



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject:** Programs for Training of Aircraft  
Rescue and Firefighting Personnel

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**Date:** Draft

**Initiated By:** AAS-300

**AC No:** 150/5210-17C

**Change:**

1    1    **Purpose.**

2        This advisory circular (AC) provides information on courses and reference materials for  
3        training of Aircraft Rescue and Firefighting (ARFF) personnel.

4    2    **Application.**

5        The material contained in this AC is applicable to all civil airports. The Federal  
6        Aviation Administration (FAA) recommends the guidance and specifications in this AC  
7        be used for Aircraft Rescue and Firefighting Training Programs. In general, use of this  
8        AC is not mandatory. However, use of this AC is mandatory for all projects funded  
9        with federal grant monies through the Airport Improvement Program (AIP) and with  
10       revenue from the Passenger Facility Charges (PFC) Program. See Grant Assurance No.  
11       34, "Policies, Standards, and Specifications," and PFC Assurance No. 9, "Standards and  
12       Specifications."

13   3    **Cancellation.**

14       This AC cancels AC 150/5210-17B, dated September 23, 2009.

15   4    **Principal Changes.**

16       This revision is a substantial rewrite and includes the following major changes:

- 17       1. As described in a new Chapter 2, this AC replaces Appendix 1 with an Addendum  
18       of Aircraft Rescue and Firefighting (ARFF) Training Facilities, which the FAA will  
19       update on a quarterly basis.
- 20       2. It uses a new paragraph numbering system to make the text easier to follow and  
21       reference.
- 22       3. It removes the 1-minute time requirement for donning of Personal Protective  
23       Equipment and the Self-Contained Breathing Apparatus.

24     5        **Addendum of Aircraft Rescue and Firefighting (ARFF) Training Facilities.**

25            The FAA regards training that provides at a minimum the standards set forth in 14 Code  
26            of Federal Regulations (CFR) Part 139.319 (i)(1)-(4) as critical to safety on airports. To  
27            help ARFF personnel meet these minimum standards, the FAA publishes a list of ARFF  
28            training facilities and/or reference materials. Because changes to this list may occur  
29            more frequently than the schedule for updating the AC, the FAA will review it on a  
30            quarterly basis and post an updated version online as an Addendum to this AC. See  
31            Chapter 2 for more information.

32     6        **Copies of this AC.**

33            The FAA makes this AC and the current Addendum of training facilities available  
34            online at [http://www.faa.gov/airports/resources/advisory\\_circulars/](http://www.faa.gov/airports/resources/advisory_circulars/).

35     **Michael J. O'Donnell**

36     Director, Office of Airport Safety and Standards

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## CHAPTER 1. REQUIREMENTS FOR CERTIFICATED AIRPORTS

### 1.1 INTRODUCTION.

14 CFR Part 139.319(i) requires that each holder of an airport operating certificate ensure that firefighting personnel are properly trained to perform their duties. This AC provides a method for meeting this provision and lists the minimum requirements for training programs. This guidance is not intended to serve as proficiency standards for airport firefighters but is provided to assist the airport sponsor in establishing and ensuring an adequate training program. However, proficiency is the key to a successful ARFF training program. The number of hours of training will vary from individual to individual. The FAA recommends a comprehensive, continuous, ongoing, and robust training program. It should encompass not only the subjects specified in 14 CFR Part 139.319 but also those additional areas of special interest defined in any local Standard Operating Procedure (SOP), Memorandum of Agreement (MOA), Memorandum of Understanding (MOU), and Standard Operating Guideline (SOG). At a minimum, annual recurrent training should be provided for all ARFF personnel on a recurring basis at least **once every 12 consecutive calendar months (CCM)**. (See CertAlert 10-01, available at [http://www.faa.gov/airports/airport\\_safety/aircraft\\_rescue\\_fire\\_fighting/](http://www.faa.gov/airports/airport_safety/aircraft_rescue_fire_fighting/).)

### 1.2 TRAINING SCHEDULE.

#### 1.2.1 Initial Training.

Before firefighters assume any ARFF duties, they must have completed their initial ARFF training. It is not acceptable to simply take structural firefighters and assign them to ARFF duties without the necessary additional training. The training curriculum must include current instruction in at least the areas listed in 1.3.1 through 1.3.13 below (also see Part 139.319).

1.2.1.1 Initial training is defined as that training provided to enable personnel to identify and interpret advanced theories, facts, concepts, principles, requirements, procedures, equipment, and components of ARFF. Trainees must also be able to apply these principles to the aircraft serving the airport and demonstrate all required tasks safely and accurately and in accordance with established procedures. The goal is to provide sufficient training and instruction such that firefighters can function independently.

1.2.1.2 Initial training is not complete until individuals have participated in at least one live-fire drill.

#### 1.2.2 Recurrent Training.

Once ARFF firefighters have completed initial training, they must receive recurrent instruction **every 12 consecutive calendar months (CCM)**, using an approved training curriculum.

1.2.2.1 Recurrent training is defined as that training provided as often as necessary but at least once every 12 CCM to enable ARFF firefighters to maintain a

satisfactory level of proficiency. Appropriate frequencies for recurrent training will vary from airport to airport and from one firefighter to another. Training in several areas (such as aircraft familiarization and adapting structural equipment to ARFF) will require coordination with airlines, other organizations on the local airport, and mutual aid agencies.

1.2.2.2 ARFF personnel must also participate in at least one live-fire drill every 12 CCM. See 1.4 below.

### 1.2.3 **Frequency of Training.**

Recurrent and live-fire drill training must be completed each year within a 12 CCM period. If training is not conducted during the 12 CCM period, the firefighter and the airport will be out of compliance with Part 139 if the firefighter works any assigned ARFF shift. To remain in compliance, airports with firefighters who miss training for any reason, such as injury, deployment, or other reasons, must not be assigned ARFF response duties until their training is current.

1.2.3.1 In addition, the CCM period can differ for the recurrent training and the drill training. For example, firefighters who completed the last cycle of recurrent training on December 31, 2013, have until December 31, 2014, to complete the next round of recurrent training. However, if they last attended live-fire drill training on January 5, 2013, they have until January 31, 2014, to complete their next live-fire drill training. If the requirement is completed early, the next 12 CCM period starts with the month the firefighter actually participated in the training (see CertAlert10-01).

## 1.3 **TRAINING CURRICULUM.**

### 1.3.1 **Minimum Requirements.**

Part 139 sets forth *minimum* requirements for compliance. While Part 139.319 (j) (3) sets forth minimum requirements for ARFF, FAA encourages training in multiple categories for ARFF personnel who serve in several positions.

### 1.3.2 **Airport Familiarization.**

The program should train personnel during both the hours of daylight and darkness and include airport-specific training so they can do the following:

1. describe the runway and taxiway identification system;
2. describe the airfield lighting system (i.e. center line, edge, threshold, etc.);
3. describe airfield pavement marking and signing systems, to include standard colors used in markings and signs (local training requirement);
4. identify the limits of the runway safety areas on the airport (local training requirement);
5. identify and locate the various aircraft navigation aids located on the airport and identify critical areas associated with navigation systems;

6. cite airport rules and regulations on vehicle movement and access on the airport movement and non-movement areas and communicating with the air traffic control tower (ATCT);
7. cite procedures for communicating with the ATCT or the use of Common Traffic Advisory Frequency (CTAF);
8. cite rules and regulations governing airport security;
9. given a grid map or other standard map used at the airport, identify key terrain features, installations, and potential hazards in both movement and non-movement areas;
10. identify the probable direction of travel of fuel in a simulated leak in the fuel distribution system;
11. demonstrate the operation of the emergency fuel shutoff to the fuel system and pumps to stop the flow of fuel within the system; and
12. identify hazardous materials (and their locations) that are frequently stored or used on the airport property.

### 1.3.3 Aircraft Familiarization.

The program should train personnel so they can do the following. (Appendix A provides links to some aircraft informational charts I also.)

1. identify all types of passenger and cargo aircraft operating at the airport,
  - a. **recommendation:** Consider becoming familiar with general aviation and large business class aircraft too;
2. identify the different types of aircraft propulsion systems;
3. locate normal entry doors, emergency exit openings, and evacuation slides for a given aircraft;
4. demonstrate the opening of all doors and compartments for a given passenger or cargo aircraft;
5. identify aircrew and passenger capacities and locations for a given aircraft;
6. indicate the type of fuel used, location of fuel tanks, and capacity of fuel tanks for a given aircraft;
7. identify and locate components of the fuel, oxygen, hydraulic, electrical, fire protection, anti-icing, auxiliary power unit (APU), brake, wheel, and egress systems for a given aircraft;
8. identify and locate the flight data recorder and cockpit voice recorder in the event of an aircraft mishap;
9. identify and locate the opening and operation of doors, compartments, and hatches for a given cargo aircraft;
10. identify normal and emergency shutdown procedures for aircraft engines and auxiliary power units; and

11. identify the general hazards associated with military aircraft, such as ejection seats, armament, and specialized fuels.

**1.3.4 Rescue and Firefighting Personnel Safety.**

The program should train personnel so they can do the following to reduce the risks associated with their duties:

1. identify the hazards associated with aircraft rescue and firefighting;
2. identify the hazards to personnel associated with aircraft and aircraft systems;
3. identify the potential stress effects on emergency services personnel involved in a mass casualty situation;
4. identify the purpose and limitations of approved personal protective clothing used locally;
5. demonstrate the inspection process for Protective Ensembles—proximity suits and/or structural firefighting turnout gear;
6. identify the purpose, components, operation, and limitations of self-contained breathing apparatus (SCBA);
7. demonstrate the inspection process for the SCBA;
8. demonstrate changing the air supply cylinder of a team member with an exhausted air supply cylinder;
9. while wearing a SCBA, demonstrate the actions to take when the following emergency situations occur:
  - a. low air alarm activates,
  - b. air supply is exhausted,
  - c. regulator malfunctions,
  - d. face piece is damaged,
  - e. low pressure hose, or
  - f. high pressure hose is damaged;
10. while wearing a SCBA, demonstrate the actions to take to assist a team member experiencing the following emergency situations:
  - a. low air alarm activates,
  - b. air supply is exhausted,
  - c. regulator malfunctions,
  - d. face piece is damaged,
  - e. low pressure hose, or
  - f. high pressure hose is damaged;
11. identify techniques for protection from communicable disease hazards; and



- 207 12. demonstrate the proper safety precautions to take while wearing personal protective  
208 equipment (PPE) while operating power and hand-operated tools.

209 1.3.5 **Emergency Communications Systems on the Airport, including Fire Alarms.**

210 The program should train personnel so they can do the following:

- 211 1. demonstrate the use of all communication equipment used by their organization;  
212 2. demonstrate knowledge of the phonetic alphabet;  
213 3. identify radio frequencies and channels used by their organization and mutual aid  
214 organizations;  
215 4. identify the procedures for receiving an emergency alarm;  
216 5. identify procedures for multiple alarms and mutual aid;  
217 6. demonstrate the proper procedure for obtaining clearance from the ATCT or other  
218 responsible authority for apparatus movement;  
219 7. identify emergency light gun signals used by the ATCT;  
220 8. demonstrate the use of standard hand signals used to communicate with aircrew  
221 personnel;  
222 9. give an initial status report for a simulated aircraft accident; and  
223 10. identify the location of the aircraft interphone system and be able to communicate  
224 with aircrew personnel.

225 1.3.6 **Use of Fire Hoses, Nozzles, Turrets, and Other Appliances.**

226 The program should train personnel so they can do the following:

- 227 1. identify the purpose of each tool and item of equipment used locally;  
228 2. identify the location of each tool and item of equipment used locally;  
229 3. identify the hazards associated with each tool and item of equipment used locally;  
230 4. identify the proper procedures for use and maintenance of each tool and item of  
231 equipment used locally;  
232 5. identify the purpose of each hose, nozzle, and adapter used locally;  
233 6. identify the location of each hose, nozzle, and adapter used locally;  
234 7. identify the size and amount of each hose carried on each local vehicle;  
235 8. identify the proper procedures for use and maintenance of each hose, nozzle, and  
236 adapter used locally;  
237 9. identify the proper procedure to use when advancing hose for fire attack;  
238 10. identify the proper procedure to use when laying hose to establish a resupply of  
239 water;

11. identify the primary purpose, agent capacity, water capacity, type of agent carried, agent discharge rate/range, personnel requirements, and response limitations for each vehicle used locally;
12. demonstrate the proper methods of operation for all handlines and vehicle-mounted discharge devices;
13. identify driver maintenance procedures for each vehicle used locally; and
14. identify the procedures for resupply, using a hydrant, structural vehicles, tank trucks, or other vehicles and drafting from a static source, for each vehicle used locally.

#### 1.3.7 **Applications of Extinguishing Agents.**

The program should train personnel so they can do the following:

1. identify the quantity, type, and extinguishing properties of each agent carried on each vehicle used, including advantages and disadvantages for the airport;
2. identify which agents used by the local organization are compatible and which are not;
3. identify the locations and quantities of each agent that is kept in inventory for vehicle resupply;
4. identify the preferred agent to use in suppression and extinguishment for various fire scenarios;
5. demonstrate agent application techniques;
6. identify the location of each portable fire extinguisher provided on local vehicles;
7. identify each type of portable fire extinguisher by classification and rating; and
8. identify the limitations and operating characteristics of each type of portable fire extinguisher.

#### 1.3.8 **Emergency Aircraft Evacuation Assistance.**

The program should train personnel so they can do the following:

1. identify procedures followed during an emergency situation by crews of air carriers and cargo aircraft operating at the local airport;
2. identify the procedures to use to protect evacuation points;
3. identify which opening should be used to gain entry for a given aircraft and considerations that may affect the situation;
4. select the necessary forcible entry tool(s) and/or equipment to gain entry to a given aircraft and situation;
5. while wearing full protective clothing, demonstrate, from inside and outside the aircraft, opening normal entry doors and emergency exit points for a given aircraft;
6. identify potential locations for cut-in entry, using reference materials, aircraft markings, or general guidelines for a given aircraft;

7. identify the hazards associated with cut-in entry; and
8. demonstrate procedures used to assist passengers during emergency evacuation. ARFF personnel should not impede the egress of occupants and crew in an attempt to enter the fuselage for rescue and/or firefighting. Personnel must locate and open any other available exits. Additionally, many occupants may not be able to extricate themselves, so ARFF personnel should be prepared to assist after all those who are able to exit have evacuated.

#### 1.3.9 **Firefighting Operations.**

The program should train personnel so they can do the following:

1. describe the Standard Operating Procedures (SOPs) for various emergency scenarios;
2. select strategy and tactics for incident control and termination;
3. identify the procedures for securing and maintaining a rescue path;
4. identify the proper procedure to use when protecting an aircraft fuselage from fire exposure;
5. identify the procedures to use when providing protective streams for personnel;
6. identify procedures for controlling runoff from fire control operations and fuel spills; and
7. identify the procedures to use to stabilize aircraft wreckage.

#### 1.3.10 **Adapting and Using Structural Rescue and Firefighting Equipment for Aircraft Rescue and Firefighting.**

For any structural rescue and firefighting equipment available and intended for use in aircraft firefighting, the program should train personnel so they can identify the procedures used to adapt the equipment for aircraft rescue and firefighting.

#### 1.3.11 **Aircraft Cargo Hazards.**

The program should train personnel so they can do the following:

1. identify the hazards indicated by each Department of Transportation (DOT) and International Civil Aviation Organization (ICAO) label;
2. identify the limitation of the DOT and ICAO classifications and labeling system;
3. use the DOT Emergency Response Guidebook (ERG) to obtain information on hazardous materials for a given situation;
4. identify the procedures for contacting and using the Chemical Transportation Emergency Center (CHEMTREC) and other resources to obtain information about a hazardous material;
5. identify local procedures in the event of a HAZMAT situation requiring a HAZMAT response;

6. using the information obtained from the DOT Emergency Response Guidebook and CHEMTREC, identify the appropriate response, including risk assessment and rescue or evacuation requirements, to a given situation involving hazardous materials; and
7. Identify the Notification to Captain (NOTOC), Pilot Notification Form (PNF), or applicable cargo waybill listing dangerous goods carried by the aircraft.

#### 1.3.12 **Familiarization with Firefighters' Duties under the Airport Emergency Plan.**

The program should train personnel so they can do the following:

1. identify airport pre-fire and emergency plans;
2. identify the various types of aircraft-related emergencies;
3. identify and understand the incident command system (ICS) to be utilized in an emergency;
4. identify the procedures to use to size-up a given aircraft accident/incident;
5. identify and understand individual duties as described in the airport emergency plan (AEP); and
6. identify the other duties of his/her organization under the AEP.

#### 1.3.13 **Additional Training.**

1.3.13.1 If the airport emergency plan calls for firefighters to respond to special situations, such as water rescues or confined space rescue, provide training specific to such situations.

1.3.13.2 If a Surface Movement Guidance and Control System (SMGCS) plan is in place at the airport, firefighters must receive training specific to operations in low-visibility.

1.3.13.3 Firefighters must also receive training in recognizing aircraft with explosive devices (i.e. airbag systems, ballistic parachute systems, and ejection seats) during emergency operations. (See CertAlert 13-04 at [http://www.faa.gov/airports/airport\\_safety/](http://www.faa.gov/airports/airport_safety/) for the latest on explosive devices.)

1.3.13.4 Firefighters must receive training on ARFF Vehicle and High Reach Extendable Turret (HRET) operations where applicable. (See AC 150/5210-23 for additional guidance.)

1.3.13.5 If ARFF vehicles are equipped with specialized equipment [i.e. Forward Looking InfraRed (FLIR), Driver's Enhanced Vision System (DEVS)], firefighters must receive training on them.

#### 1.4 **LIVE-FIRE DRILLS.**

Each certificate holder must ensure all ARFF personnel participate in at least one live-fire drill every 12 CCM. This drill must include at least a pit fire with an aircraft mock-up, using enough fuel to provide a fire intensity that simulates realistic firefighting conditions. The conditions would simulate the type of fire that could be encountered on an air carrier aircraft at the airport. AC 150/5220-17 provides more detailed guidance on recommended standards for the burn area structure and the use of either a fixed or mobile facility. It is intended that the drill provide an opportunity for the firefighting team to become familiar with the use of all fire extinguishing equipment, enhance their confidence and abilities with the equipment they will use in the event of an actual accident/incident, and develop tactics, strategies, and procedures. If possible, a simulated rescue of aircraft occupants will help in creating a realistic simulation.

##### 1.4.1 **Live-Fire Drill Requirements.**

1.4.1.1 The firefighter should be able to demonstrate the control and extinguishment of a simulated aircraft fire using handlines and/or turrets, given an ARFF vehicle. The decision to train on handline or turret should be based on whether the trainee is assigned a handline or whether the trainee is a driver/operator who would normally operate the turrets. Many training programs may have all the participants working the handlines, and it would be acceptable for the driver/operator to meet the annual requirement in this fashion. However, it would not be acceptable for a handline firefighter to use training on the turrets to meet the annual requirement.

1.4.1.2 The firefighter should be able to demonstrate protecting firefighters and aircraft occupants using fire streams, given an ARFF vehicle.

1.4.1.3 The FAA will accept live fire training using propane from either a fixed or mobile training facility. Requirements for these facilities are found in AC 150/5220-17, Aircraft Rescue and Fire Fighting (ARFF) Training Facilities.

1.4.1.4 The FAA's policy is to accept mobile simulators for 2 years for Index C, D, and E airports holding a Class I airport operating certificate (AOC). Every third year, these airport fire departments must attend a large fixed facility to learn about new technologies and procedures and to gain experience fighting a larger pit fire than the mobile simulators can duplicate. Class I airports that are Index A and B and Class II, III, and IV airports may use a mobile trainer every year to meet their 14 CFR Part 139.319 requirement.

1.4.1.5 The FAA allows the use of a smaller pool fire when using a fixed training facility that meets all other requirements of a mobile trainer. This, however, does not eliminate the requirement that every third year Index C, D, and E airports holding a Class I AOC must attend a large fixed facility to gain the necessary experience of fighting a larger pool.

#### 1.4.1.6 **Personnel Who Do Not Normally Fight Fire.**

Personnel who are not expected to fight fire in the normal course of events would not be expected to complete the annual live-fire training. ARFF personnel who are not expected to fight fire are not considered “required” personnel, i.e., that group of ARFF personnel who are designated to meet the requirements of Part 139.319 (j) (5). Examples of such personnel might include the following:

1. firefighter dispatcher whose sole responsibilities involve communications;
2. fire chief or assistant fire chief; and
3. a fire marshal or inspector.

### 1.5 **FIRST AID.**

At least one person trained and current in basic emergency medical care must be on duty during air carrier operations. In this context, “on duty” does not mean that the emergency medical person must be one of the regular ARFF personnel, but that there must be some assured means of having the individual available within a reasonable response time. This training must include 40 hours covering at least the following areas:

1. primary patient survey;
2. triage;
3. cardiopulmonary resuscitation (CPR);
4. bleeding;
5. shock;
6. injuries to the skull, spine, chest, and extremities;
7. internal injuries;
8. moving patients; and
9. burns.

### 1.6 **HANDS-ON TRAINING (HOT).**

The FAA highly recommends that firefighters receive hands-on training on the aircraft that regularly serve their airport if possible. Such training is very difficult unless there are aircraft that remain overnight or there is an aircraft maintenance facility on the airport. Where such hands-on training is not feasible, the FAA recommends that ARFF crews be given access to aircraft diagrams.

### 1.7 **FIREFIGHTER CERTIFICATION.**

#### 1.7.1 **National Fire Protection Association (NFPA) Certification.**

NFPA certification is not required by 14 CFR Part 139, but it would be a worthwhile goal of a training program to enable personnel to meet proficiency criteria as detailed in

NFPA 1003, Standard for Professional Qualifications for Airport Fire Fighters. The standard was developed by the NFPA Technical Committee on Fire Fighter Professional Qualifications. It specifies, in terms of performance objectives, the minimum requirements of professional competence required for service as an airport firefighter. It does not restrict any jurisdiction from exceeding the minimum requirements set forth in the standard. A training program that leads to the fulfillment of the professional qualifications for an airport firefighter identified in NFPA 1003, latest edition, is a means acceptable to the Administrator of providing firefighting and rescue personnel with the training considered necessary to perform their duties at airports. Copies of NFPA 1003, latest edition, may be ordered from NFPA at the address in the Appendix.

**1.7.2 State-Level Airport Firefighter Certification.**

A training program encompassing at least the requirements in Chapter 1 that leads to the fulfillment of the criteria for the applicable state-level airport firefighter certification is also an acceptable means of meeting the training requirement.

**1.7.3 Pro Board Certification.**

The purpose of the Pro Board is to establish an internationally recognized means of acknowledging professional achievement in the fire service and related fields. The Pro Board serves to provide accreditation of organizations that certify uniform members of public fire departments, both career and volunteer. Accreditation is generally provided at the State level to the empowered certifying authority of that jurisdiction. Entities that achieve Pro Board accreditation are recognized as having met the rigors of review by an independent organization. This third party independent review is the best way to assure candidates and governance bodies that the entity's program meets the national standards. Pro Board certification meeting the NFPA 1003 standard is an acceptable means to the Administrator of providing firefighting and rescue personnel with the training considered necessary to perform their duties at airports. See <http://www.theproboard.org/>.

**1.7.4 IFSAC Certification.**

The IFSAC Certificate Assembly provides accreditation to entities that certify the competency of and issue certificates to individuals who pass examinations based on the NFPA fire service professional qualifications and other standards approved by the Assembly. IFSAC certification meeting the NFPA 1003 standard is an acceptable means to the Administrator of providing firefighting and rescue personnel with the training considered necessary to perform their duties at airports. See <http://www.ifsac.org/>.

**1.8 MUTUAL AID AGREEMENTS.**

Where mutual aid agreements exist with U.S. Air Force personnel and/or municipal fire services surrounding the airport, familiarization training for all parties should be provided. In connection with such mutual aid agreements, the U.S. Air Force encourages and extends the use of Air Force base training facilities to surrounding

466 municipal fire organizations, as explained in Air Force Regulation 32-2001, Fire  
467 Protection and Prevention Program.

468 1.9 **NONCERTIFICATED AIRPORTS.**

469 There are no regulatory requirements for ARFF services at non-certificated airports.  
470 However, at those airports that have ARFF coverage, or for fire departments that have  
471 airport responsibility, the information found in this AC is useful. The FAA also  
472 provides valuable information on First Responder Safety at a Small Aircraft or  
473 Helicopter Accident and the Ballistic Parachute System Familiarization. See  
474 [http://www.faa.gov/aircraft/gen\\_av/first\\_responders/](http://www.faa.gov/aircraft/gen_av/first_responders/).

475 1.10 **FAA PROGRAMS AVAILABLE.**

476 1.10.1 **FAA's Aircraft Rescue and Firefighting Training DVDs.**

477 The FAA has produced two DVDs that provide a foundation upon which firefighters  
478 can build during the required annual recurrent training. The first DVD is appropriate  
479 for inclusion in initial training, i.e., contributing knowledge of basic aircraft rescue and  
480 firefighting principles. The second DVD provides more information on the use of the  
481 High Reach Extendable Turret (HRET), extrication techniques, and cargo aircraft.  
482 These DVDs are not meant to qualify viewers to become Certified ARFF Specialists.



## **CHAPTER 2. ADDENDUM OF AIRCRAFT RESCUE AND FIREFIGHTING (ARFF) TRAINING FACILITIES**

The FAA regards training that provides at a minimum the standards as set forth in 14 CFR Part 139. 319 (I)(1)-(4) as critical to safety on airports. To help ARFF personnel meet these minimum standards, the FAA publishes a list of ARFF programs and/or reference materials. Because changes may occur more frequently than the schedule for updating the AC, the FAA will post an updated version online as an Addendum to this AC.

### **2.1 PURPOSE OF THE ADDENDUM.**

The organizations listed in the Addendum also provide firefighter training programs and/or reference materials. The Addendum is not an all-inclusive list, nor does it indicate the only sources for such programs and/or reference materials available. The listing of an organization does not indicate an endorsement by the FAA. For programs that have a hot fire drill facility, the appropriate Index level is included. None of the reference materials have been reviewed by the FAA for adequacy.

### **2.2 COPIES OF THE ADDENDUM.**

The current Addendum is available online with this AC at [http://www.faa.gov/airports/resources/advisory\\_circulars/](http://www.faa.gov/airports/resources/advisory_circulars/).

### **2.3 UPDATING TRAINING FACILITY INFORMATION.**

Please send changes to this list to:

Airport Safety and Operations Division  
Attn: ARFF Specialist  
800 Independence Ave SW  
AAS-300, Rm 618  
Federal Aviation Administration  
Washington DC 20591

#### **2.3.1 Schedule for Updating Training Facility Information.**

The FAA will update this addendum on a quarterly basis. To update your organization's information, submit any changes no later than September 25 for Quarter 1, December 25 for Quarter 2, March 25 for Quarter 3, and June 25 for Quarter 4.

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## APPENDIX A. RELATED READING MATERIAL

### A.1 REGULATIONS.

1. 14 CFR Part 139 (Part 139), Certification of Airports.

### A.2 ADVISORY CIRCULARS.

The ACs listed below can be found at

[http://www.faa.gov/airports/resources/advisory\\_circulars/](http://www.faa.gov/airports/resources/advisory_circulars/). See current versions.

1. AC 150/5200-12, First Responders' Responsibility for Protecting Evidence at the Scene of an Aircraft Accident/Incident.
2. AC 150/5200-18, Airport Safety Self-Inspection. See also associated DVD.
3. AC 150/5200-31, Airport Emergency Plan.
4. AC 150/5210-6, Aircraft Fire and Rescue Facilities and Extinguishing Agents.
5. AC 150/5210-7, Aircraft Rescue and Firefighting Communications.
6. AC 150/5210-13, Airport Water Rescue Plans and Equipment.
7. AC 150/5210-14, Aircraft Rescue Fire Fighting Equipment, Tools and Clothing.
8. AC 150/5210-19, Driver's Enhanced Vision System (DEVS)
9. AC 150/5210-23, ARFF Vehicle and High Reach Extendable Turret (HRET) Operation, Training and Qualifications.
10. AC 150/5220-17, Aircraft Rescue and Fire Fighting (ARFF) Training Facilities.
11. AC 150/5230-4, Aircraft Fuel Storage, Handling, Training, and Dispensing on Airports.
12. AC 150/5340-1, Standards for Airport Markings.
13. AC 150/5340-18, Airport Signing and Graphics.
14. AC 150/5340-30, Design and Installation Details for Airport Visual Aids.
15. AC 120-57, Surface Movement Guidance and Control System.

### A.3 PART 139 CERTALERTS.

The FAA has published a number of ARFF-related CertAlerts. A complete list as well as other ARFF resources are available at

[http://www.faa.gov/airports/airport\\_safety/aircraft\\_rescue\\_fire\\_fighting/](http://www.faa.gov/airports/airport_safety/aircraft_rescue_fire_fighting/).

### A.4 OTHER RESOURCES.

#### A.4.1 National Fire Protection Association (NFPA) 1003, Standard for Airport Fire Fighter Professional Qualifications, and NFPA 405, Standard for the Recurring Proficiency of Airport Fire Fighters, current edition.

NFPA

1 Batterymarch Park

## Appendix A

549 Quincy, MA 02169  
550 Phone: (617) 984-7537  
551 Fax: (617) 984-7085  
552 <http://www.nfpa.org>

553 A.4.2 **U.S. Air Force Technical Order (TO) 00-105E-9, Aircraft Rescue Information**  
554 **(Fire Protection).**

555 The technical order describes procedures for fire service personnel responding to  
556 various types of emergencies involving military or civil aircraft. It also provides  
557 general information on aircraft rescue and firefighting as well as detailed information  
558 about military aircraft and civilian air carrier aircraft used by the military. Nonmilitary  
559 organizations having airport firefighting and rescue responsibilities at airports that serve  
560 military aircraft under routine and/or emergency conditions may obtain a copy of this  
561 technical order by sending a request to:

562 HQ AFCESA/CEXF  
563 ATTN: Fire and Egress Service Manager  
564 139 Barnes Drive Suite 1  
565 Tyndall Air Force Base, FL 32403-5319  
566 Phone: (850) 283-6150  
567 <http://www.dodffcert.com/00-105E-9/index.cfm>

568 A.4.3 **International Fire Service Training Association's (IFSTA's) Aircraft Rescue and**  
569 **Fire Fighting, Fifth Edition.**

570 The manual was developed to provide information for both airport and structural fire  
571 department officers to effectively accomplish the various tasks involved in aircraft  
572 firefighting and rescue. It is designed for all types of fire protection organizations and  
573 includes the use of both conventional and specialized aircraft firefighting apparatus.  
574 Copies may be purchased from IFSTA at the following address:

575 IFSTA Headquarters  
576 Fire Protection Publications  
577 Headquarters for the International Fire Service Training Association  
578 930 N. Willis  
579 Stillwater OK 74078  
580 Phone: (405) 744-5723  
581 Fax: (405) 744-8204  
582 <http://www.ifsta.org>

583 A.4.4 **U.S. Navy Aircraft Firefighting and Rescue Manual, NAVAIR 00-80R-14,**  
584 **NATOPS.**

585 This publication contains firefighting doctrine, procedures, references, and information  
586 for use by those persons involved in aircraft rescue, fire prevention, and firefighting  
587 response operations. It contains organizational, training, and readiness requirements for  
588 ships, air stations, and aviation facilities ashore. This manual prescribes minimum  
589 firefighting and rescue operating procedures applicable to all shipboard, expeditionary  
590 airfields, and shore-based activities involved in aircraft fire prevention, control, and

591 suppression. The current versions of NATOPS publications are listed in the NATOPS  
592 Status Report, which is available at:

593 U.S. Navy Global Customer Support Team Lead  
594 Phone: (301) 757-0187  
595 Email: [airworthiness@navy.mil](mailto:airworthiness@navy.mil)

596 A.4.5 **U.S. Navy Aircraft Emergency Rescue Information Manual, NAVAIR 00-80R-14-1.**

597 This manual contains essential information and procedures for use by ARFF personnel  
598 when rescuing occupants from crashed or disabled naval aircraft. It has been organized  
599 for ready reference by rescue teams and is intended to serve both as an operational  
600 guide and a training manual for rescue personnel. This publication has been prepared  
601 for use by crash crew members and their supervisors engaged in aircraft rescue  
602 operations. It provides detailed information about aircraft hazards, danger areas,  
603 procedures for aircraft entry, engine shutdown, ejection seat safing, aircrew and  
604 passenger release and extraction, and other actions important to aircraft rescue and  
605 firefighting personnel. It is available at:

606 U.S. Navy Global Customer Support Team Lead  
607 Phone: (301) 757-0187  
608 Email: [airworthiness@navy.mil](mailto:airworthiness@navy.mil)

609 A.5 **DEFINITIONS AND ACRONYMS.**

610 A.5.1 **Definitions.**

611 1. **Notification to Captain (NOTOC)** documentation acts as a flight manifest. This  
612 document has also been called the Notice to Pilot in Command (NOPIC) or the  
613 Pilot Notification Form (PNF). Each NOTOC contains a standardized list of  
614 hazardous materials and dangerous goods (for both non-radioactive and radioactive  
615 materials) that are loaded onboard an aircraft. It also lists their location, quantity,  
616 and type of packaging as well as procedures to follow in the event of an emergency  
617 situation. Every air carrier has its own version of a written form to notify aircraft  
618 crew members about dangerous goods (HAZMAT) that is loaded onboard the  
619 aircraft.

620 A.5.2 **Acronyms.**

621	1. AAS	Airport Safety and Standards
622	2. AC	Advisory Circular
623	3. AEP	Airport Emergency Plan
624	4. AOC	Airport Operating Certificate
625	5. ATCT	Air Traffic Control Tower
626	6. AIP	Airport Improvement Program
627	7. APU	Auxiliary Power Unit
628	8. ARFF	Aircraft Rescue and Firefighting

629	9. CCM	Consecutive Calendar Months
630	10. CertAlert	Certification Alert
631	11. CFR	Code of Federal Regulations
632	12. CHEMTREC	Chemical Transportation Emergency Center
633	13. CTAF	Common Traffic Advisory Frequency
634	14. CPR	Cardiopulmonary Resuscitation
635	15. DEVS	Driver's Enhanced Vision System
636	16. DOT	Department of Transportation
637	17. ERG	DOT Emergency Response Guidebook
638	18. FAA	Federal Aviation Administration
639	19. FLIR	Forward Looking Infrared
640	20. HAZMAT	Hazardous Materials
641	21. HOT	Hands on Training
642	22. HRET	High Reach Extendable Turret
643	23. IAP	Incident Action Plan
644	24. ICAO	International Civil Aviation Organization
645	25. ICS	Incident Command System
646	26. IFSTA	International Fire Service Training Association
647	27. MOA	Memorandum of Agreement
648	28. MOU	Memorandum of Understanding
649	29. NATOPS	Naval Aviation Training Operations Procedures and
650		Standardization
651	30. NFPA	National Fire Protection Association
652	31. NOPIC	Notice to Pilot in Command
653	32. NOTOC	Notification to Captain
654	33. PCA	Practical Critical Fire Area
655	34. PFC	Passenger Facility Charges
656	35. PPE	Personal Protective Equipment
657	36. PNF	Pilot Notification Form
658	37. SCBA	Self-Contained Breathing Apparatus
659	38. SMGCS	Surface Movement Guidance Control System
660	39. SOG	Standard Operating Guidelines
661	40. SOP	Standard Operating Procedures

662                    41. TO                    Technical Order

663 A.6 AIRCRAFT MANUFACTURER'S AIRCRAFT RESCUE AND FIREFIGHTING  
664 CHARTS.

665 The links below will help the user locate aircraft informational charts for the associated  
666 aircraft manufacturers.

- 667 1. Airbus - <http://www.airbus.com/support/maintenance-engineering/technical->  
668 [data/aircraft-rescue-firefighting-charts/](http://www.airbus.com/support/maintenance-engineering/technical-data/aircraft-rescue-firefighting-charts/)
- 669 2. Antonov - <http://www.antonov.com/aircraft/passenger-aircraft/>
- 670 3. Boeing - [http://www.boeing.com/boeing/commercial/airports/rescue\\_fire.page](http://www.boeing.com/boeing/commercial/airports/rescue_fire.page)
- 671 4. Bombardier - <https://customer.aero.bombardier.com/racs/public/>
- 672 5. Embraer - <http://www.embraer.com/en-US/Pages/Home.aspx>
- 673 6. Ilyushin - <http://www.ilyushin.org/eng/products/>