

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 1 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

PURPOSE: To establish procedures identifying specific fire safety standards and the Authority's inspection program for aviation fueling on Tampa International Airport.

BACKGROUND: Federal Aviation Regulations (FAR) Part 139 requires all airports to establish airport fire safety standards and a scheduled inspection program for all aviation fuel agents on the airport.

The specific fire safety standards presented in this directive will serve to address the requirements of FAR Part 139 and are in addition to the Authority's fire safety rules.

For FAA certification purposes the fire safety standards presented in this Directive will be the specific concern of the inspection program for all airport tenant fueling agents.

MINIMUM STANDARDS FOR AVIATION FUEL STORAGE, HANDLING AND DISPENSING:

A. City of Tampa Fire Code

All persons will be in compliance with the City of Tampa Fire Code as currently adopted by the National Fire Protection Association (NFPA) Part 407.

B. Fuel Farm and Storage Areas

1. Overall

- a. Will be fenced and signed to reduce chance of unauthorized entry or tampering.
- b. Will be posted with flammable and no smoking signs.
- c. Will be free of materials, equipment, functions and activities which would be an ignition source.

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 2 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

2. Fuel Tanks

Will be equipped with accessible fire extinguishers which meet or exceed NFPA Standard 407 having at least a 20-BC rating.

3. Piping

Will be underground or protected from damage by surface vehicles.

4. Hoses, Nozzles and Overflow Connectors

Will be controlled by spring-loaded, non-bypassable automatic dead man fuel flow cutoff feature capable of overriding all other controls and stopping, with one physical movement, all fuel flow.

5. Electrical Equipment, Switches and Wiring

a. Will be reasonably protected from heat, abrasion or other impact which could cause failure of insulation, open spark or other ignition source.

b. Will be of a type or design approved for use according to NFPA standards.

6. Grounding and Bonding Equipment

Will be available to provide that piping, filters, tanks and electrical components are electrically bonded together and interconnected to form an adequate electrical ground.

7. Unloading Docks and Stations

a. Will be equipped with accessible fire extinguishers meeting standards of NFPA Standard 407. A minimum of two, each having at least a 20-BC

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 3 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

rating.

- b. Will be equipped with bond and ground wire and appropriate connector clamp for bounding tankers.

8. Loading Docks and Stations

- a. Will be equipped with accessible fire extinguishers meeting standards of NFPA Standard 407. A minimum of two, each having at least a 20-BC rating.
- b. If a top load system, it will be equipped with metallic drop tube having anti-splash fuel deflector long enough to reach bottom of deepest fueler tank.
- c. Will be equipped with a deadman control.
- d. Will be equipped with boldly marked emergency fuel shutoff.
- e. Will be equipped with bonding wire and appropriate connector clamp for bonding fueler vehicles.

C. Mobile Fuelers, Fueling Pits and Fueling Cabinets

1. Overall

- a. Will be marked to prohibit smoking with letters at least three inches high on all sides and inside crew compartment to show danger, flammability, standard hazardous material placard with identification number.
- b. If at fixed location, such as the pit or fueling cabinet, it will be equipped with:
(1) at least one boldly marked emergency fuel shutoff clearly visible and accessible from all normal fueling stations; and (2) fire extinguishers as

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 4 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

required by NFPA Standard 407 accessible during fueling operations.

- c. If a mobile fueler, it will be equipped with: (1) a system capable of overriding all other controls and stopping, with one physical movement, all fuel flow; and (2) fire extinguishers as prescribed by NFPA Standard 407. At least one for a hydrant vehicle and at least two for a tank vehicle, each having at least a 20-BC rating. For a tank vehicle, each extinguisher will be accessible from a different side.
- d. Will contain no feature that would allow fuel or concentrated fumes to contact during normal operations, overfilling or other spill exhaust system, hot exhaust gasses or any other ignition source.
- e. If equipped with internal combustion engine, it will be equipped with air filter and spark arrestor and a leak-free exhaust system terminating in a standard baffled original equipment type muffler.

2. Fuel Tanks

- a. Will be closed and equipped with gasket dome covers (1) which contain a three pounds per square inch emergency vapor pressure relief valve and (2) which are adequate to prevent fuel spillage during vehicle movement and influx of water anytime.
- b. Will be equipped with tank bottom outflow cutoff valve that can block fuel flow and spill in event of piping rupture or other valve failure.

3. Piping

Will be reasonably protected from impact and stress which could cause rupture or fuel spillage.

4. Hoses, Nozzles and Connectors

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 5 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

Will be controlled by a deadman flow cutoff feature.

5. Electrical Equipment and Wiring Hoses, Nozzles and Connectors

- a. Will be reasonably protected from heat, abrasion or other impact which could cause failure of insulation, open spark or other ignition source.
- b. Will be of a type or design approved for use according to NFPA standards.

6. Grounding and Bonding

- a. Is required to provide electrical continuity between all metallic or conductive components.
- b. If a mobile fueler, prior to making any fueling connection to the aircraft, the fueling equipment will be bonded to the aircraft by use of a cable, thus providing a conductive path to equalize the potential between the fueling equipment and the aircraft. The bond will be maintained until fueling connections have been removed, thus allowing separated charges that could be generated during the fueling operation to reunite.
- c. If a pit or cabinet, it will be permanently electrically grounded.

D. Fueling Personnel

1. Training for Supervisory Personnel

Supervisory personnel:

- a. For all aviation fueling agents, except for air carriers operating under FAR Part 121 or Part 135, will be required to show that at least one supervisor has

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 6 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

completed an aviation fuel training course that has been approved by the FAA administrator.

- b. Will be able to explain purpose of and safely perform periodic inspections and checks needed to keep equipment operational and functioning safely.
- c. Will understand and be able to explain what should be done when a required component of fuel farm, mobile fueler, pit or cabinet is inoperable.
- d. Will understand the basic fire triangle and be able to identify the more common ignition sources found on airports.
- e. Will understand and be able to explain what should be done if fuel leak or spill occurs.
- f. Will understand and be able to generally explain static-generation/retention misting of fuels and the dangers associated with filtering and pumping fuels to and from storage tanks, mobile fuelers and aircraft.
- g. Will understand and be able to explain the hazards of atmospheric electrical phenomena, including lightning and static charging of aircraft in flight.
- h. Will understand and be able to explain main features of proper firefighting technique using, and demonstrating use of, the fire extinguishers normally at fuel farms and on fuelers, pit and cabinets.
- i. Will understand and be able to explain defueling procedures and precautions.
- j. Will maintain records of individual training and recurrent training.

2. Training for Line Personnel

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 7 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

Line personnel:

- a. For all aviation fueling agents, except for air carriers operating under FAR Part 121 or Part 135, will be required to show that all employees who fuel aircraft, accept fuel shipments or otherwise handle fuel has received at least on-the job training in fire safety from the supervisor that has completed an aviation fuel training course that has been approved by the FAA administrator.
- b. Will be able to understand purpose of and safely perform periodic inspections and checks needed to keep equipment operational and functioning safely.
- c. Will understand what should be done when required component of fuel farm, mobile fueler, pit or cabinet is inoperable.
- d. Will understand the basic fire triangle and be able to identify the more common ignition sources found on airports.
- e. Will understand what should be done if fuel leak or spill occurs.
- f. Will understand static-generation and retention misting of fuels and the dangers associated with filtering and pumping fuels to and from storage tanks, mobile fuelers and aircraft.
- g. Will understand the hazards of atmospheric electrical phenomena, including lightning and static charging of aircraft in flight
- h. Will understand the main features of proper fire-fighting technique using, and demonstrating use of, the fire extinguishers normally at fuel farms and on fuelers, pit or cabinets.
- i. Will understand the dangers of defueling.

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 8 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

3. Clothing and Footwear

Fueling personnel will be appropriately clothed. Garments will be other than silk, polyesters, nylon with wool or other static generating fabrics; shoes containing no taps, hobnails or other material which could generate sparks on pavement.

4. Other

Fueling personnel will not carry on their persons at any time in, on or within 100 feet of any tank, dock, storage area, fueler or aircraft any igniting device, including safety matches, strike-anywhere matches, cigarette lighter or other items which could become ignition sources if operated, bumped, hit or dropped.

5. Supervision

Fueling personnel will be adequately supervised and periodically checked to ensure training and knowledge levels are maintained, all equipment and required components are kept fully operational, required periodic checks and inspections are made when due, required records are kept and that proper quantity and grade, clean, dry, on specification fuel is routinely delivered to the proper aircraft.

6. Fuel Farm, Fueler and Pit Operations

Fueling Staff:

- a. Will ensure that only qualified personnel are allowed to operate fuel farm or equipment or to fuel aircraft.
- b. Will ensure fueling is performed outside only, never in a building.
- c. Will ensure fuelers are never parked closer than 10 feet from each other, 50 feet from any building or aircraft not being fueled or defueled and during loading and fueling operations, 100 feet from smokers or other visible

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 9 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

sources of ignition.

- d. Will ensure that before all unloading, loading, fueling and defueling operations are begun, all motors, engines, radios and other electrical and mechanical equipment, except only auxiliary power units not needed for that specific operation, are turned off and kept off.
- e. Will ensure that before opening any aircraft or fueler tank or commencing fueling operations and at all times during fuel transfer at least a bonding wire is connected between fueler being loaded and the loading dock ground or between the fueler, pit, cabinet and the aircraft being fueled.
- f. Will before commencing loading of any fueler or fueling any aircraft, ensure that all fuel farm, fueler, pit and cabinet equipment to be used is in good operating condition; that the tank and filter or filter/separator involved have been sumped in the previous 24 hours and that the fuel about to be loaded or pumped into the airplane is free of contaminants and of proper color, smell, feel and type and is clear and bright.
- g. Will ensure that mobile fueler loading and aircraft fueling is conducted only when the deadman control is operable and used to control fuel flow.
- h. Will ensure that fuel farm and all equipment are kept neat and free of trash or debris that could cause or contribute to fuel contamination or fire.
- i. Will ensure that all fire extinguishers area checked for charge and condition at least semi-annually.
- j. Will ensure that fuel service operations will be suspended when there are lightning discharges in the immediate vicinity of the airport.

E. Fueler Records

1. Fueler Staff and Supervisors

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 10 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

Fueler staff and supervisors will develop and maintain for at least 12 months records adequate to at least show:

- a. Checks and any subsequent corrective action taken made on equipment required by these standards.
- b. Training given and qualifications on achievements of all fueling staff on the airport.

2. Inspections

These records will be made available for inspection by the Authority or the FAA upon request.

3. Proof of Training

Each airport aviation fueling agent will be required to provide written proof to the Authority once a year that:

- a. At least one supervisor has completed an aviation fuel training course in fire safety that has been acceptable by the FAA Administrator.
- b. All other employees who fuel aircraft, accept fuel shipments or otherwise handle fuel will receive at least on-the-job training in fire safety from the supervisor who has completed an FAA approved course.

G. Inspection Schedule

Authority aircraft rescue and firefighting personnel will inspect each airport tenant fueling agent's fuel storage areas, mobile fuelers and fuel cabinets for compliance to the above fire safety fuel standards. Quarterly safety inspections are conducted on or near January 1, April 1, July 1 and October 1 of each year.

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 11 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

H. Inspection Forms

Attached forms OP-103 and OP-104 are the safety survey forms that will be used for the quarterly and follow-up inspections. The completed survey records will be maintained in the Director of Operations office for at least 12 months.

I. Corrective Action

Upon completion of any safety inspection, the inspector and the airport tenant fueling agent supervisor will discuss and sign the safety survey form. The airport tenant fueling agent will be required to take immediate corrective action whenever notified of noncompliance with these standards. A follow up inspection will be scheduled to confirm compliance. If the corrective action is not accomplished within a reasonable period of time, the Authority will notify the FAA airport certification and safety section, in addition to other actions the Authority may take.

OPERATING DIRECTIVE

Hillsborough County
Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 06/25/03

Page: 12 of 14

Subject: Specific Fire Safety Fuel
Standards and Inspection

APPROVED: /s/ John Wheat DATE: 06/25/03

SAFETY SURVEY

Fuel Storage areas and Loading/Unloading Stations

Agency _____ Date _____

Captain _____

Type of Survey

Quarterly

Follow-up

	Jet A Section			100LL Section						
	S	U	R	S	U	R	S	U	R	
Fencing/Locks										
No Smoking Signs										
Fuel Leaks										
Fire Extinguishers (Two 20-BC)										
Emergency Cutoff-Loading Stations										
Deadman Control-Loading Stations										
Bonding Cable-Loading Stations										
Fuel System Bonded and Grounded										
Piping Protected										
Condition of Hoses										
Evidence of Smoking										
Ignition Sources										
NFPA 407 Items										
Grounding Rods Available				S - Satisfactory U - Unsatisfactory R - Remark						
Fueling Procedures Observed										
Personnel Training Requirements										
Remarks:										

SAFETY SURVEY

Mobile Fuelers

Agency _____

Date _____

Type of Survey

Captain _____

Quarterly

Follow-up

	Truck No.																				
	Fuel Type																				
		S	U	R	S	U	R	S	U	R											
No Smoking Signs																					
Flammable Signs/Placards																					
Fire Extinguishers (Two 20-BC)																					
Emergency Fuels Cutoffs/Marked																					
Grounding/Bonding Cables																					
Condition of Hoses																					
Deadman Controls																					
Piping Protected																					
Gasketed Dome Covers																					
Fuel Leaks																					
Vehicle Exhaust Systems																					
Ignition Sources....																					
Evidence of Smoking																					
Fuel Vehicle Parking																					
NFPA 407 Items																					
<p>S - Satisfactory U - Unsatisfactory R - Remark</p>																					
Remarks:																					