

Santa Barbara City Fire Department - Standard Operating Procedures Training Operations	Code: T-VI-1
ARFF Certification	
Chpt: VI ARFF	Revised: 8/17/2017 Pages: 11

I. PURPOSE:

A. To define the policies and procedures for obtaining ARFF Certification for the Santa Barbara City Fire Department and the Municipal Airport; and to establish the on-going training requirements necessary to maintain the minimum satisfactory level of proficiency.

II. POLICY:

A. The Santa Barbara City Fire Department has adopted the following program to certify all personnel who will be assigned ARFF duties at the municipal airport fire station. Certification remains in effect as long as the minimum training requirements as outlined in this document are completed and kept current, or until the employee's ARFF certification is removed by the department's Training Officer.

B. Once certified, individual employees must maintain their certification through on-going, documented training in specified ARFF subject areas. It will be the policy of the fire department not to allow any individual whose ARFF certification is not current, to be assigned as a member of the ARFF crew.

C. ARFF certification is mandatory for all personnel assigned to stations 8 and 3. ARFF certification will be voluntary for all others. If there are insufficient volunteers, the least senior members in rank, by shift, will be required to achieve and maintain ARFF certification so as to maintain the relief cadre as outlined in SOP O-III-8, sec III-A (Team Composition).

III. PROCEDURE:

A. Inform your BC as to your intentions to participate in the program. An [ARFF Task Book](#) will be issued from the Training Battalion Chief with approval for the Battalion Chief assigned to the ARFF program.

B. The shift lead captain and the captain assigned to station 8 will assist as needed with the coordination of the training.

C. Obtain the certification check off form and initial briefing from the Training Officer.

D. When the ARFF Certification form is completed, return to the Training Officer. The certification will be kept in the respective training file in the Training Officer's office. The information will also be forwarded to your Lead Captain for his records.

E. ARFF certification currency shall be documented on a memo published by the Training Officer and shall be posted in the captains' office at station one. This memo

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shall be updated regularly as needed by the training officer and shall be based on information provided by the station 8 captain on the ARFF Audit Form.

F. Selected personnel assigned to the airport station will sign off the sections when an individual has completed the minimum training and demonstrated the requisite proficiency level through Practical Application and/or Written Test.

IV. CERTIFICATION PROGRAM:

A. The ARFF Certification Program shall be based on the FAA Standardized Basic Aircraft Rescue and Firefighting Curriculum. Federal aviation regulations (FAR 139.319) and Advisory Circular (AC 150/5210-17)

B. To be considered for assignment at Station 8, employees must first be a Captain or certified acting-captain, an Engineer or certified acting-engineer (firefighters can be A/E ARFF certified prior to full A/E certification provided sections 1, 2, and 4 of the A/E Task Book are signed off), all ARFF personnel must successfully complete the ARFF Task book and/or be current with the ARFF monthly audit.

C. Reading and study is needed, practical application is necessary, and demonstrated proficiency is required.

D. The recommended evaluation procedure will be demonstrate proficiency and knowledge in the following areas

V. INITIAL BRIEFING (0.5 hrs)

A. A brief explanation of requirements and necessary skills.

VI. SAFETY PROCEDURES: (3.5 hrs)

A. Personnel Safety

1. Identify the hazards associated with aircraft firefighting/rescue;
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 the approved protective clothing used locally;
5. Demonstrate donning approved protective clothing within 30 seconds;
6. Identify the components and operation of SCBA;
7. Identify the limitations of SCBA;

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8. Identify techniques for protection from communicable disease hazards.

B. APPARATUS OPERATIONS

1. Attend and complete the SB Airport SCAN Program
2. Describe the Airport Department Policy as it applies to speed limits, signs, rights of way, clearances, and movement areas
3. Anchor Locks
4. Stopping Distances
5. All Cab Switches - Starting Procedures
6. All Cab Gauges
7. Preset of Cab Lights and Switches
8. Master Switch (first aid compartment)
9. Off Road Use of Vehicles
10. Diesel Emergency Shutdown/Restart
11. Perform daily, weekly and monthly service checks for each vehicle.
12. Identify the record keeping policy, logbook maintenance, and request for service procedures.
13. Operate vehicle on AOA during daylight hours and hours of darkness.

C. CARGO HAZARDS

1. Must be qualified and current at the First Responder Operational level.
2. Identify the hazards indicated by each Department of Transportation (DOT) and International Civil Aviation Organization (ICAO) label;
3. Identify the limitation of the DOT and ICAO classifications and labeling system;
4. Use the DOT Emergency Response Guidebook to obtain information on hazardous materials for a given situation;
5. Identify the procedures for using CHEMTREC and other resources to obtain information concerning a hazardous material; and Chemtrec phone number location

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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.

7. List the four categories of hazardous cargo

VII. AIRPORT COMMUNICATIONS/ FAMILIARIZATION: (4 hrs)

A. Airport Familiarization * POWERPOINT

1. Describe the runway and taxiway identification system, traffic pattern;
2. Describe the airfield lighting color code/markings system;
3. Describe the airfield pavement marking and signing system;
4. Identify the various on-field aircraft navigation aids;
5. Cite airport rules and regulations concerning vehicle movement and access;
6. Cite rules and regulations governing airport security;
7. Locate a given point on a grid map and/or other standard map used at the airport to include facilities by name, by building number, access points;
8. Identify terrain features using map symbols;
9. Identify installations and features in the critical response area which present a hazard to vehicle response;
10. Identify installations and terrain features in the critical response area which limit vehicle response capability;
11. Identify the probable direction of travel of fuel in a simulated leak in the fuel distribution system;
12. Demonstrate the operation of fuel system valves and pumps to control the flow of fuel within the system;
13. Identify facilities which use or frequently store hazardous materials on the airport property.
14. Describe administrative procedures and training records management.

B. Communications Systems

1. Identify the procedures for receiving an emergency alarm;

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2. Identify radio frequencies and channels used by our organization and mutual aid organizations;
3. Identify procedures concerning multiple alarms and mutual aid;
4. Demonstrate knowledge of the phonetic alphabet;
5. Demonstrate the use of all communication equipment;
6. Cite the procedure for obtaining clearance from the control tower or other responsible authority for apparatus movement;
7. Give an initial status report for a simulated aircraft accident; (Size-up)
8. Demonstrate the use of standard aircraft fire rescue hand signals; and
9. Identify standard hand signals to be used to communicate with aircrew personnel.

C. Emergency Plan

1. Identify airport pre-fire plans;
2. Identify the various types of aircraft-related emergencies;
3. Identify the incident command system to be utilized in an emergency;
4. Identify the procedures to be used to size-up a given aircraft accident;
5. Identify the other duties under the airport emergency plan;

VIII. AIRCRAFT KNOWLEDGE: (3 hrs)

A. Aircraft Familiarization

1. Identify the types of aircraft operating at the airport;
2. Identify the categories 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 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;

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7. Identify and locate components of the fuel, oxygen, hydraulic, electrical, fire protection, anti-icing, APU, brake, wheel, and egress systems for a given aircraft; and
8. Identify and locate the flight data recorder and cockpit voice recorder.

B. Evacuation Assistance

1. Identify the priorities of openings to be used to gain entry to aircraft;
2. Identify which opening should be used to gain entry for a given aircraft and situation;
3. Select the necessary tools and equipment to gain entry for a given aircraft and situation;
4. Demonstrate, while wearing full protective clothing, from inside and outside the aircraft, opening normal entry doors and emergency exit points for a given aircraft;
5. Identify potential locations for cut-in entry, using reference materials, aircraft markings, or general guidelines for a given aircraft;
6. Identify the hazards associated with cut-in entry;
7. Identify procedures followed during an emergency situation by crews of air carriers operating at the airport; and
8. Identify the procedures to be used to protect evacuation points.

IX. FIREFIGHTING STRATEGY AND TACTICS (8 hrs)

A. Firefighting Operations

1. Describe the standard operating procedure plans for various emergency scenarios;
2. Select a 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 be used when providing protective streams for personnel;

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6. Identify procedures for controlling runoff from fire control operations and fuel spills;
7. Identify the procedures to be used to stabilize aircraft wreckage;
8. Identify the proper procedure to be used when advancing hose for fire attack;
9. Identify the procedures for maintaining a continuous water supply, using a hydrant, structural vehicles, tank trucks and other vehicles;
10. Identify the purpose and recommended ventilation practices for use in passenger aircraft fires and cargo aircraft fires.

B. Hose lines and Turrets

1. Identify the purpose of each hose, nozzle and adapter;
2. Identify the location of each hose, nozzle and adapter used locally;
3. Identify the size and amount of each hose carried on each local vehicle;
4. Identify the proper procedures for use and maintenance of each hose, nozzle and adapter used locally;
5. Identify the primary purpose, agent capacity, water capacity, type of agent carried, agent discharge rate/range, and personnel requirements, for each vehicle;
6. Demonstrate the proper methods of operation of all handlines and vehicle-mounted discharge devices

C. Extinguishing agents

1. Identify the extinguishing properties of each agent, including advantages and disadvantages;
2. Identify which agents used by the SBFD and SBCO 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 quantity of each type of agent which is carried on each vehicle used at the airport;
5. Identify the preferred agent to be used in suppression and extinguishment for various fire scenarios;
6. Demonstrate agent application techniques;

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7. Identify each type of portable fire extinguisher by classification and rating;
8. Identify the limitations and operating characteristics of each type of portable fire extinguisher;
9. Identify the location of each portable fire extinguisher provided on R8, C8, F8 and;
10. Identify the general location of portable fire extinguishers provided on aircraft.

D. Tools and Equipment

1. Identify the location, purpose and hazards associated with each tool and item of equipment on R8, C8 and F8;
2. Identify the proper procedures for use and maintenance of each tool and item of equipment.

E. Apparatus Driving and Positioning

1. Identify the conditions and obstacles that impede approach to an incident based on the wreckage patterns of high impact and low impact crashes;
2. Identify the recommended approach and positioning considerations for various incident scenarios;
3. Identify the reach, penetration and application procedures of turret use;
4. Demonstrate the ability to pump and roll.

X. LIVE BURN: ATTACK, CONTROL AND EXTINGUISH AIRCRAFT FIRES. (6 hrs)

- A. Extinguish an aircraft fuel spill fire using dry chemical.
- B. Extinguish an aircraft fuel spill fire using AFFF.
- C. Extinguish an aircraft fuel spill fire using an ARFF vehicle turret.
- D. Extinguish a three dimensional aircraft fire using a handline with dry chemical extinguishing agent.
- E. Extinguish a three dimensional aircraft fire using a handline with AFFF extinguishing agent.
- F. Attack an interior aircraft fire as a member of a team using ladders and a handline.

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G. Attack an engine or APU fire as a member of a team using an ARFF vehicle handline or turret.

H. Attack a wheel assembly fire using an ARFF vehicle handline.

I. Replenish ARFF vehicle extinguishing agents: water, foam, dry chemical.

XI. ADAPTING STRUCTURAL EQUIPMENT: (1 hr)

A. Setup a form operation with 150' preconnect.

B. Define tools appropriate for gaining emergency access to an aircraft.

C. Describe the use of fans in positive ventilation procedures

D. The SBFD Initial Certification Program is a modified and adjusted program with local emphasis on areas as dictated by the training division. Actual time frames and training hours will vary depending on the background, knowledge, and experience of the applicant.

XII. RECURRENT TRAINING PROGRAM (CERTIFICATION CURRENCY)

A. Personnel certified as ARFF fire fighters will need to maintain minimum proficiency standards in the following areas:

1. Aircraft familiarization
2. Airport familiarization
3. Cargo hazards
4. Communications
5. Emergency plan
6. EMT
7. Evacuation assistance
8. Extinguishing agents
9. Fire fighting
10. Hose lines and turrets
11. Live burn
12. Personal safety

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13. Structural fire fighting for ARFF

B. Firehouse training reports shall be done at the completion of any ARFF recurrent training.

C. The ARFF Currency Maintenance Program shall be based on the proficiency criteria listed in NFPA 1003, Standard for Professional Qualifications for Airport Fire Fighters and NFPA 402M Standard for Aircraft Rescue and Fire Fighting Operations.

XIII. RELIEF PERSONNEL PROCEDURES:

A. Recurrent Training for relief personnel shall consist of those drills performed to maintain a minimum level of ARFF proficiency. Individuals must participate in training drills during the year so as to complete a minimum of 24 hours of ARFF training, at least 6 of which must be accomplished at the airport. The department provides recurrent Emergency Medical Technician (EMT I) recertification training and Hazardous Materials First Responder Operation recertification training on a scheduled basis. On a regular basis the Training Division schedules Live Fire Exercises to ensure that individuals complete the required yearly participation.

B. Each individual who is certified is responsible for completion of this mandatory training. Documentation of training performed shall be the responsibility of the Engine Company captain on duty during its performance. The captains assigned to station 8 are responsible to periodically review training performance and must submit a report to the shift BC and the Training Officer on a monthly basis.

XIV. ASSIGNED PERSONNEL PROCEDURES

A. Recurrent training for assigned personnel shall consist of drill performance to maintain and enhance skills at an optimum level of proficiency. Individuals assigned to the airport should participate in training drills daily and in order to maintain an optimum level of proficiency a recommended 48 to 60 hours of training quarterly.

XV. ARFF REFERENCES

A. Federal Aviation Regulations - Part 139

1. Section 139.315 - Index Determination
2. Section 139.317 - Equipment and Agents
3. Section 139.319 - Operational Requirements
4. Section 139.321 - Handling and Storing Hazardous Substances (Fire Prevention)
5. Section 139.325 - Airport Emergency Plan

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6. Section 139.339 - Airport Condition Reporting

B. National Fire Protection Association (NFPA Pamphlets)

1. NFPA 1003 - Professional Qualifications for Airport Fire Fighters
2. NFPA 402M - Aircraft Rescue and Fire Fighting Operations
3. NFPA 414 - Aircraft Rescue and Fire Fighting Vehicles
4. NFPA 419 - Airport Water Supply Systems for Fire Protection

C. IFSTA Aircraft Rescue and Fire Fighting

D. California State Fire Marshal's Office of Training - Fire Control V

E. Santa Barbara Municipal Airport Certification Manual

F. Santa Barbara City Fire Department S.O.P.'s:

1. (See [E-VI-1](#) Alerts and responses, [E-VI-2](#) ARFF ops, [E-VI-3](#) Communications, [E-VI-4](#) Security, [E-VI-5](#) Off site emergencies)