act as the PIO. Identify a media room or a specified location for press conferences. This facility should be located away from any survivors of the accident or the families of the victims, and should not interfere with airport operations.

A command post should be outlined in this section and should be readily accessible by a locally accepted marking system.

SAMPLE: MEDIA CONTROL

News media representatives will be asked to report to the *(insert room or facility name and address)* for all news briefings. All available information and updates pertaining to an incident will be disseminated at the regularly scheduled intervals by a designated Public Information Office from this location only. All escorted camera trips to the disaster scene will be coordinated from this location.

Mobile Network Satellite Trucks and similar equipment will be grouped and located *(provide a designated area for this equipment to be located)*.⁵

Provide the name of the room or facility of where media personnel and equipment will be staged.

⁵ Language taken from the Salina Municipal Airport Emergency Plan.

PROTECTIVE ACTIONS

This section outlines the procedures for notifying the airport tenants and other users of the airport of the emergency situation as warranted. In the event that a portion of or the entire airport has to be closed, a plan should be set up to notify and evacuate tenants. The following precautionary measures should take place to avoid further incidents with civilians or tenants.

- Respond to the initial notification of crowd gatherings or unsecured areas and contact the police department
- Ensure that passenger perimeter gates are locked and check as often as necessary to prevent unauthorized entrance to passenger loading ramps
- Evacuate any necessary areas
- Advise Fixed Based Operations (FBO) and airline tenants to be prepared to hanger aircraft or move aircraft to a remote area
- Secure all fuel tanks, discontinue any fuel deliveries and move all fuel trucks to a remote area

C. ACTIVATION/NOTIFICATION

This section should outline the activation/notification procedures to facilitate a response to an emergency. During operational hours, the control tower shall use the emergency phone to notify airport operations, fire and rescue and the local police department of the emergency. During the hours that the control tower is not operating, a method of notification should be outlined. This may include using other local ATCTs, the local 911 dispatch center or emergency communication centers.

SAMPLE: AGENCY LIST TO BE NOTIFIED

Once it has been determined that an airport/aircraft emergency exists, the following agencies and individuals should be notified. For convenience, these numbers should appear in an appendix that can be easily updated and replaced as personnel change.

Local Fire/Police Department	Emergency: 911 Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Florida Highway Patrol	Emergency: *FHP (*347) Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Airport Operations Manager	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
City/County Manager/Mayor	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
FAA Operations Center	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Other Staff (If Operations can't be reached)	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX
Public Works	Day Time: XXX-XXX-XXXX After Hours: XXX-XXX-XXXX

It is suggested that a laminated wallet sized card of entities to be contacted during an emergency be made available for immediate access to pertinent information.

D. EMERGENCY CLASSIFICATION

This section should set standards for outlining the emergency type classification. It should be set up for simplicity to allow for a quick assessment of the emergency. Flowcharts are provided in the *Summary of Agencies Involved* section of the *Aviation Emergency Response Guidebook* and also as **Appendix E** of this document and should be adopted and utilized as part of the plan. An example of emergency type classes is given below.⁶

SAMPLE EMERGENCY TYPE CLASSIFICATIONS

Alert I (Local Standby Alert)

This type of alert is warranted when an aircraft is known or suspected to have an operational defect that should not normally cause serious difficulty in achieving a safe landing. This is notification only and no response is required, but is sometimes taken as a precautionary effort. The emergency response outlined for Alert I should be followed and emergency equipment and responders should be placed on standby.

Additional examples are provided in International Civil Aviation Organization (ICAO), Airport Services Manual, Part 7, Airport Emergency Planning, and NFPA 424, Guide for Airport Community Planning.

Alert II (Full Emergency Alert)

This type of alert is warranted when an approaching aircraft has a known or suspected operational defect that affects normal flight operations to the extent that there is danger of an accident. Emergency responders should proceed to predetermined standby locations and alert the ATCT before proceeding onto any taxiways or runways. If the airport does not have an ATCT or the ATCT is non-operational, the emergency responders should broadcast their intentions onto a previously defined frequency before moving onto taxiways or runways.

Alert III (Aircraft Accident Alert)

This type of alert is warranted when an accident has occurred or is imminent on or in the vicinity of an airport. Emergency equipment and responders should be notified immediately and should proceed to the scene of the accident, following the standard notifications for entering the taxiway and runway. The emergency response to an Alert III is different depending on if the accident occurs on or off airport property. The emergency response to an Alert III is different depending on if the accident occurs on or off of airport property.

Note: There is also an Alert on the Ground emergency type. For more information on this alert as well as Alerts I –III, see Appendix E.

E. CLASSIFICATION RESPONSE PROCEDURES

This section outlines the procedures for notifying the airport tenants and other users of the airport of the emergency situation as warranted. In the event that a portion of or the entire airport has to be closed, a plan should be set up to notify and evacuate tenants. This section should also outline the response procedures for notifying the first responders. For airports certificated under 14 CFR Part 139, *Certification of Airports*, 14 CFR 139.325, *Airport Emergency Plan*, 139.325(e) requires that procedures be in place,

⁶ AC 150/5200-31C, 7-1-4

“...for notifying the facilities, agencies, and personnel who have responsibilities under the plan of the location of an aircraft accident, the number of persons involved in that accident, or any other information necessary to carry out their responsibilities, as soon as that information is available.”

ALERT I (LOCAL STANDBY ALERT)

Notification

In the event that an aircraft is having a minor emergency such as an oil leak, engine shutdown or other minor flight problem that could lead to a major emergency, the pilot will notify the ATCT or entity responsible for notifications in the absence of an ATCT.

Response

The ATCT or notifying agency should provide the following information to emergency responders in the event of an emergency:

1. Nature of emergency
2. Flight number
3. Type of aircraft
4. Location of emergency
5. Estimated time of arrival (ETA)
6. Number of people involved
7. Amount of and type of fuel (if known)
8. Other Information deemed to be important

Additional response procedures for the control tower, the local fire department, and first responder personnel should be established in this section.

If the emergency is upgraded to Alert II, responders should go to standby positions. After the aircraft lands, they should follow to the parking ramp and standby until the aircraft engine shuts down.

ALERT II (FULL EMERGENCY ALERT)

Notification

An aircraft with faulty landing gear, engine fire, loss of hydraulic pressure or any other problem that could likely result in a crash is classified as Alert II. Once the ATCT is notified of the problem by the pilot, Alert II response procedures should be initiated.

Response

1. ATCT personnel should be provided with the same information as in an Alert I scenario plus any additional details that will allow preparation for likely contingencies. Fire/police dispatch should advise airport staff of the applicable fire department radio talk group or provide a radio patch to facilitate efficient

An aircraft having hydraulic or wheel problems that manages to land safely will have mechanical down locks installed, emergency equipment should escort aircraft to the parking ramp.

response coordination. A full response should be made with the emergency equipment manned and positioned with the response vehicle engines running. All emergency lights should be in operation so that rapid response to the emergency site can be accomplished.

2. Standby locations on the airport should be accessed through the terminal apron gates and responding units should position themselves to have a clear view of the runway and taxiways.
3. Airport staff should communicate with the aircraft on the guard frequency (121.5 MHz) and pass information on to the fire/police department. This provides a safety factor for rollout and, should an emergency vehicle be required, it could be moved to the aircraft stopping point from the upwind direction.

Contact information for entities, such as the FAA Operations Center should be readily accessible in the plan.

At the termination of the Alert II emergency, the fire officer in charge will dispatch the emergency equipment for return to the station.

ALERT III (AIRCRAFT ACCIDENT ALERT)

1. Full ATCT procedures should be put into effect. All pertinent updated information should be relayed by the airport staff or dispatching agency to responding emergency units and include the location of the accident using direction and distance from the terminal building, thresholds, mid-field, road intersections or landmarks.
2. When complete aircraft related information is not available, the ARFF personnel should anticipate the worst-case situation and prepare accordingly.
3. Notify the FAA Operations Center of conditions at the site, particularly if such conditions could interfere with flight operations. Airport staff should issue applicable Notice to Airmen (NOTAM) and ensure appropriate Common Traffic Advisory Frequency (CTAF) advisories are communicated.

An aircraft with an uncontrolled fire (e.g. engine, fuselage) will evacuate passengers and crew without delay as emergency units initiate firefighting and rescue operations.

Airport fire fighters and other rescue personnel should understand the basic need for and the techniques and procedures used, in aircraft accident investigation. Emergency first responders should adhere to the criteria contained in AC 150/5200-12, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident.

Whenever possible, wreckage should remain undisturbed until the arrival of the first National Transportation Safety Board (NTSB) accident investigator. Prior to the time the NTSB or its authorized representatives take custody of aircraft wreckage, mail or cargo, such material may not be disturbed or moved except to the extent necessary for emergency response including:

1. To remove persons injured or trapped
2. To protect the wreckage from further damage
3. To protect the public from injury⁷

THINGS TO THINK ABOUT:

When it is necessary to move aircraft wreckage including mail or cargo, sketches, descriptive notes and photographs will be made, if possible. Otherwise, original position and condition of the wreckage and any significant impact marks will be recorded. (Refer to 49 CFR, Part 831, Accident/Incident Investigation Procedures.).

⁷ AC 150/5200-31C, 7-1-4(h)

HAZARD-SPECIFIC SECTION

The Hazard-Specific Section provides additional detailed information applicable to the performance of a particular function in support of a particular hazard. Per CFR, Part 139.325, *Airport Emergency Plan*, the airport operator must develop plans and procedures in response to the following emergencies:

- Aircraft incidents and accidents
- Bomb incidents, including bomb incidents in designated parking areas
- Structural fires
- Fuel farm fire or fuel storage areas
- Natural disasters
- Hazardous materials dangerous goods incidents
- Sabotage, hijack, and other unlawful interference with operations
- Failure of power for movement area lighting
- Water rescue situations, as appropriate

The responsibility for making the decision on what to include in the hazard-specific section is vested with the airport's planning team.

Through the Hazards Analysis Program, guidance has been provided to assist in the identification of hazards and disasters specific to an airport that warrant planning attention. The following sections within this chapter provide a basic description of the hazards listed above to assist in the development of functional hazard-specific plans and procedures. Below is the standard outline of the sections that should be included and addressed in response to each hazard.

A. HAZARD SPECIFIC APPENDIX OUTLINE

Introduction

This section describes the hazard and discusses the areas at risk and breaks down the risk assessment measures that should be taken to prepare the response plan.

Situation and Assumption

Within this section information should be included that discusses the airports susceptibility to the specific hazard. Assumptions are advance judgments concerning what might happen in the event of the specific hazard. The situation includes major findings from the:

- Hazard Analysis and Risk Assessment;
- Identified facilities that may be impacted;
- Included maps and descriptions of geographic features;
- Sensitive environmental areas;
- Transportation routes;
- Pertinent climates and weather factors; and
- Any other critical variables which may impact the emergency response.

Operations

This section explains the airport's overall approach to the emergency situation and discusses what action should take place and the person/agency that should be in command. Topics should include:

1. Division of airport and local responsibilities, to include roles and relationships of emergency response organizations
2. A list of mutual aid agreements relative to specific emergency
3. Criteria for activation of the EOC
4. A description of the sequence of actions before, during and after the emergency situation

As with other emergencies and emergency-specific standard operating procedures (SOPs), a checklist should be prepared to ensure the procedures are followed correctly. Associated training programs should also be developed and implemented.

Organization and Assignment of Responsibilities

- Airport Traffic Control Tower (ATCT)
- Aircraft Rescue and Fire Fighting (ARFF)
- Law Enforcement
- Emergency Medical Services (EMS)
- Airport Operator
- Communications

Administration and Logistics

This section of the document should cover those general support requirements specific to the hazard.

Plan Development

This section should identify who is responsible for coordinating revisions of the hazard appendix, keeping its attachments current, and ensuring that SOPs and checklists are developed and maintained.

Authorities and References

This section should identify any hazard-specific statutes, regulations, etc. that address related authority, (e.g. Building Codes). Any documents used as guidance or for information should be included as an appendix.

Unique Planning Considerations

This section contains a listing of the functional sections that would typically be required in the preparation of a hazard-specific appendix. It also identifies the unique and/or regulatory planning considerations that should be used by the airport AEP planning team.

Standard Operating Procedures (SOP) and Checklists

This section should outline the Standard Operating Procedures and checklists to be performed before, during and after an emergency

THINGS TO THINK ABOUT:

The degree of involvement may vary from situation to situation. (See Responding to An Airport Accident – How to Support the NTSB (A Guide for Police and Public Safety Personnel) at www.nts.gov.

B. AIRCRAFT INCIDENTS AND ACCIDENTS

An aircraft accident is any occurrence associated with the operations of an aircraft that takes place between the time a person boards the aircraft with the intention of flight and the time such person has disembarked, in which a person suffers death or suffers serious injury as a result of the occurrence or in which the aircraft, including cargo aircraft, receives substantial damage.⁸ An incident is an occurrence that an accident affects or could affect the safety of operations.

(See 49 CFR, Part 830.)

Refer to 'Reporting an Accident to the NTSB'

This section should include an emergency preparedness plan for an aircraft incident or accident, including cargo aircraft, under a number of circumstances:

- On the airport
- Off the airport on adjacent property and within the authority and responsibility of the airport to respond

C. TERRORISM: BOMB INCIDENTS

The history of terrorism incidents is such that no report or rumor, however vague, can be ignored. Each case must be thoroughly investigated in a manner that will safeguard the public and minimize damage if the bomb is actually present.

Specific information regarding terrorism incidents is considered Sensitive Security Information (SSI). Specific information is contained in the appropriate sections in the Airport Security Program. As SSI the information is published and distributed on a need-to-know basis only.

The information contained in this section is intended to supplement the Basic Plan and Functional Section of the Airport Emergency Plan. It should define responsibilities and describe actions that should be taken in the event of a bomb threat or an actual incident occurrence at the airport.

The FBI is the agency responsible for investigating bomb threats. In the event that a bomb threat is made or an explosive device is located, the recipient should contact the Airport Authority and begin the predetermined notification procedures.

This section should be divided into two parts, one for bomb threats involving aircraft and one for bomb threats involving buildings. Outline the procedures for both scenarios. A bomb threat call procedure brochure is included in the appendices.

D. STRUCTURAL FIRES, FUEL FARM FIRE AND FUEL STORAGE AREAS

This section should address practical procedures to address structural fires occurring at or in airport properties, structures, facilities, buildings, equipment and/or infrastructure support systems. Fuel farm and fuel storage area fires are fires occurring in fuel storage facilities.

A risk assessment should be prepared by the AEP planning team which identifies the facilities, properties, or equipment that may be vulnerable to structural or fuel fire. The assessment provides the team with the essential data it needs to determine the type of equipment and other resources necessary to effectively respond to the various types of structures or fuel facilities. The assessment should identify those facilities which may present special response concerns, such as the terminal, cargo buildings or fuel storage areas.

⁸ AC 150/5200-31A, 7-1-1 (a)(1)

Once identified, each section should be addressed from the emergency plan flow chart to respond to this hazard. A typical Fuel Farm Quality and Material Safety Data Sheet (MSDS) is included as **Appendix F**.

E. NATURAL DISASTERS

Natural Disasters are events that all airports face and nothing can be done to avert these weather caused emergencies. There are actions that can be taken to minimize impact and damages to the airport and to aid in restoration of services. Preventative actions for each type of natural disaster facing the airport should be outlined and addressed in this section. The main natural disasters that Florida faces are:

- Hurricanes
- Tornados
- Flooding

F. HAZARDOUS MATERIALS INCIDENTS

The severity of these hazards depends on the types and quantities of the hazardous material produced, processed, used or stored near or on the airport property. A hazardous material spill or release can pose a risk to life, health or property. An incident can result in the evacuation of a few people, part of a building or a whole neighborhood.

Hazardous materials are defined as any substance or material that, when involved in an accident and released in sufficient quantities, poses a risk to people's health, safety, and/or property. These substances and material include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins and corrosive materials.⁹

THINGS TO THINK ABOUT:

Airports regulated under 49 CFR, Part 1542, Airport Security, have established response procedures for sabotage, hijack and other criminal interference of Civil Aviation as specified in their Airport Security Program (ASP).

Significant information is available concerning hazardous materials through the FDOT Pipeline and Hazardous Materials Safety Administration website at www.phmsa.dot.gov

Hazardous Material Emergency Preparedness Training that addresses response, planning and prevention is available from the U.S. Fire Administration (www.usfa.dhs.gov).

Additionally, OSHA provides online hazardous material training.

G. SABOTAGE, HIJACKING, AND OTHER UNLAWFUL INTERFERENCE WITH OPERATIONS

This section should outline the notification procedures in the event that the airport is the destination of sabotage, hijack or other unlawful interference with normal operations. Provide a brief description of the ATCT responsibilities when notifying airport personnel and FAA.

THINGS TO THINK ABOUT:

Alternative lighting resources should be identified and described within this section along with procedures to expedite repowering the original lighting source. If no alternative lighting is available steps should be made to address this potential hazard prior to an actual emergency.

⁹ AC 150/5200-31C, 7-5-1, Hazardous Materials Incidents

H. FAILURE OF POWER FOR MOVEMENT AREA LIGHTING

This section should provide guidance to the airport operator for any situation which involves the failure of power for movement area lighting that may potentially impact that airport.

Airfield lighting criteria are contained in the Advisory Circular 150-5345.

I. WATER RESCUE SITUATIONS

This section should prescribe procedures to respond to water rescue situations, including those in *Certification of Airports*, 14 CFR §139.325(f), *Airport Emergency Plan* (www.access.gpo.gov) which states that:

Advisory Circular 150/5210-13, Water Rescue Plans, Facilities, and Equipment, provides requirements for airports located near water bodies.

“The plan required by this section shall contain provisions, to the extent practicable, for the rescue of aircraft accident victims from significant bodies of water or marsh lands adjacent to the airport that are crossed by the approach and departure flight paths of air carriers. A body of water or marsh land is significant if the area exceeds one-quarter square mile and cannot be traversed by conventional land rescue vehicles. To the extent practicable, the plan should provide for rescue vehicles with a combined capacity for handling the maximum number of persons that can be carried on board the largest air carrier aircraft that the airport can reasonably be expected to serve.”¹⁰

THINGS TO THINK ABOUT:

Significant bodies of water as defined above located within two miles of the end of an airport runway should be included in the emergency plan area of response. As additional information a map should be created and included in this plan illustrating the locations of all water bodies and boat ramps/public accesses near the airport.

¹⁰ AC 150/5200-31A, 7-8-1 Water Rescue Situations

APPENDICES

Appendix A – Emergency Telephone Directory

Appendix B – Florida Department of Emergency Management Regions

Appendix C – Bomb Threat Call Procedures and Checklist

Appendix D – Hazards Vulnerability Analysis Worksheet

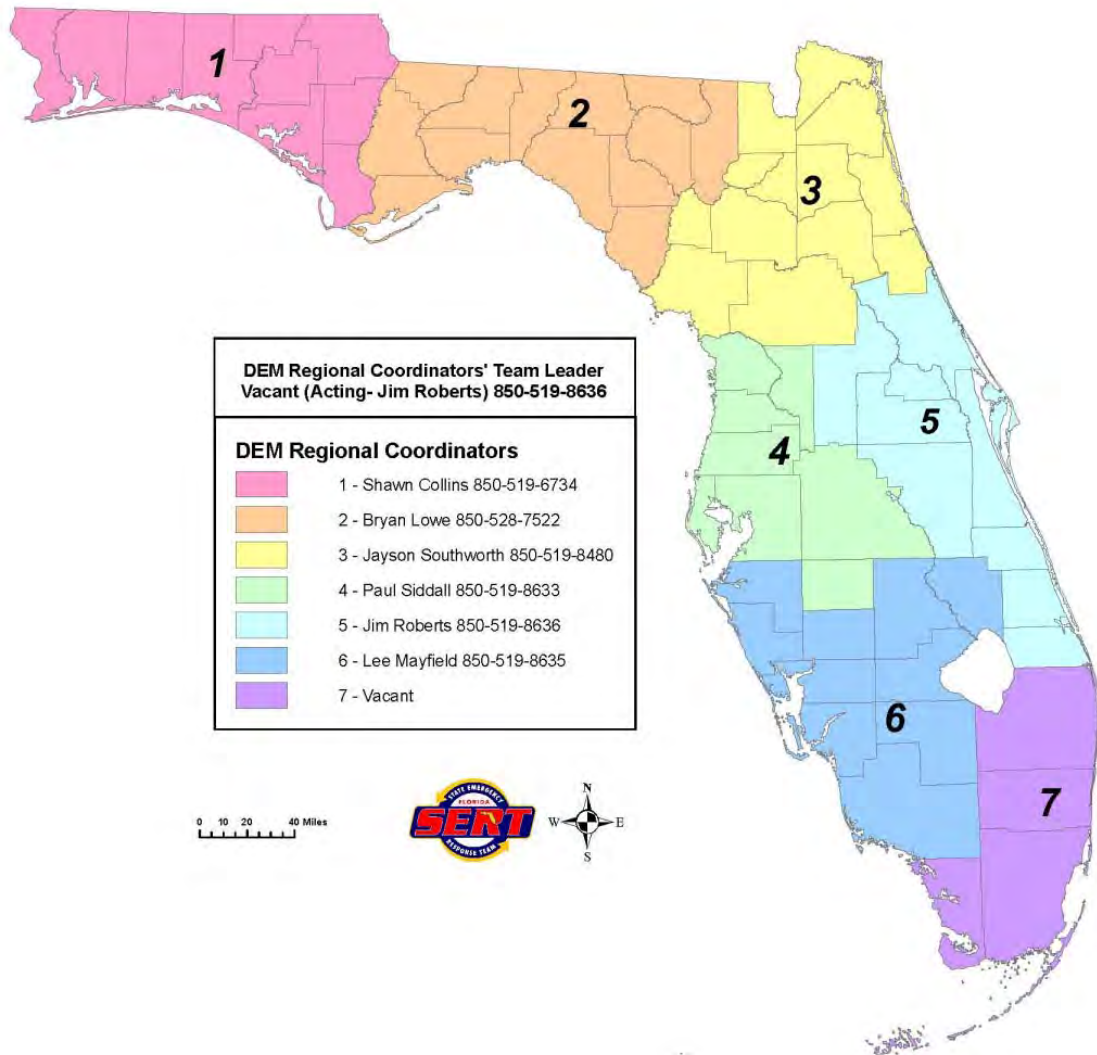
Appendix E – Generated Emergency Response Flowchart

Appendix F – Fuel Farm Qualities and Material Safety Data Sheets (MSDS)

APPENDIX A – EMERGENCY TELEPHONE DIRECTORY

AGENCY	TELEPHONE NUMBER
<u>FLORIDA, STATE OF</u>	
Highway Patrol	XXX-XXX-XXXX
<u>XXXX, COUNTY OF</u>	
Civil Defense	XXX-XXX-XXXX
Emergency Medical Services (EMS).....	XXX-XXX-XXXX
Sheriff (Emergency 911)	XXX-XXX-XXXX
<u>HOSPITAL AND AMBULANCE</u>	
AMT Ambulance (Emergency 911	XXX-XXX-XXXX
(Local) Medical Center	XXX-XXX-XXXX
<u>XXXX, CITY OF</u>	
Police Department (Emergency 911)	XXX-XXX-XXXX
Fire Department (Emergency 911).....	XXX-XXX-XXXX
Fire Department Station #X.....	XXX-XXX-XXXX
(Local) Utilities Commission	XXX-XXX-XXXX
General Aviation Department	
Director of Aviation.....	XXX-XXX-XXXX
Airport Operations	XXX-XXX-XXXX
Airport Maintenance.....	XXX-XXX-XXXX
<u>UNITED STATES GOVERNMENT</u>	
Federal Aviation Administration	
Control Tower.....	XXX-XXX-XXXX
Air Force Base (AFB) Explosive Ordnance Disposal (EOD)	XXX-XXX-XXXX
Federal Bureau of Investigation (FBI)	XXX-XXX-XXXX
Postal Service	XXX-XXX-XXXX
Secret Service	XXX-XXX-XXXX
U.S. Department of the Treasury	
Bureau of Alcohol, Tobacco and Firearms (ATF)	XXX-XXX-XXXX
Customs	XXX-XXX-XXXX
Weather Bureau	XXX-XXX-XXXX

APPENDIX B – FLORIDA DEPARTMENT OF EMERGENCY MANAGEMENT REGIONS



APPENDIX C – BOMB THREAT CALL PROCEDURES AND CHECKLIST

BOMB THREAT CALL PROCEDURES

Most bomb threats are received by phone. Bomb threats are serious until proven otherwise. Act quickly, but remain calm and obtain information with the checklist on the reverse of this card.

If a bomb threat is received by phone:

1. Remain calm. Keep the caller on the line for as long as possible. DO NOT HANG UP, even if the caller does.
2. Listen carefully. Be polite and show interest.
3. Try to keep the caller talking to learn more information.
4. If possible, write a note to a colleague to call the authorities or, as soon as the caller hangs up, immediately notify them yourself.
5. If your phone has a display, copy the number and/or letters on the window display.
6. Complete the Bomb Threat Checklist (reverse side) immediately. Write down as much detail as you can remember. Try to get exact words.
7. Immediately upon termination of the call, do not hang up, but from a different phone, contact FPS immediately with information and await instructions.

If a bomb threat is received by handwritten note:

- Call _____
- Handle note as minimally as possible.

If a bomb threat is received by e-mail:

- Call _____
- Do not delete the message.

Signs of a suspicious package:

- No return address
- Excessive postage
- Stains
- Strange odor
- Strange sounds
- Unexpected Delivery
- Poorly handwritten
- Misspelled Words
- Incorrect Titles
- Foreign Postage
- Restrictive Notes

DO NOT:

- Use two-way radios or cellular phone; radio signals have the potential to detonate a bomb.
- Evacuate the building until police arrive and evaluate the threat.
- Activate the fire alarm.
- Touch or move a suspicious package.

WHO TO CONTACT (select one)

- Follow your local guidelines
- Federal Protective Service (FPS) Police
1-877-4-FPS-411 (1-877-437-7411)
- 911

BOMB THREAT CHECKLIST

Date: _____ Time: _____

Time Caller Hung Up: _____ Phone Number where Call Received: _____

Ask Caller:

- Where is the bomb located? (Building, Floor, Room, etc.) _____
- When will it go off? _____
- What does it look like? _____
- What kind of bomb is it? _____
- What will make it explode? _____
- Did you place the bomb? Yes No
- Why? _____
- What is your name? _____

Exact Words of Threat:

Information About Caller:

- Where is the caller located? (Background and level of noise) _____
- Estimated age: _____
- Is voice familiar? If so, who does it sound like? _____
- Other points: _____

Caller's Voice

- ☐ Accent
- ☐ Angry
- ☐ Calm
- ☐ Clearing throat
- ☐ Coughing
- ☐ Cracking voice
- ☐ Crying
- ☐ Deep
- ☐ Deep breathing
- ☐ Disguised
- ☐ Distinct
- ☐ Excited
- ☐ Female
- ☐ Laughter
- ☐ Lisp
- ☐ Loud
- ☐ Male
- ☐ Nasal
- ☐ Normal
- ☐ Ragged
- ☐ Rapid
- ☐ Raspy
- ☐ Slow
- ☐ Sturred
- ☐ Soft
- ☐ Stutter

Background Sounds:

- ☐ Animal Noises
- ☐ House Noises
- ☐ Kitchen Noises
- ☐ Street Noises
- ☐ Booth
- ☐ PA system
- ☐ Conversation
- ☐ Music
- ☐ Motor
- ☐ Clear
- ☐ Static
- ☐ Office machinery
- ☐ Factory machinery
- ☐ Local
- ☐ Long distance

Threat Language:

- ☐ Incoherent
- ☐ Message read
- ☐ Taped
- ☐ Irrational
- ☐ Profane
- ☐ Well-spoken

Other Information:



Homeland Security

APPENDIX D – HAZARDS VULNERABILITY ANALYSIS WORKSHEET

HAZARDS VULNERABILITY ANALYSIS WORK SHEET			
Hazard	Probability	Response Difficulty	Vulnerability Factor
Aircraft accident - off airport			
Aircraft accident - on airport			
Aircraft accident - rough terrain			
Aircraft accident - water			
Boating accident			
Bomb threat/found			
Bridge collapse			
Building collapse			
Civil disturbance			
Communications system failure			
Computer system failure			
Dam/levee failure			
Drought			
Earthquake			
Epidemic, disease			
Fire - major structure			
Fire - brush, forest, prairie			
Flood			
Food poisoning - extensive			
Fuel shortage			
Hazardous materials incident			
Hostage situation (non-terrorist)			
Hurricane			
Labor problems - serious			
Landslide			
Lost person(s)			

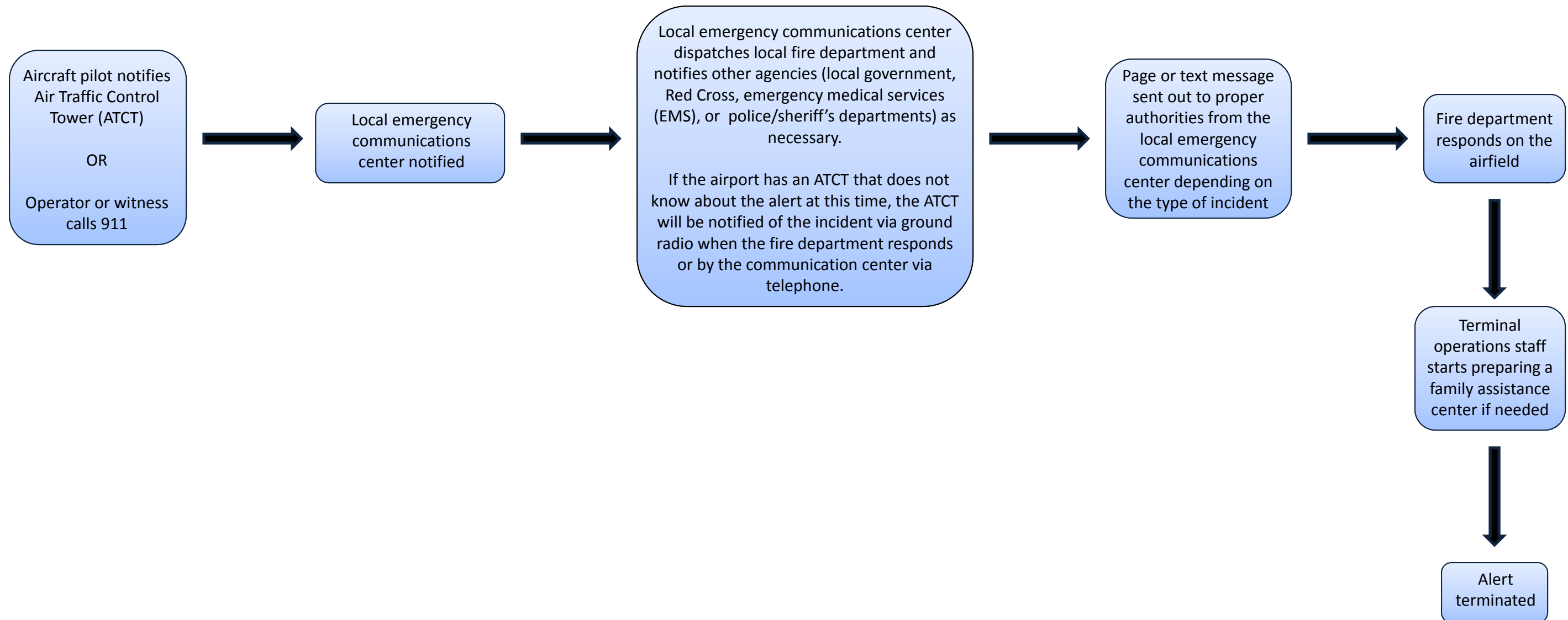
HAZARDS VULNERABILITY ANALYSIS WORK SHEET			
Hazard	Probability	Response Difficulty	Vulnerability Factor
Mass casualty incident			
Natural gas outage			
Nuclear attack			
Nuclear facility incident			
Pollution - air			
Pollution - water			
Power failure			
Radiological incident			
Rapid transit accident			
Sandstorm/Dust storm			
Sewer explosion			
Sewer system failure			
Ship incident - harbor			
Terrorist			
Tornado			
Train accident - freight			
Train accident - passenger			
Tsunami (tidal wave)			
Vehicular accident - major			
Volcano eruption			
Water supply failure			
Winds - damaging			
Winter storm - severe			

APPENDIX E – GENERATED EMERGENCY RESPONSE FLOWCHART

GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT ON THE GROUND

ALERT ON THE GROUND REFERS TO WHEN THE AIRCRAFT IS LOCATED ON THE GROUND ON AIRPORT PROPERTY



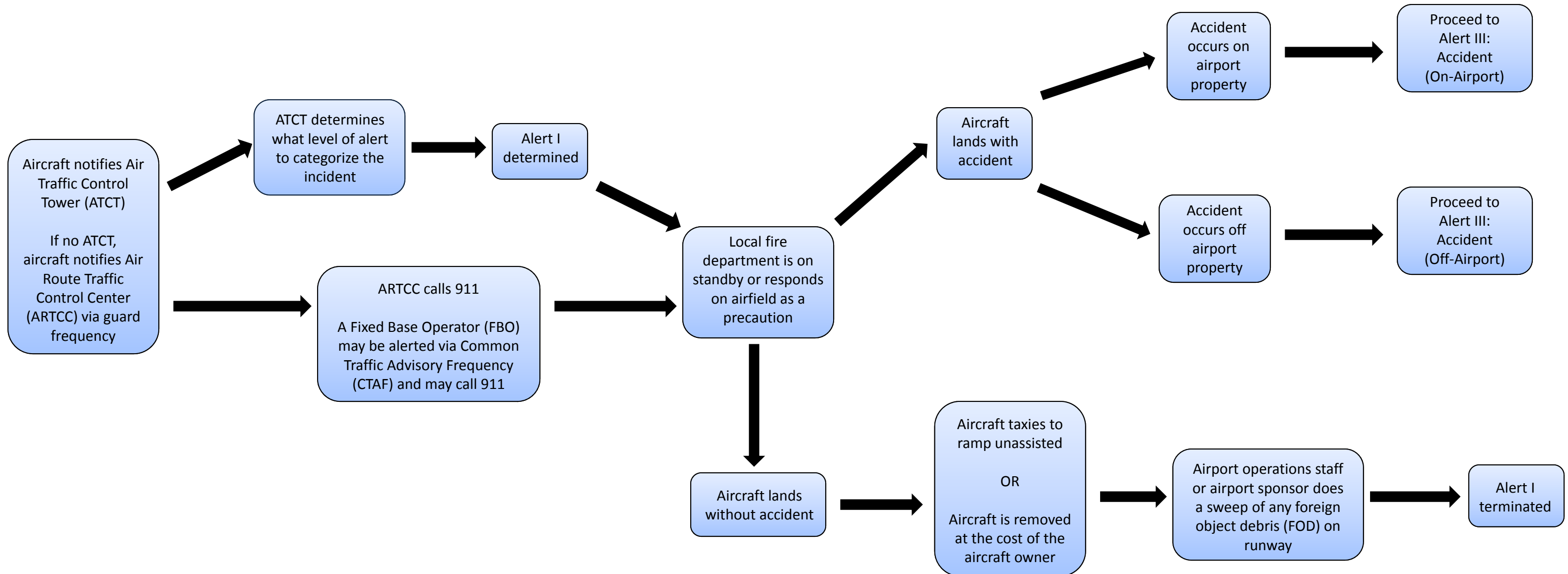
GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT I - MINOR PROBLEM

INCLUDES:

- FUEL OR OIL LEAK
- ONE ENGINE OUT ON A THREE OR FOUR ENGINE AIRCRAFT
- ONE ENGINE OUT ON A TWIN ENGINE GENERAL AVIATION AIRCRAFT WEIGHING < 12,500 LBS.

NOTE: OPERATIONS PERSONNEL MAY CATEGORIZE AN ALERT I AS AN ALERT II AS A PRECAUTIONARY EFFORT

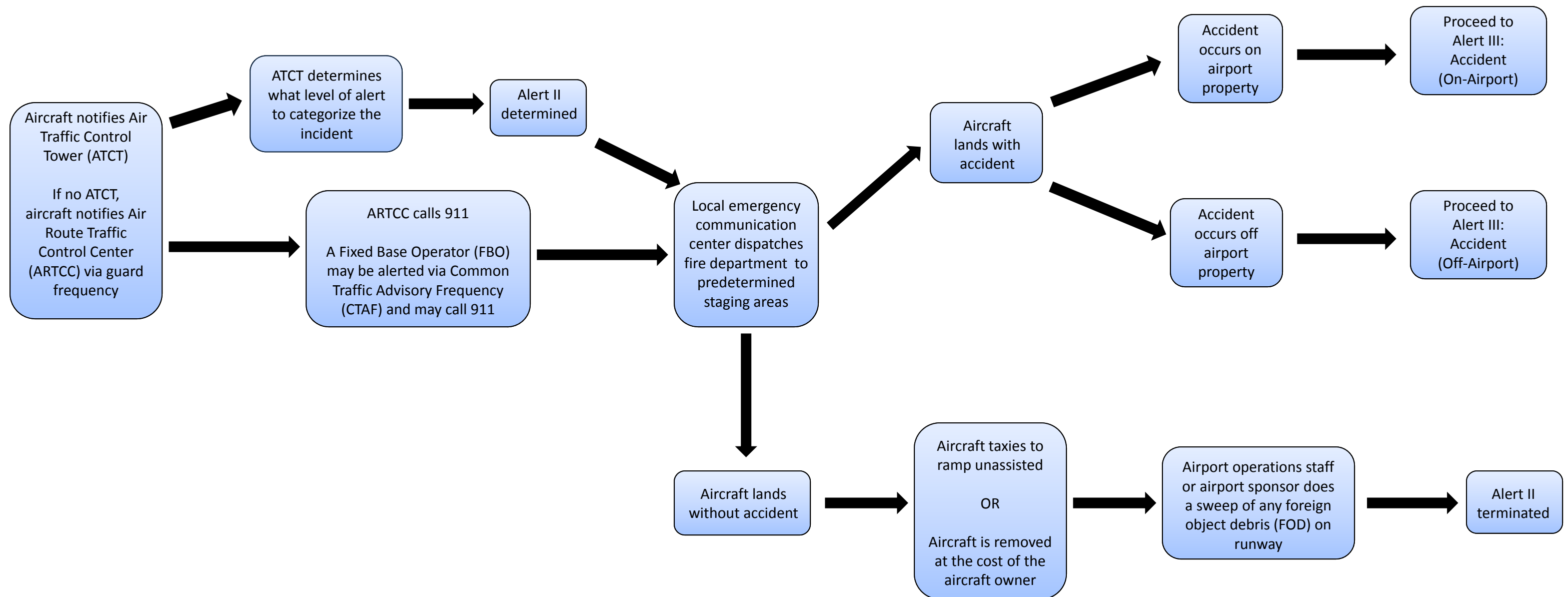


GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT II - MAJOR DIFFICULTY

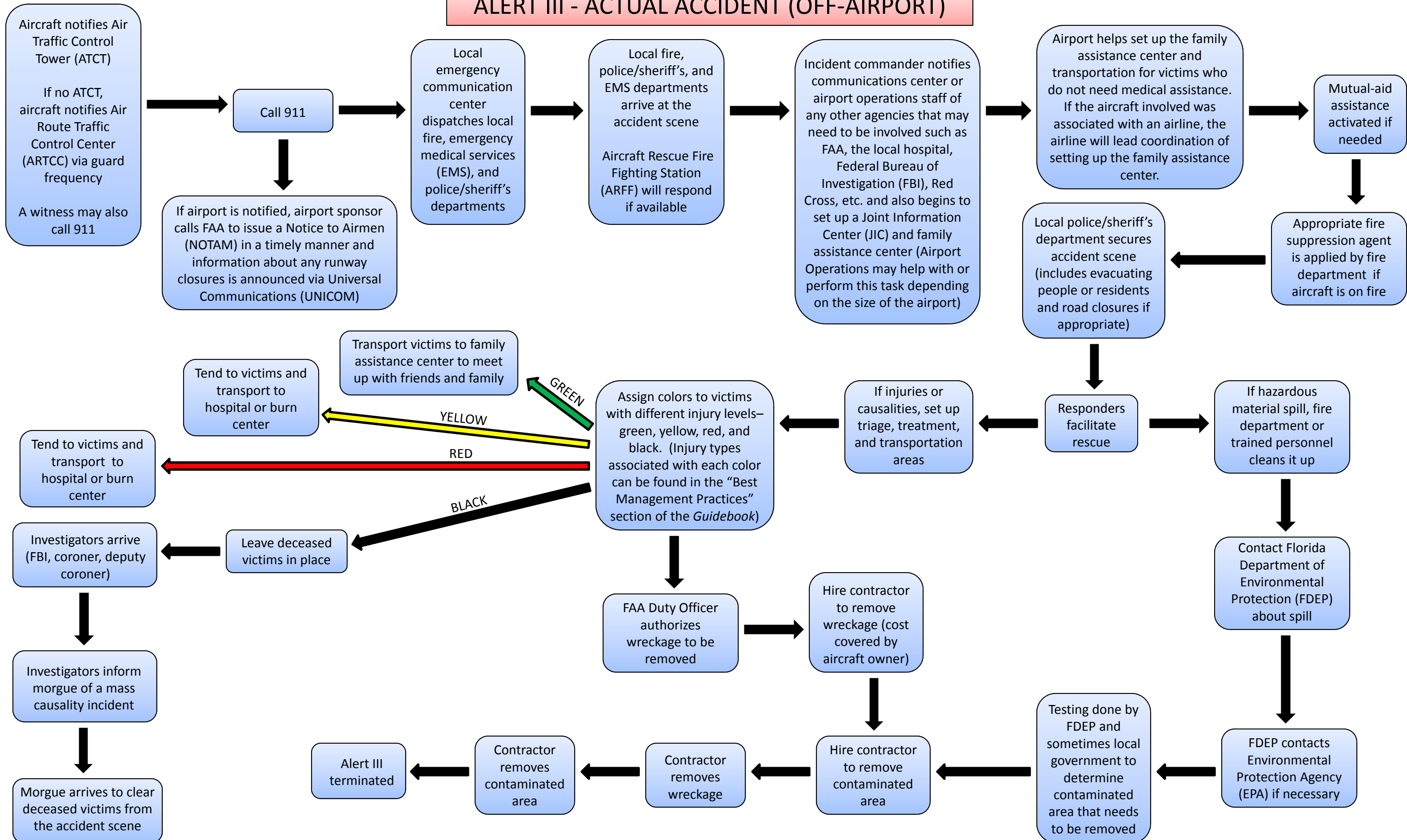
INCLUDES:

- SMOKE IN THE CABIN
- ENGINE ON FIRE
- FAULTY LANDING GEAR
- LOSS OF HYDRAULIC PRESSURE
- ONE ENGINE OUT ON A TWIN ENGINE AIRCRAFT WEIGHING > 12,500 LBS.



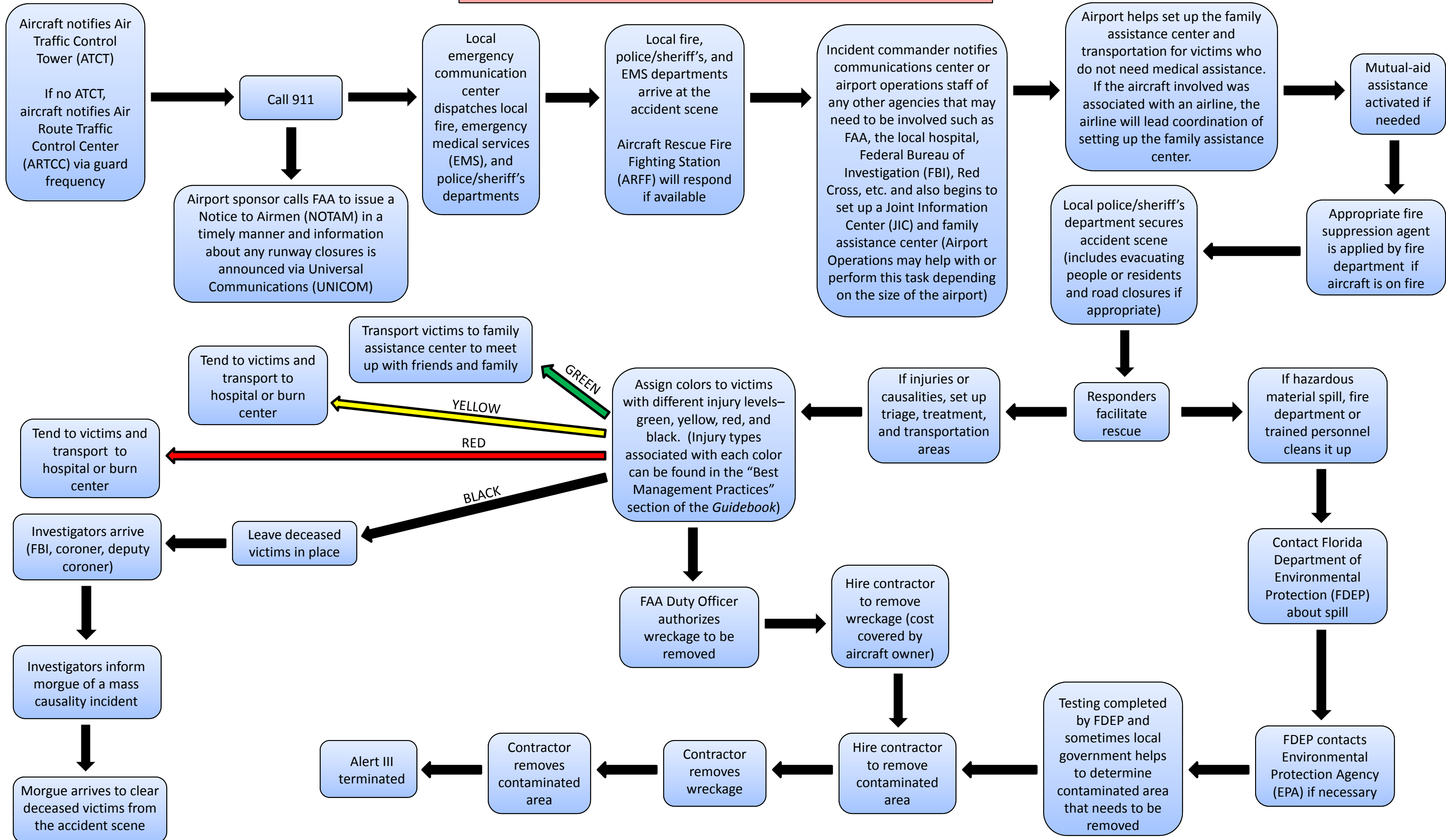
GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT III - ACTUAL ACCIDENT (OFF-AIRPORT)



GENERATED EMERGENCY RESPONSE FLOWCHART

ALERT III - ACTUAL ACCIDENT (ON-AIRPORT)



APPENDIX F – FUEL FARM QUALITIES AND MATERIAL SAFETY DATA SHEETS (MSDS)

Fuel Farms					
Location	Size - Gallons	Quantity	Type	Permanent/Mobile	Above/Below Ground
WarBird	xxx	1	AVGAS	Mobile	-
Euroflight	xxx	1	AVGAS	Mobile	-
Ranger/Atlantic	Xx,xxx	1	JETA	Permanent	Above
Ranger/Atlantic	Xx,xxx	1	AVGAS	Permanent	Above
OFT	Xxx,xxx	2	AVGAS/JETA	Permanent	Above
Marathon	xxx	2	AVGAS/JETA	Permanent	Below
Signature (Future)	xxx	1	JETA	Permanent	Above
Signature (Future)	xxx	1	AVGAS	Permanent	Above
Signature South	-	-	-	Decommissioned	Below
	xxx	2	AVGAS/JETA	Permanent	Below

Appendix E

NTSB Accident Form and Responding to an Aircraft Accident Checklist

NATIONAL TRANSPORTATION SAFETY BOARD

NTSB Form 6120.1

PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT

The pilot/operator aircraft accident/incident report may be filed by mailing in this form, per instructions on the last page. Copies of this form may be obtained from the NTSB Web site <<http://www.nts.gov>>, the National Transportation Safety Board Regional Offices, and the Federal Aviation Administration Flight Standards District Offices.

Rules pertaining to aircraft accidents/incidents, overdue aircraft, and safety issues are contained in Part 830 of the National Transportation Safety Board's Regulations, 49CFR. These rules state the authority of the Board, define accidents, incidents, injuries, and other terms, and provide procedures for initial and immediate notification by aircraft pilots/operators.

A. APPLICABILITY

The pilot/operator of an aircraft shall file a report with the Regional Office of the National Transportation Safety Board nearest the accident or incident for which immediate notification is required by section 830.5(a). **The report shall be filed within ten (10) days after an accident for which notification is required by Section 830.5 or when, after seven (7) days, an overdue aircraft is still missing.** An aircraft accident, as defined in 49CFR 830.2, is determined as an occurrence that involves a fatality, serious injury, or substantial damage. For occurrences that do not involve a fatality, the determination that the occurrence is an accident can be appealed by writing to the Director, Office of Aviation Safety, National Transportation Safety Board, 490 L'Enfant Plaza, S.W., Washington, D.C. 20594.

The Pilot/Operator Aircraft Accident/Incident Report Form is used in determining the facts, conditions, and circumstances for aircraft accident prevention activities and for statistical purposes. It is necessary that **ALL** questions be answered completely and accurately to serve the above purposes.

B. DEFINITIONS

1. "Aircraft Accident" means 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 all such persons have disembarked, and in which any person suffers death, or serious injury, or in which the aircraft receives substantial damage. For purposes of this form, the definition of "aircraft accident" includes "unmanned aircraft accident," as defined at 49 C.F.R. 830.2.

2. "Substantial Damage" means damage or failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. NOTE: Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairing or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wing tips are not considered "substantial damage" for purposes of this report.

3. "Operator" means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

4. "Fatal Injury" means any injury that results in death within thirty (30) days of the accident.

5. "Serious Injury" means any injury that (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fracture of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

INSTRUCTIONS TO PILOTS/OPERATORS FOR COMPLETING THIS FORM

It is necessary that ALL questions on this report be answered completely and accurately.

If more space is needed, continue on a blank sheet.

Nearest City/Place: Use the name of the nearest community that has a Post Office in the state where the accident/incident occurred.

Date & Time: Indicate the date and local time of the event. Be sure to indicate the time zone.

Phase of Operation: Indicate the phase of operation during which the accident/incident occurred.

Aircraft Information: Enter aircraft make and model information as indicated on the aircraft registration certificate, including series. If the involved aircraft is certified as "amateur-built," include the name of manufacturer of the kit or plans when appropriate.

Max Gross Weight: Enter the certificated max gross weight for the aircraft involved in the occurrence. This should be the same as the maximum gross weight indicated on the aircraft weight and balance documents.

Airworthiness Certificate: For light sport aircraft, if aircraft certificated as "Light Sport - Experimental", check both the "Light Sport" and "Experimental" check boxes.

Type of Fire Extinguishing System: If a fire extinguishing system was used to fight an aircraft fire, specify the type(s) of extinguishing system(s) used. Examples include handheld extinguisher, engine fire bottle,

cargo/baggage compartment fire suppression system, or airport emergency ground equipment.

Engine: Enter engine make and model information as indicated on the engine data plate.

Owner/Operator Information: Enter the owner information as shown on the registration certificate. Commercial operators, enter the operator information, including "Doing Business as" when applicable, as shown on the operator certificate.

Revenue Sightseeing Flight: Indicate whether the accident aircraft was conducting revenue sightseeing operations under FAR Part 91 at the time of the accident.

Public Use: Federal, state or local government flight operations such as official travel, law-enforcement, low-level observation, aerial application, firefighting, search and rescue, biological or geological resource management, or aeronautical research. Military operations should not be included under public use. If public use, also indicate whether the flight was conducted by Federal, State, or Local government.

Air Medical Flight: Indicate whether accident flight was being conducted for the purpose of carrying medical personnel, patient(s), or organs.

Purpose of Flight (FAR 91, 103, 133, 137): Indicate the type of operation that was being conducted at the time of the occurrence using the following definitions:

PERSONAL—Flying for personal reasons (excludes business transportation) including pleasure or personal transportation. This also includes practice or proficiency flights performed under flight instructor supervision and not part of an approved flight training program.

BUSINESS—Includes all personal flying **without** a paid, professional crew for reasons associated with furthering a business, including transportation to and from business meetings or work. This does not include corporate/executive operations, air taxi, or commuter operations.

EXECUTIVE/CORPORATE—Company flying **with** a paid, professional crew.

OTHER WORK USE—Miscellaneous flight operations conducted for compensation or hire such as construction work (not FAR Part 135 operation), parachuting, aerial advertising, towing gliders, etc.

INSTRUCTIONAL—Flying while under the supervision of a flight instructor or receiving air carrier training. Personal proficiency flight operations and personal flight reviews, as required by federal air regulations, are excluded.

FERRY—Non-revenue flight under a special flight or "ferry" permit. Refer to 14 CFR 21.197 for details of special flight permit issuance.

POSITIONING—Non-revenue flight conducted for the primary purpose of moving the aircraft to a maintenance facility or to load passengers or cargo, etc.

AERIAL APPLICATION—Operations using an aircraft to perform aerial application or dispersion of any substance. Examples include agricultural, health, forestry, cloud seeding, firefighting, insect control, etc.

AERIAL OBSERVATION—Aerial mapping/photography, patrol, search and rescue, hunting, highway traffic advisory, ranching, surveillance, oil and mineral exploration, criminal pursuit, fish spotting, etc.

AIR DROP—Aerial operations, other than aerial application, that are intended to release items in flight.

AIR RACE/SHOW—Includes any flight operations conducted as part of an organized air race or public demonstration.

FLIGHT TEST—Flight for the purpose of investigating the flight characteristics of an aircraft/aircraft component, or evaluating an applicant for a pilot certificate or rating.

PUBLIC USE—See definition above.

UNKNOWN—Use only if the primary purpose of flight is not known.

Other Aircraft – Collision: For all accidents involving a collision with another aircraft, including parked aircraft, check "Collision with other aircraft" under Basic Information and complete this section indicating details about the OTHER aircraft involved in the collision.

Airport Information: Complete this section if the accident/incident occurred on approach, takeoff, or within 3 miles of an airport. Please refer to the FAA Airport/Facility Directory or other official source for airport information.

Airport Identification: Provide the official 3 or 4 character airport identifier.

Runway: Indicate the number of the runway used, including L, R, or C if applicable.

Runway/Landing Surface: Indicate the type of intended runway/landing surface (do not indicate surface conditions). If the surface type was mixed, check all that apply.

Condition of Runway/Landing Surface: Indicate the condition of the intended runway/landing surface. If multiple conditions existed at the time of the accident, check all that apply.

Weather Information at the Accident/Incident Site: Indicate the weather conditions reported at the accident/incident site at the time of occurrence. If no weather reporting was available for the accident/incident site, indicate the reported conditions at the nearest reporting site. Specify the weather reporting site identifier, the observation time, and distance from the accident/incident site.

Sky/Lowest Cloud Condition: Indicate the height above ground level of the lowest cloud condition present at the time of the accident and whether coverage was reported as few, scattered, broken or overcast. Also indicate the height above ground level and coverage of the lowest cloud ceiling present at the time of the accident (reported as broken or overcast).

NOTAMs ((D), (L) and FDC), AIRMETs, SIGMETs, PIREPs: Describe all NOTAMs, AIRMETs, SIGMETs, PIREPs in effect near the accident/incident. For NOTAMs, state if they were distant (D), local (L), or Flight Data Center (FDC), if known.

Pilot Information: Indicate the category that best describes the capacity served by this flight crewmember at the time of the accident. The designators "Pilot A" and "Pilot B" do not refer to a specific pilot position or responsibility. If more than one pilot is aboard, they may be entered in any order and their capacity entered as appropriate.

Degree of Injury: See Definitions on the top half of Page 1 of the Instructions. Minor injury is not defined. If an injury does not meet the criteria for another injury category, select Minor.

Date of Last Flight Review or Equivalent: Enter the date of the most recent flight review, or equivalent, completed by this pilot. Refer to 14 CFR 61.56 for accepted equivalents.

Type Ratings: List all type ratings on the pilot certificate. If the pilot holds no type ratings indicate "none". If the pilot holds a pilot certificate other than student, and was flying an aircraft requiring an endorsement enter the type and date of any logbook endorsement(s) for that aircraft. See 14 CFR 61 for examples of required endorsements.

Student Endorsements: If the pilot holds a student pilot certificate, enter all solo endorsements and dates on the student pilot certificate.

Flight Time: Complete the flight time matrix. Solo flight time should be included as "Pilot-in-Command (PIC)" and all dual flight instruction given should be included as "Time as Instructor".

Additional Flight Crew Members: Complete this section if there were more than two required flight crew members on the aircraft. This also includes a check airman performing official duties, but does not include cabin crew. State the capacity served by each included crewmember at the time of the accident.

Passenger(s)/Other Personnel: Please enter identification and injury severity information for all passengers and other personnel involved in the accident. See page 1 of the instructions for the official definition of injury levels. Occupants are considered "Revenue" passengers if they were being carried for compensation or hire. The option "FAA" refers to any FAA personnel performing a flight related function, including flight check, airman practical test, etc.

Several questions throughout the form allow for multiple responses; when appropriate choose all responses that apply.

These instructions only pertain to major issue areas covered by the NTSB Form 6120.1 Pilot/Operator Aircraft Accident/Incident Report. For additional definitions of questions and responses, please refer to <<http://www.nts.gov>>.

NATIONAL TRANSPORTATION SAFETY BOARD PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT

This form to be used for reporting civil and public use aircraft accidents and incidents

BASIC INFORMATION

Accident/Incident Location

Nearest City/Place: _____ State: _____
 ZIP: _____ Country: _____
 Latitude: _____ (dd:mm:ss N/S) Longitude: _____ (ddd:mm:ss E/W)

Date/Time

Date: _____ Local Time: _____
mm/dd/yyyy
 Time Zone: _____

Phase of Operation

☐ Standing ☐ Takeoff (incl. initial climb) ☐ Cruise ☐ Hover
☐ Taxi ☐ Climb ☐ Maneuvering ☐ Other
☐ Descent ☐ Landing ☐ Approach ☐ Unknown

Collision with Other Aircraft

☐ Midair
☐ On-ground
☐ None

Altitude of In-Flight Occurrence

ft MSL

AIRCRAFT INFORMATION

Manufacturer: _____

Model: _____

Serial Number: _____

Registration Number: _____ Amateur-built: ☐ Yes ☐ No

Max Gross Weight: _____ lbs

Weight at Time of Accident/Incident: _____ lbs

Location of Center of Gravity at Time of Accident/Incident:

_____ inches from ☐ nose or ☐ datum
 -or- _____ Percent Mean Aerodynamic Cord (% MAC)

Category of Aircraft

☐ Airplane
☐ Balloon
☐ Blimp/Dirigible
☐ Glider
☐ Gyrocraft
☐ Helicopter
☐ Powered lift
☐ Ultralight
☐ Unknown

Type of Airworthiness Certificate (Check all that apply)

Standard

☐ Normal
☐ Utility
☐ Acrobatic
☐ Transport

Special

☐ Restricted
☐ Limited
☐ Provisional
☐ Experimental
☐ Special Flight
☐ Light Sport

Number of Seats: _____

If Large Aircraft, how many seats for:

Flight Crew: _____

Cabin Crew: _____

Passengers: _____

Landing Gear ☐ Retractable

Check any additional landing gear configuration that applies:

☐ Tricycle ☐ Tailwheel
☐ Amphibian ☐ High Skid
☐ Emergency Float ☐ Skid
☐ Float ☐ Ski
☐ Hull ☐ Ski/Wheel
☐ Unknown

Type of Maintenance Program

☐ Annual
☐ Conditional (Amateur-built only)
☐ Manufacturer's Inspection Program
☐ Other Approved Inspection Program (AAIP)
☐ Continuous Airworthiness
☐ Other, specify: _____

Last Inspection Type

☐ 100 Hour ☐ Continuous Airworthiness
☐ AAIP ☐ Conditional Inspection
☐ Annual ☐ Unknown

Date Last Inspection: _____

mm/dd/yyyy

Airframe Total Time: _____ hrs

hours measured at (check one)

☐ Last Inspection ☐ Time of Accident/Incident

IFR Equipped

☐ Yes ☐ No ☐ Unknown

Stall Warning System Installed

☐ Yes ☐ No ☐ Unknown

Type of Fire Extinguishing System

☐ None
☐ Specify _____

ELT Installed

☐ Yes ☐ No

ELT Activated

☐ Yes ☐ No

ELT Manufacturer: _____

Model/Series: _____

ELT Aided in Locating Accident/Incident

☐ Yes ☐ No

Serial Number: _____

Battery Type: _____ Battery Exp. Date: _____

Engine Type

☐ Reciprocating ☐ Turbo Jet
☐ Turbo Shaft ☐ Turbo Fan
☐ Turbo Prop ☐ Unknown

Reciprocating Fuel System Type

☐ Carburetor
☐ Fuel Injected

Propeller

☐ Fixed Pitch
☐ Controllable Pitch

Manufacturer: _____

Model: _____

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. <i>mm/dd/yyyy</i>	Engine Rated Power Measured as (check one) <input type="checkbox"/> Horsepower or <input type="checkbox"/> lbs of Thrust	Total Time (hours)	Time Since Inspection (hours)	Time Since Overhaul (hours)
Eng. 1								
Eng. 2								
Eng. 3								
Eng. 4								

OWNER/OPERATOR INFORMATION			
Registered Aircraft Owner Name: _____ Fractional Ownership Aircraft: <input type="checkbox"/> Yes <input type="checkbox"/> No		Owner Address City: _____ State: _____ ZIP: _____ Country: _____	
Operator of Aircraft <input type="checkbox"/> Same As Registered Owner Name: _____ Doing Business As: _____ Air Carrier/Operator Designator (4 Character Code): _____		Operator Address <input type="checkbox"/> Same As Registered Owner City: _____ State: _____ ZIP: _____ Country: _____	
Regulation Flight Conducted Under <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> FAR 91 <input type="checkbox"/> FAR 129 <input type="checkbox"/> FAR 91 Special Flight </div> <div style="width: 50%;"> <input type="checkbox"/> Public Use (select type) </div> <div style="width: 50%;"> <input type="checkbox"/> FAR 103 <input type="checkbox"/> FAR 133 <input type="checkbox"/> Non-US, Commercial <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Local </div> <div style="width: 50%;"> <input type="checkbox"/> FAR 121 <input type="checkbox"/> FAR 135 <input type="checkbox"/> Non-US, Non-commercial <input type="checkbox"/> Unknown </div> <div style="width: 50%;"> <input type="checkbox"/> FAR 125 <input type="checkbox"/> FAR 137 <input type="checkbox"/> Armed Forces </div> </div>		Revenue Sightseeing Flight <input type="checkbox"/> Yes <input type="checkbox"/> No Air Medical Flight <input type="checkbox"/> Yes <input type="checkbox"/> No	
Purpose of Flight for FAR 91, 103, 133, 137 (Select one) <input type="checkbox"/> Personal <input type="checkbox"/> Business <input type="checkbox"/> Executive/Corporate <input type="checkbox"/> Other Work Use <input type="checkbox"/> Instructional <input type="checkbox"/> Ferry <input type="checkbox"/> Positioning <input type="checkbox"/> Aerial Application <input type="checkbox"/> Aerial Observation <input type="checkbox"/> Air Drop <input type="checkbox"/> Air Race / Show <input type="checkbox"/> Flight Test <input type="checkbox"/> Public Use <input type="checkbox"/> Unknown	Revenue Operation for FAR 121, 125, 129, 135 (Select one) <input type="checkbox"/> Scheduled or Commuter <input type="checkbox"/> Non-Scheduled or Air Taxi Domestic or International <input type="checkbox"/> Domestic <input type="checkbox"/> International	Type of Commercial Operating Certificate Held (Check all that apply) <input type="checkbox"/> None <input type="checkbox"/> Flag Carrier Operating Certificate (121) <input type="checkbox"/> Supplemental <input type="checkbox"/> Air Cargo <input type="checkbox"/> Foreign Air Carriers (129) <input type="checkbox"/> Commuter Air Carrier (135) <input type="checkbox"/> On-Demand Air Taxi (135) <input type="checkbox"/> Large Helicopter (127) <input type="checkbox"/> Rotorcraft External Load (133) - or - <input type="checkbox"/> Agricultural Aircraft (137) <input type="checkbox"/> Other Operator of Large Aircraft	
OTHER AIRCRAFT – COLLISION (If air or ground collision occurred, complete this section for other aircraft)			
Aircraft Registration Number _____	Manufacturer: _____ Model: _____	Damage to Other Aircraft <input type="checkbox"/> Destroyed <input type="checkbox"/> Minor <input type="checkbox"/> Substantial <input type="checkbox"/> None	
Registered Owner of Other Aircraft <div style="display: flex; justify-content: space-between;"> <div> First Name: _____ Middle Initial: _____ Last Name: _____ </div> <div> City: _____ State: _____ ZIP: _____ Country: _____ </div> </div>			
Pilot of Other Aircraft <div style="display: flex; justify-content: space-between;"> <div> First Name: _____ Middle Initial: _____ Last Name: _____ </div> <div> City: _____ State: _____ ZIP: _____ Country: _____ </div> </div>			
MECHANICAL MALFUNCTION/FAILURE (If more space is needed, continue on separate sheet)			
Was there Mechanical Malfunction/Failure? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <i>(If yes, list the name of the part, manufacturer, part no., serial no., and describe the failure.)</i> <div style="height: 100px;"></div>			Total Time/Cycles On Part _____ Hours _____ Cycles Time Since This Part Inspected/Overhauled _____ Hours
DAMAGE TO AIRCRAFT AND OTHER PROPERTY			
Aircraft Damage <input type="checkbox"/> None <input type="checkbox"/> Substantial <input type="checkbox"/> Minor <input type="checkbox"/> Destroyed	Aircraft Fire <input type="checkbox"/> None <input type="checkbox"/> Both Ground and In-Flight <input type="checkbox"/> In-Flight <input type="checkbox"/> Unknown Origin <input type="checkbox"/> On-Ground	Aircraft Explosion <input type="checkbox"/> None <input type="checkbox"/> Both Ground and In-Flight <input type="checkbox"/> In-Flight <input type="checkbox"/> Unknown Origin <input type="checkbox"/> On-Ground	

Description of Damage to Aircraft and Other Property (use additional sheet if necessary)

AIRPORT INFORMATION (If the accident/incident occurred on approach, takeoff or within 3 miles of an airport, complete this section)

Airport Identifier: _____ Distance From Airport Center: _____ SM
 Airport Name: _____ Direction From Airport: _____ degrees MAG
 Proximity to Airport ☐ Off Airport/Airstrip ☐ On Airport ☐ On Airstrip Airport Elevation: _____ ft. MSL

Approach Segment (Select one)

☐ On Instrument Approach ☐ Landing ☐ Base leg ☐ Final ☐ Go Around
☐ Crosswind ☐ Downwind ☐ Low Approach ☐ Aborted Landing (after touchdown)

IFR Approach (Check all that apply)

☐ None ☐ PAR ☐ MLS ☐ Practice
☐ ADF/NDB ☐ Sideslip ☐ LDA ☐ GPS
☐ SDF ☐ ILS ☐ ASR ☐ Loran
☐ VOR/TWOR ☐ Localizer Only ☐ Visual ☐ Unknown
☐ VOR/DME ☐ LOC-back course ☐ Contact
☐ TACAN ☐ RNAV ☐ Circling

VFR Approach (Check all that apply)

☐ None ☐ Stop and Go
☐ Traffic Pattern ☐ Touch and Go
☐ Straight-In ☐ Simulated Forced Landing
☐ Valley/Terrain Following ☐ Forced Landing
☐ Go Around ☐ Precautionary Landing
☐ Full Stop ☐ Unknown

Runway Information

Runway ID: _____ (L/R/C) Length: _____ ft Width: _____ ft

Runway/Landing Surface (Check all that apply)

☐ Asphalt ☐ Grass/Turf ☐ Macadam ☐ Water
☐ Concrete ☐ Gravel ☐ Metal/Wood ☐ Unknown
☐ Dirt ☐ Ice ☐ Snow

Condition of Runway/Landing Surface (Check all that apply)

☐ Dry ☐ Snow-Compacted ☐ Water-Calm
☐ Holes ☐ Snow-Crusted ☐ Water-Choppy
☐ Ice Covered ☐ Snow-Dry ☐ Water-Glassy
☐ Rough ☐ Snow-Wet ☐ Wet
☐ Rubber Deposits ☐ Soft ☐ Unknown
☐ Slush Covered ☐ Vegetation

FLIGHT ITINERARY INFORMATION

Last Departure Point

Airport ID: _____
 City: _____
 State: _____
 Country: _____

Time of Departure

Time: _____
 Time Zone: _____

Destination

Airport ID: _____
 City: _____
 State: _____
 Country: _____

Type Flight Plan Filed

☐ None ☐ VFR/IFR
☐ Company VFR ☐ IFR
☐ Military VFR ☐ Unknown
☐ VFR
 Activated? ☐ Yes ☐ No

Type of ATC Clearance/Service (Check all that apply)

☐ None ☐ Special VFR ☐ Special IFR ☐ VFR Flight Following ☐ Cruise
☐ VFR ☐ IFR ☐ VFR On Top ☐ Traffic Advisory ☐ Unknown / NA

Airspace where the accident/incident occurred (Check all that apply)

☐ Class A ☐ Class E ☐ Prohibited Area ☐ Jet Training Area ☐ Special
☐ Class B ☐ Class G ☐ Restricted Area ☐ TRSA ☐ Air Traffic Control Area
☐ Class C ☐ Demo Area ☐ Military Operations Area (MOA) ☐ FAR 93 ☐ Unknown
☐ Class D ☐ Warning Area ☐ Airport Advisory Area

Aircraft Load Description (Check all that apply)

☐ None ☐ Towing Glider ☐ Parachutists ☐ Livestock
☐ Passengers ☐ Towing Banner ☐ Water ☐ Unknown
☐ Cargo ☐ Other External ☐ Chemical/Fertilizer/Seeds

FUEL & SERVICES INFORMATION

Fuel on Board at Last Takeoff

(convert from pounds, as necessary)

_____ Gallons

Fuel Type

☐ 80/87 ☐ 115/145 ☐ JP3 ☐ Other, specify _____
☐ 100 Low Lead ☐ Jet A ☐ JP4
☐ 100/130 ☐ Automotive ☐ JP5

Other Services, if Any, Prior to Departure

EVACUATION OF AIRCRAFT

Was an emergency evacuation of the aircraft performed? ☐ Yes ☐ No

Method of Exit – Describe how the occupants exited and how many occupants evacuated each location

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE**Weather Observation Facility**

Facility ID: _____

Observation Time: _____

Time Zone: _____

Distance from Accident Site: _____ NM

Direction from Accident Site: _____ degrees MAG

Source of Weather Information

(Check all that apply)

- | | |
|---|-----------------------------------|
| <input type="checkbox"/> National Weather Service | <input type="checkbox"/> Company |
| <input type="checkbox"/> Flight Service Station | <input type="checkbox"/> Military |
| <input type="checkbox"/> TV/Radio | <input type="checkbox"/> Internet |
| <input type="checkbox"/> Automated Report | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Commercial Weather Service (DUATS) | |

Method of Briefing

(Check all that apply)

- | |
|---|
| <input type="checkbox"/> In Person |
| <input type="checkbox"/> Teletype |
| <input type="checkbox"/> Telephone/Computer |
| <input type="checkbox"/> Aircraft Radio |
| <input type="checkbox"/> TV/Radio |
| <input type="checkbox"/> Unknown |

Briefing Type/Completeness

- | | |
|---|--|
| <input type="checkbox"/> Full | <input type="checkbox"/> Abbreviated |
| <input type="checkbox"/> Partial / Limited By Pilot | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Partial / Limited By Briefer | <input type="checkbox"/> Not Pertinent |

Light Condition

- | | | |
|---------------------------------------|--------------------------------|---------------------------------------|
| <input type="checkbox"/> Dawn | <input type="checkbox"/> Dusk | <input type="checkbox"/> Dark Night |
| <input type="checkbox"/> Day | <input type="checkbox"/> Night | <input type="checkbox"/> Bright Night |
| <input type="checkbox"/> Not Reported | | |

Visibility

_____ miles

Sky/Lowest Cloud Condition

- | | |
|--|--|
| <input type="checkbox"/> Clear | <input type="checkbox"/> Thin Broken |
| <input type="checkbox"/> Few | <input type="checkbox"/> Thin Overcast |
| <input type="checkbox"/> Partial Obscuration | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Scattered | |

Ceiling

- | | |
|---------------------------------------|-------------------------------------|
| <input type="checkbox"/> None (clear) | <input type="checkbox"/> Obscured |
| <input type="checkbox"/> Broken | <input type="checkbox"/> Indefinite |
| <input type="checkbox"/> Overcast | <input type="checkbox"/> Unknown |

Restriction to Visibility (Check all that apply)

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Fog |
| <input type="checkbox"/> Blowing Dust | <input type="checkbox"/> Ground Fog |
| <input type="checkbox"/> Blowing Sand | <input type="checkbox"/> Haze |
| <input type="checkbox"/> Blowing Snow | <input type="checkbox"/> Ice Fog |
| <input type="checkbox"/> Blowing Spray | <input type="checkbox"/> Smoke |
| <input type="checkbox"/> Dust | <input type="checkbox"/> Unknown |

Lowest Cloud Condition Height

_____ ft AGL

Ceiling Height

_____ ft AGL

Wind Direction

- ☐ Indicated: _____ degrees MAG
- ☐ Variable

Wind Speed

- Velocity: _____ KTS
- or-
- ☐ Calm
- ☐ Light and Variable

Wind Gusts

- Velocity: _____ KTS
- ☐ Gusting
- ☐ Not Gusting

Type of Turbulence (Check all that apply)

- | | |
|------------------------------------|---|
| <input type="checkbox"/> None | <input type="checkbox"/> In Clouds |
| <input type="checkbox"/> Clear Air | <input type="checkbox"/> Vicinity of Thunderstorm |

Severity of Turbulence

- | | | |
|----------------------------------|--|--------------------------------|
| <input type="checkbox"/> Extreme | <input type="checkbox"/> Moderate | <input type="checkbox"/> Light |
| <input type="checkbox"/> Severe | <input type="checkbox"/> Moderate Chop | |

NOTAMs (D, L and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident

Temperature: _____ (C)
or _____ (F)

Altimeter Setting: _____ in. HG
or _____ MB

Density Altitude: _____ ft

Dew Point: _____ (C)
or _____ (F)

Icing Forecast**Amount**

- | | |
|--------------------------------|-----------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Moderate |
| <input type="checkbox"/> Trace | <input type="checkbox"/> Severe |
| <input type="checkbox"/> Light | |

Type

- | |
|--------------------------------|
| <input type="checkbox"/> Rime |
| <input type="checkbox"/> Clear |
| <input type="checkbox"/> Mixed |

Icing Actual**Amount**

- | | |
|--------------------------------|-----------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Moderate |
| <input type="checkbox"/> Trace | <input type="checkbox"/> Severe |
| <input type="checkbox"/> Light | |

Type

- | |
|--------------------------------|
| <input type="checkbox"/> Rime |
| <input type="checkbox"/> Clear |
| <input type="checkbox"/> Mixed |

Type of Precipitation (Check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> None | <input type="checkbox"/> Drizzle |
| <input type="checkbox"/> Rain | <input type="checkbox"/> Ice Pellets |
| <input type="checkbox"/> Snow | <input type="checkbox"/> Snow Pellets |
| <input type="checkbox"/> Hail | <input type="checkbox"/> Snow Grains |
| <input type="checkbox"/> Rain Showers | <input type="checkbox"/> Ice Crystals |
| <input type="checkbox"/> Freezing Rain | <input type="checkbox"/> Ice Pellets Shower |
| <input type="checkbox"/> Snow Shower | <input type="checkbox"/> Freezing Drizzle |

Intensity of Precipitation

- | | | |
|--------------------------------|-----------------------------------|--------------------------------|
| <input type="checkbox"/> Light | <input type="checkbox"/> Moderate | <input type="checkbox"/> Heavy |
|--------------------------------|-----------------------------------|--------------------------------|

PILOT "A" INFORMATION**Pilot "A" Responsibilities at the Time of Accident/Incident**

☐ Pilot ☐ Co-Pilot ☐ Student Pilot ☐ Flight Instructor ☐ Check Pilot ☐ Flight Engineer ☐ Other Flight Crew

Pilot "A" Identification

First Name: _____

City: _____

Middle Initial: _____

State: _____ ZIP: _____

Last Name: _____

Country: _____

Age at time of Accident/Incident: _____ Date of Birth: _____
mm/dd/yyyy

Certificate Number: _____

Degree of Injury

☐ None ☐ Fatal
☐ Minor ☐ Unknown
☐ Serious

Seat Occupied

☐ Left ☐ Front ☐ Unknown
☐ Right ☐ Rear
☐ Center ☐ Single

Seat Belt

Used ☐ Yes ☐ No
Available ☐ Yes ☐ No

Shoulder Harness

Used ☐ Yes ☐ No
Available ☐ Yes ☐ No

Pilot Certificate(s) (Check all that apply)

☐ None ☐ Student ☐ Recreational ☐ Commercial ☐ Flight Engineer ☐ Foreign
☐ Private ☐ Flight Instructor ☐ Sport ☐ Airline Transport ☐ U.S. Military

Principal Occupation

☐ Pilot
☐ Other
☐ Unknown

Medical Certificate

☐ None ☐ Class 3
☐ Class 1 ☐ Driver's License (Sport Pilot only)
☐ Class 2 ☐ Unknown

Medical Certificate Validity

☐ Without limitations/waivers
☐ With limitations/waivers
☐ Unknown

Date of Last Medical

mm/dd/yyyy

Medical Certificate Limitations**Medical Certificate Waivers****Date of Last Flight Review
or Equivalent, Including
FAR 121/135 Checks:**

mm/dd/yyyy

Flight Review Aircraft

Make: _____

Model: _____

Airplane Rating(s)

(Check all that apply)

☐ None
☐ Single-Engine Land
☐ Single-Engine Sea
☐ Multiengine Land
☐ Multiengine Sea

Other Aircraft Rating(s)

(Check all that apply)

☐ None
☐ Airship
☐ Free Balloon
☐ Glider
☐ Gyroplane
☐ Helicopter
☐ Powered Lift

Instrument Rating(s)

(Check all that apply)

☐ None
☐ Airplane
☐ Helicopter
☐ Powered Lift

Instructor Rating(s)

(Check all that apply)

☐ None ☐ Instrument Airplane
☐ Airplane Single-Engine ☐ Instrument Helicopter
☐ Airplane Multi-Engine ☐ Helicopter
☐ Gyroplane ☐ Glider
☐ Powered Lift ☐ Sport

Type Ratings**Student Endorsements** (Include dates)**Flight Time** (enter appropriate
number of hours in each box)All
AircraftThis Make
& ModelAirplane
Single
EngineAirplane
Multiengine

Night

Instrument

Actual

Simulated

Rotorcraft

Glider

Lighter
Than Air

Total Time										
Pilot in Command (PIC)										
Time as Instructor										
This Make/Model										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

PILOT "B" INFORMATION**Pilot "B" Responsibilities at the Time of Accident/Incident**☐ Pilot ☐ Co-Pilot ☐ Student Pilot ☐ Flight Instructor ☐ Check Pilot ☐ Flight Engineer ☐ Other Flight Crew**Pilot "B" Identification**

First Name: _____

City: _____

Middle Initial: _____

State: _____ ZIP: _____

Last Name: _____

Country: _____

Age at time of Accident/Incident: _____ Date of Birth: _____
mm/dd/yyyy

Certificate Number: _____

Degree of Injury☐ None ☐ Fatal
☐ Minor ☐ Unknown
☐ Serious**Seat Occupied**☐ Left ☐ Front ☐ Unknown
☐ Right ☐ Rear
☐ Center ☐ Single**Seat Belt**Used ☐ Yes ☐ No
Available ☐ Yes ☐ No**Shoulder Harness**Used ☐ Yes ☐ No
Available ☐ Yes ☐ No**Pilot Certificate(s)** (Check all that apply)☐ None ☐ Student ☐ Recreational ☐ Commercial ☐ Flight Engineer ☐ Foreign
☐ Private ☐ Flight Instructor ☐ Sport ☐ Airline Transport ☐ U.S. Military**Principal Occupation**☐ Pilot
☐ Other
☐ Unknown**Medical Certificate**☐ None ☐ Class 3
☐ Class 1 ☐ Driver's License (Sport Pilot only)
☐ Class 2 ☐ Unknown**Medical Certificate Validity**☐ Without limitations/waivers
☐ With limitations/waivers
☐ Unknown**Date of Last Medical**

mm/dd/yyyy

Medical Certificate Limitations**Medical Certificate Waivers****Date of Last Flight Review
or Equivalent, Including
FAR 121/135 Checks:**

mm/dd/yyyy

Flight Review Aircraft

Make: _____

Model: _____

Airplane Rating(s)

(Check all that apply)

☐ None
☐ Single-Engine Land
☐ Single-Engine Sea
☐ Multiengine Land
☐ Multiengine Sea**Other Aircraft Rating(s)**

(Check all that apply)

☐ None
☐ Airship
☐ Free Balloon
☐ Glider
☐ Gyroplane
☐ Helicopter
☐ Powered Lift**Instrument Rating(s)**

(Check all that apply)

☐ None
☐ Airplane
☐ Helicopter
☐ Powered Lift**Instructor Rating(s)**

(Check all that apply)

☐ None ☐ Instrument Airplane
☐ Airplane Single-Engine ☐ Instrument Helicopter
☐ Airplane Multi-Engine ☐ Helicopter
☐ Gyroplane ☐ Glider
☐ Powered Lift ☐ Sport**Type Ratings****Student Endorsements** (Include dates)**Flight Time** (enter appropriate
number of hours in each box)All
AircraftThis Make
& ModelAirplane
Single
EngineAirplane
Multiengine

Night

Instrument

Actual

Simulated

Rotorcraft

Glider

Lighter
Than Air

Total Time

Pilot in Command (PIC)

Time as Instructor

This Make/Model

Last 90 Days

Last 30 Days

Last 24 Hours

ADDITIONAL FLIGHT CREW MEMBERS (Exclusive of cabin attendants, complete the following information)																
Pilot Name and Address						Degree of Injury										
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						<input type="checkbox"/> None <input type="checkbox"/> Fatal <input type="checkbox"/> Minor <input type="checkbox"/> Unknown <input type="checkbox"/> Serious										
Pilot Certificate(s) (Check all that apply)						Seat Occupied										
<input type="checkbox"/> None <input type="checkbox"/> Student <input type="checkbox"/> Recreational <input type="checkbox"/> Commercial <input type="checkbox"/> Flight Engineer <input type="checkbox"/> Foreign <input type="checkbox"/> Private <input type="checkbox"/> Flight Instructor <input type="checkbox"/> Sport <input type="checkbox"/> Airline Transport <input type="checkbox"/> U.S. Military						<input type="checkbox"/> Left <input type="checkbox"/> Front <input type="checkbox"/> Right <input type="checkbox"/> Rear <input type="checkbox"/> Center <input type="checkbox"/> Single <input type="checkbox"/> Unknown										
Type Rating/Endorsement for Accident/Incident Aircraft? <input type="checkbox"/> Yes <input type="checkbox"/> No						Total Flight Time at the Time of this Accident/Incident: _____ hrs										
Pilot Name and Address						Degree of Injury										
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						<input type="checkbox"/> None <input type="checkbox"/> Fatal <input type="checkbox"/> Minor <input type="checkbox"/> Unknown <input type="checkbox"/> Serious										
Pilot Certificate(s) (Check all that apply)						Seat Occupied										
<input type="checkbox"/> None <input type="checkbox"/> Student <input type="checkbox"/> Recreational <input type="checkbox"/> Commercial <input type="checkbox"/> Flight Engineer <input type="checkbox"/> Foreign <input type="checkbox"/> Private <input type="checkbox"/> Flight Instructor <input type="checkbox"/> Sport <input type="checkbox"/> Airline Transport <input type="checkbox"/> U.S. Military						<input type="checkbox"/> Left <input type="checkbox"/> Front <input type="checkbox"/> Right <input type="checkbox"/> Rear <input type="checkbox"/> Center <input type="checkbox"/> Single <input type="checkbox"/> Unknown										
Type Rating/Endorsement for Accident/Incident Aircraft? <input type="checkbox"/> Yes <input type="checkbox"/> No						Total Flight Time at the Time of this Accident/Incident: _____ hrs										
Pilot Name and Address						Degree of Injury										
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						<input type="checkbox"/> None <input type="checkbox"/> Fatal <input type="checkbox"/> Minor <input type="checkbox"/> Unknown <input type="checkbox"/> Serious										
Pilot Certificate(s) (Check all that apply)						Seat Occupied										
<input type="checkbox"/> None <input type="checkbox"/> Student <input type="checkbox"/> Recreational <input type="checkbox"/> Commercial <input type="checkbox"/> Flight Engineer <input type="checkbox"/> Foreign <input type="checkbox"/> Private <input type="checkbox"/> Flight Instructor <input type="checkbox"/> Sport <input type="checkbox"/> Airline Transport <input type="checkbox"/> U.S. Military						<input type="checkbox"/> Left <input type="checkbox"/> Front <input type="checkbox"/> Right <input type="checkbox"/> Rear <input type="checkbox"/> Center <input type="checkbox"/> Single <input type="checkbox"/> Unknown										
Type Rating/Endorsement for Accident/Incident Aircraft? <input type="checkbox"/> Yes <input type="checkbox"/> No						Total Flight Time at the Time of this Accident/Incident: _____ hrs										
PASSENGER(S) / OTHER PERSONNEL (Include flight attendants; continue on separate sheet if necessary)																
Name and Address						Seat	Crew	Non-Revenue	Revenue	Non-Occupant	FAA	Fatal Injury	Serious Injury	Minor Injury	No Injury	Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____						_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NARRATIVE HISTORY OF FLIGHT (Please type or print in ink)

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State time and point of departure, intended destination, and services obtained.

RECOMMENDATION (How could this accident/incident have been prevented?)

Operator/Owner Safety Recommendation

ADDITIONAL INFORMATION *(Please type or print in ink)*

Use this space if additional space is needed for any answers.

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE**Date of this Report****Signature and Name of Pilot/Operator**

Signature: _____

Type or Print Name: _____

*mm/dd/yyyy***Signature and Name of Person Filing Report if Other than Pilot/Operator**

Signature: _____

Type or Print Name: _____

Title: _____

FOR NTSB USE ONLY**NTSB Accident/Incident No.****Reviewed by NTSB Regional Office****Name of Investigator****Date Report Received**

Responding to an Aircraft Accident

How to Support the NTSB

A Guide for Police and Public Safety Personnel

UPON COMPLETION OF LIFE SAFETY ACTIVITIES

SECURE SCENE & PRESERVE EVIDENCE

CONTACT

NTSB and/or FAA Regional Comm Center

NTSB MAIN NUMBER • 202-314-6000

8:30 AM - 5:00 PM • Monday - Friday

NTSB Comm Center #

FAA Regional Comm Center #

Establish Inner and Outer Perimeter

- Protect property
- Prevent the disturbance of wreckage and debris except to preserve life, rescue the injured, or protect the wreckage from further damage
- Protect and preserve ground scars and marks made by the aircraft
- Admit Public Safety Personnel access to the wreckage to the extent necessary to preserve life, and/or stabilize HAZMAT
- Maintain a record of personnel who enter the accident site

Prior to NTSB Arrival on Scene, Restrict Access only to Authorized Personnel

- FAA
- Police/Fire/EMS
- Medical Examiner/Coroner
- Other Emergency Services Agencies

After NTSB arrival on scene, no access without NTSB authorization

BIOHAZARD/HAZMAT

- Potentially dangerous materials that might be present may include but are not limited to: Chemicals-Explosives-Biological-Radioactive materials, fuel, pressure vessels, compressed air, hydraulics, batteries, accumulators, igniters, oxygen systems, oxygen bottles, fire extinguishers, evacuation chutes, flares, composite materials, ballistic parachute systems, tires

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Wreckage Documentation (if possible)

Use best judgment to obtain these goals

- Obtain aircraft registration number (N number)
- Obtain number of casualties
- Photograph or video the overall wreckage including cockpit starting at the initial point of impact if possible
- Photograph or video any ground scars or marks made by the aircraft

Injured/Fatalities

- Coordinate with the NTSB prior to the removal of fatalities. If unable, document that part of the scene to be disturbed, including switch/control positions, and instrument/gauge readings

Witness Documentation

- Obtain name / address / phone numbers (home & work)
- Obtain their location relative to the accident site
- Obtain description of what they observed or heard
- Obtain name of person reporting accident (911 Tapes)

Media Relations

- Consistent with site security policies, only authorized emergency service individuals should be allowed on site
- No one should speculate on the cause of the accident
- Refer all media questions about the accident investigation to the NTSB
- Local authorities normally retain the responsibility for the release of victims' names



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202-314-6000

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Appendix F

Additional Resources and References

APPENDIX F

REFERENCES AND RESOURCES

CODE OF FEDERAL REGULATIONS (CFR)

<http://www.gpoaccess.gov/cfr/>

- 14 CFR, Part 139, Airport Certification
- 14 CFR, Part 139.325, Airport Emergency Plan
- 14 CFR, Part 139.319, Aircraft Rescue and Firefighting: Operational Requirements
- 29 CFR, Part 1910, Occupational Safety and Health Standards
- 49 CFR, Part 830, Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records
- 49 CFR, Part 831, Accident/Incident Investigation Procedures
- 49 CFR, Part 1542, Airport Security

FEDERAL AVIATION ADMINISTRATION (FAA)

The FAA's Accident/Incident Data System (AIDS) contains reports between 1978 and the present. To access the FAA's Accident/Incident Data System (AIDS) please visit:

http://www.asias.faa.gov/portal/page/portal/ASIAS_PAGES/ASIAS_HOME/DATAINFO

Click on the "FAA Accident/Incident Data System" link and then on the "AIDS Database Query Tool" link.

Flight Standards District Offices (FSDO)

The FSDO District Offices are part of the FAA. The nearest FSDO should be contacted about information regarding:

- Low-flying aircraft
- Accident Reporting
- Air carrier certification and operations
- Aircraft maintenance
- Aircraft operational issues
- Aircraft permits
- Airmen certification (licensing) for pilots, mechanics, repairmen, dispatchers, and parachute riggers
- Certification and modification issues
- Enforcement of Airmen & Aircraft Regulations

The contact information for FSDOs serving Florida is included below:

Alabama & Northwest Florida FSDO

Services Jackson, Calhoun, Gulf, Bay, Washington, Holmes, Walton, Okaloosa, Santa Rosa, and Escambia counties in Florida and all counties in Alabama.

1500 Urban Center Drive, Suite 250
Vestavia Hills, AL 35242

Phone: 205-876-1300

Fax: 205-876-1358

Website: http://www.faa.gov/about/office_org/field_offices/fsdo/anf/

8:00 a.m. to 4:30 p.m.

Monday – Friday (Appointments encouraged)

North Florida FSDO (Orlando)

Services Gadsden, Liberty, Franklin, Wakulla, Leon, Jefferson, Madison, Taylor, Hamilton, Suwannee, Lafayette, Dixie, Levy, Gilchrist, Columbia, Baker, Union, Bradford, Alachua, Nassau, Duval, Clay, Putnam, St. Johns, Citrus, Marion, Flagler, Volusia, Seminole, Lake, Orange, Brevard, Osceola, Hernando, Pasco, Hillsborough, Pinellas, Polk, Manatee, Hardee, DeSoto, Sarasota, Charlotte, Lee, Highlands, Okeechobee, Indian River, and St. Lucie counties.

5950 Hazeltine National Drive, Suite #500
Citadel International
Orlando, FL 32822-5023

Phone: 407-812-7700

Fax: 407-812-7710

Website: http://www.faa.gov/about/office_org/field_offices/fsdo/orl/

8:00 a.m. to 4:30 p.m.

Monday – Friday by appointment only

North Florida FSDO (Tampa)

Services Gadsden, Liberty, Franklin, Wakulla, Leon, Jefferson, Madison, Taylor, Hamilton, Suwannee, Lafayette, Dixie, Levy, Gilchrist, Citrus, Hernando, Pasco, Hillsborough, Pinellas, Manatee, Hardee, DeSoto, Sarasota, Charlotte, and Lee counties.

5601 Mariner Street, Suite 310
Tampa, FL 33609-3416

Phone: 813-287-4900
Fax: 813-287-4900

Website: http://www.faa.gov/about/office_org/field_offices/fsdo/tpa/

South Florida FSDO (Miramar)

Services Glades, Hendry, Collier, Monroe, Miami-Dade, Broward, Palm Beach, and Martin counties.

2895 SW 145 Ave., Suite 120
Miramar, FL 33027

Phone: 954-641-6000
Fax: 954-641-6040

Website: http://www.faa.gov/about/office_org/field_offices/fsdo/mia/

FEDERAL BUREAU OF INVESTIGATION (FBI)

The FBI should be notified if you see something highly dangerous (weapons or explosives being loaded onto an aircraft) or if you believe that a crime or terrorist attack is going to occur. The FBI should also be notified if you believe an accident or incident is the result of a terrorist attack.

Jacksonville Field Office—Serves North & Central Florida

Phone: 904-248-7000

Website: <http://www.fbi.gov/jacksonville/>

Tampa Field Office—Serves Central Florida

Phone: 813-253-1000

Website: <http://tampa.fbi.gov/>

Miami Field Office—Serves South Florida

Phone: 305-944-9101

Website: <http://www.fbi.gov/miami/>

FLORIDA DEPARTMENT OF LAW ENFORCEMENT (FDLE)

The following numbers should be called if you see something highly dangerous (weapons or explosives being loaded onto an aircraft) or if you believe that a crime or terrorist attack is going to occur. Call the **Regional Domestic Security Task Force (RDSTF)** for your region:

<u>Region</u>	<u>Regional Area</u>	<u>Toll Free Call</u>	<u>Local Call</u>
Pensacola	Northwest Florida	1-800-226-8574	850-595-2100
Tallahassee	North Florida	1-800-342-0820	850-410-7640
Jacksonville	Northeast Florida	1-800-226-6481	904-360-7100
Orlando	Central Florida	1-800-226-8521	407-245-0888
Miami	Southeast Florida	1-800-226-3023	786-336-1000
Ft. Myers	Southwest Florida	1-800-407-4880	239-278-7170
Tampa Bay	Tampa Bay	1-800-226-1140	813-878-7300

FLORIDA DEPARTMENT OF TRANSPORTATION AVIATION CONTACTS

Title	Name	Phone
State Aviation		
Manager	Aaron N. Smith	850-414-4514
Aviation Development		
Administrator	Andy Keith	850-414-4516
Aviation Program Development Manager	Abdul Hatim, Ph. D	850-414-4504
Aviation Systems Manager	Erik Treudt	850-414-4505
Aviation Policy & Program Development Analyst	Tom Duncan	850-414-4513
Airport Engineering Manager	Vu-Trinh	850-414-4510
Aviation Operations		
Administrator	David Roberts	850-414-4507
Airport Inspection & Safety Manager	Jason Myers	850-414-4515
Communications Manager	Fred Karuga	850-414-4512
Private Airport Registration Manager	Alice Lammert	850-414-4503
Airspace and Land Use Manager	Sergey Kireyev	850-414-4502
District Aviation Contacts		
District 1 - Bartow	Roxann Lake	863-519-2551
	Kristi Smith	863-519-2265
District 2 - Lake City	Roland Luster	386-961-7855
	Gene Lampp	904-360-5667
District 3 - Chipley	Scott Walters	850-415-9553
	Phil Deal	850-415-9558
District 4 - Ft. Lauderdale	Birgit Olkuch	954-777-4689
	Nicole Notz	954-777-4497
District 5 - Orlando	Jim Wikstrom	407-482-7874
	Allison Delizia	407-482-7862
District 6 - Miami	Dionne Henry	305-470-5292
District 7 - Tampa	Raymond Clark	813-975-6235
	Brian Hunter	813-975-6413

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

Disaster Assistance

Phone: 1-800-621-FEMA (3362)

TDD: 1-800-462-7585

Fax: 1-800-827-8112

Information regarding Emergency Management Institute courses offered both online and on-campus can be found at the following website: <http://www.training.fema.gov/EMICourses>

FLORIDA STATUTES AND FLORIDA ADMINISTRATIVE CODES (FAC)

- Florida Statutes Chapter 376, Pollutant Discharge Prevention and Removal
- Florida Statutes Chapter 403, Environmental Control
- FAC 62-770.160, Applicability
- FAC 62-770.200, Acronyms and Definitions
- FAC 62-770.250, Contamination Reporting
- FAC 62-770.300, Interim Source Removal

HOMELAND SECURITY PRESIDENTIAL DIRECTIVE (HSPD)

- HSPD-5: Management of Domestic Incidents
- HSPD-8: National Preparedness

NATIONAL CONTINGENCY PLAN (NCP)

<http://www.epa.gov/oem/content/lawsregs/ncpover.htm>

- NCP 300.415(b)

NATIONAL RESPONSE CENTER

Call this national, toll-free, hotline number to report suspicious activity at your local general aviation airport to help ensure the security of General Aviation aircraft and airport operations: **1-866-GA-SECURE** or **1-866-427-3287**. The hotline is staffed 24 hours per day, 7 days per week.

NATIONAL RESPONSE FRAMEWORK (NRF)

<http://www.fema.gov/emergency/nrf>

NATIONAL TRANSPORTATION SAFETY BOARD (NTSB)

Federal regulations require operators to notify the NTSB whenever an aviation accident or incident occurs. A standard form, which can be found in **Appendix E**, must be filled out. A phone call to the nearest regional office is initially sufficient, but a written follow-up is required. The standard form must be submitted by either fax or mail to the NTSB office that was initially contacted. The contact information for the closest NTSB offices is listed below. If mailed, the *Business Reply Mail* cover should be used. For detailed information and a link to the *Business Reply Mail* cover and blank standard form, please visit: <http://www.nts.gov/report.html>. To access the NTSB Accident Database & Synopses please visit: http://www.nts.gov/investigations/reports_aviation.html.

Atlanta Office

7:30 a.m. – 4:00 p.m. (ET)

Atlanta Federal Center
60 Forsyth Street, SW
Suite 3M25
Atlanta, GA 30303

Phone: 404-562-1666

Fax: 404-562-1674

Miami Office

7:30 a.m. – 4:00 p.m. (ET)

8240 NW 52nd Terrace
Suite 418
Doral, FL 33166

Phone: 305-597-4600 & 305-597-4610

Fax: 305-597-4616

SERIES 150 ADVISORY CIRCULARS (AC) FOR AIRPORT PROJECTS

http://www.faa.gov/airports/resources/advisory_circulars/

- AC 150/5200-31C, Airport Emergency Plan
- AC 90-42F/AC 90-66, Traffic Advisory Practices at Airports without Operating Control Towers
- AC 150/5200-12, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident.
- AC 150/5200-18, Airport Safety Self-Inspection
- AC 150/5200-31, Airport Emergency Plan
- AC 150/5200-31A, 7-8-1 Water Rescue Situation
- AC 150/5200-31C, Airport Emergency Plan
- AC 150/5210-6, Aircraft Fire and Rescue Facilities and Extinguishing Agents
- AC 150/5210-7, Aircraft Rescue and Firefighting Communications
- AC 150/5210-13, Water Rescue Plans, Facilities, and Equipment
- AC 150/5210-14, Airport Fire and Rescue Personnel Protective Clothing
- AC 150/5210-17B, Programs for Training of Aircraft Rescue and Firefighting Personnel
- AC 150/5220-4, Water Supply Systems for Aircraft Fire and Rescue Protection
- AC 150/5220-17, Design Standards for an Aircraft Rescue and Firefighting Training Facility
- AC 150-5320-15A, Management of Airport Industrial Waste
- AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports

WEBSITES

- Florida Department of Highway Safety and Motor Vehicles: www.flhsmv.gov/offices
- Florida Department of Environmental Protection: www.dep.state.fl.us/secretary/dist
- United States Coast Guard- District 7: www.uscg.mil/d7
- U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration: www.phmsa.dot.gov
- U.S. Fire Administration: www.usfa.dhs.gov
- U.S. Government Printing Office: www.access.gpo.gov
- FEMA Emergency Management Institute: <http://Training.fema.gov/emiweb/is/is139lst.asp>

OTHER RESOURCES

- CertAlert SO-10-04, Sept. 2010: Clarification of Training Frequency
- Independent Study (IS-139), FEMA, March 2003: Course Overview for Emergency Plan Preparedness
- FAA Wildlife Strike Database: <http://wildlife-mitigation.tc.faa.gov/wildlife/default.aspx>
- The Office of Accident Investigation and Prevention:
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/avp/