

OPERATING DIRECTIVE

Aviation Authority

Number: D350.00.01

Effective: 10/01/88

Revised: 04/24/19

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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 (TPA).

BACKGROUND: The Code of Federal Regulations (CFR) at 14 CFR 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 Operating Directive will serve to address the requirements of 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. All persons will be in compliance with the following:

1. City of Tampa Fire Code
2. National Fire Protection Association (NFPA) 407 (Standard for Aircraft Fuel Servicing)
3. TPA Airport Certification Manual (ACM)
4. TPA Ground Operation Manual (GOM)
5. Open Flame Standard Procedure (S343.04)

B. Fuel Farm and Storage Areas

1. Overall
 - a. Required to be fenced and signed to reduce chance of unauthorized entry or tampering.
 - b. Flammable and no smoking signs must be posted.
 - c. Must be free of ignition sources (e.g. Materials; Equipment; Functions; and Activities).

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d. Shall follow the NFPA 407 guidelines and the Authority Having Jurisdiction (AHJ) requirements and contain emergency instructions in case of fire or spill. The emergency instruction shall incorporate the following or equivalent wording:

1. The method of operation shall be indicated to stop the flow of fuel, followed by an arrow or by the word PUSH or PULL, as appropriate.
2. Any action necessary to gain access to the shutoff device (e.g., BREAK GLASS) shall be shown clearly.
3. Shall contain reporting instruction by calling (911 or local Fire Department #).
4. Shall contain address of site.
5. Lettering shall be of a color contrasting sharply with the placard background for visibility.
6. Each emergency fuel shutoff station location shall be placarded "EMERGENCY FUEL SHUTOFF" in letters at least 50mm (2 in.) high.
7. Placards shall be weather resistant.

2. Fuel Tanks

Must be equipped with accessible fire extinguishers that meet or exceed NFPA 407 standards, having at least a 40-BC rating.

3. Piping

Must 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.

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5. Electrical Equipment, Switches, and Wiring
 - a. Must 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

Piping, filters, tanks, and electrical components must be electrically bonded together and interconnected to form an adequate electrical ground.
7. Unloading Docks and Stations
 - a. A minimum of two (2), 40-BC rated fire extinguishers must be provided and accessible that meet the requirements of NFPA 407.
 - b. Must be equipped with bond wire, ground wire, and appropriate connector clamp for bonding tankers.
8. Loading Docks and Stations
 - a. A minimum of two (2), 40-BC rated fire extinguishers must be provided and accessible that meet the requirements of NFPA 407.
 - b. Top load systems must be equipped with metallic drop tube having an anti-splash fuel deflector long enough to reach the bottom of the deepest fueler tank.
 - c. Loading docks and stations must be equipped with a deadman control.
 - d. Must be equipped with boldly marked emergency fuel shutoff.
 - e. Will be equipped with bonding wire and appropriate connector clamp for bonding fueler vehicles.

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C. Mobile Fuelers, Fueling Pits, and Fueling Cabinets

1. Overall

- a. Must be marked to prohibit smoking, with letters at least three inches high on all sides and inside any crew compartment.
- b. NFPA 407 placards must be placed on the equipment to show the ratings of applicable hazards, such as Health Hazard, Fire Hazard, Reactivity, and Specific Hazard.
- c. All equipment must be marked with identification numbers.
- d. At fixed locations, such as a fuel pit or fueling cabinet, it will be equipped with at least one boldly marked emergency fuel shutoff clearly visible and accessible from all normal fueling stations, and fire extinguishers, as required by NFPA 407. Fuel shutoffs must be accessible during fueling operations.
- e. Mobile fuelers must be equipped with a system capable of overriding all other controls and stopping, with one physical movement, all fuel flow, and fire extinguishers as prescribed by NFPA 407 - at least one for a hydrant cart and two for a hydrant or tank vehicle, each having at least a 40-BC rating.
- f. Extinguishers must be accessible from each side of the hydrant or tank vehicle. For a sump truck, an extinguisher will be accessible in the immediate area of the ramp.
- g. Must not contain any feature that would allow fuel or concentrated fumes to be in contact during normal operations, overfilling or other spill exhaust system, hot exhaust gasses, or any other ignition source.
- h. If equipped with an internal combustion engine, it will be equipped with an air filter, spark arrestor, and a leak-free exhaust system terminating in a standard baffled original equipment type muffler.

2. Fuel Tanks

- a. Must be closed and equipped with gasket dome covers that contain a three pounds per square inch emergency vapor pressure relief valve, which is adequate to prevent fuel spillage during vehicle movement and influx of water anytime.

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b. Fuel tanks 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

Piping will be reasonably protected from impact and stress that can cause a rupture or fuel spill.

4. Hoses, Nozzles and Connectors

Must be equipped with and controlled by a dead man flow cutoff feature.

5. Electrical Equipment and Wiring Hoses, Nozzles, and Connectors

a. Will be reasonably protected from heat, abrasion, or other impacts that can cause a failure of the insulation, or become a source of ignition.

b. Must be of a type or design approved for use according to NFPA 407.

6. Grounding and Bonding

a. Grounding and bonding is required to provide electrical continuity between all metallic or conductive components.

b. Prior to making any fueling connection to the aircraft when using a mobile fueler, the fueling equipment must 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.

c. The bond will be maintained until fueling connections have been removed. That will allow separated charges that could be generated during the fueling operation to reunite.

d. Fueling pits and fueling cabinets must be electrically grounded on a permanent basis.

D. Fueling Personnel

1. Training for Supervisory Personnel

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Supervisory personnel:

- a. All aviation fueling agents, except for air carriers operating under CFR, Part 121 or Part 135, must demonstrate that at least one supervisor has completed an aviation fuel training course that has been approved by the FAA Administrator.
- b. Must be able to safely perform and instruct others in periodic inspections and checks needed to keep equipment operational and functioning safely.
- c. Supervisory personnel must understand and be able to explain what should be done when a required component of the fuel farm, mobile fuelers, fueling pits, or fueling cabinets is inoperable.
- d. Must 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 there is a fuel leak or a fuel spill occurs.
- f. Supervisory personnel 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. Must 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 techniques, and the proper utilization of fire extinguishers used at fuel farms, mobile fuelers, fuel pits, and fuel cabinets.
- i. Supervisory personnel will understand and be able to explain defueling procedures and precautions.
- j. Will maintain records of initial and recurrent training for employees.

2. Training for Line Personnel

Line personnel:

- a. All aviation fueling agents, except for air carriers operating under FAR Part 121 or Part 135, are required to show that all employees who fuel aircraft,

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accept fuel shipments, or otherwise handle fuel have received at least on-the-job training in fire safety from the supervisor that has completed an aviation fuel training course approved by the FAA Administrator.

- b. Must be able to understand the purpose of, and be able to safely perform, periodic inspections and checks that are needed to keep equipment operational and functioning safely.
- c. Line personnel must understand what should be done when a required component of the fuel farm, mobile fueler, fuel pit, or fueling cabinet is inoperable.
- d. Will understand the basic fire triangle and be able to identify the more common ignition sources found on airports.
- e. Must understand what should be done if fuel leak or spill occurs.
- f. Line personnel are required to be able to 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. Must understand the main features of proper fire-fighting techniques using, and demonstrating use of, the fire extinguishers normally found at fuel farms, fuelers, fuel pits, and fuel cabinets.
- i. Line personnel must understand the dangers of defueling.

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 must not contain taps, hobnails, or other materials that can generate sparks.

4. Other

Fueling personnel will not carry on their persons at any time, whether in, on, or within 100 feet of any fuel tank, dock, storage area, fueler, or aircraft, any source of ignition. Examples of a source of ignition would include safety matches, strike-anywhere matches, a cigarette lighter, etc.

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5. Supervision

Fueling personnel will be adequately supervised and periodically checked to ensure the following:

- a. Training and knowledge levels are maintained
- b. All equipment and required components are kept fully operational
- c. Required periodic checks and inspections are made when due
- d. Records are kept
- e. Fuel is delivered and dispensed in the proper quantity and grade, including being up to fuel safety specifications and of proper quality.
- f. Fuel must be clean and dry.
- g. Fuel must be delivered to the proper aircraft.

6. Fuel Farm, Fueler, and Pit Operations

Fueling Staff must ensure the following:

- a. Only qualified personnel are permitted to fuel aircraft using the fuel farm and fueling equipment.
- b. Fueling must only be performed outside, and never in a building.
- c. No fuelers will be parked closer than 10 feet from each other.
- d. Fuelers must not be parked closer than 50 feet from any building or aircraft not being fueled or defueled and during loading and fueling operations.
- e. Fuelers must not be parked closer than 100 feet from smokers or other visible sources of ignition.
- f. Before all unloading, loading, fueling and defueling operations are begun, all motors, engines, radios, and other electrical and mechanical equipment, except auxiliary power units not needed for that specific operation, must be turned off.
- g. Before opening any aircraft or fueler tank, or commencing fueling operations, and at all times during fuel transfer, ensure that a bonding wire is connected between the fueler being loaded and the loading dock ground, or between the fueler, pit, cabinet, and the aircraft being fueled.

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- h. 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.
- i. The tank and filter, or filter/separator involved, must have been sumped in the previous 24 hours.
- j. Fuel being loaded or pumped into the airplane must be clear, bright, and free of contaminants. Fuel must also be of proper color, smell, feel, and type.
- k. Ensure that mobile fueler loading and aircraft fueling is conducted only when the deadman control is operable and used to control fuel flow.
- l. Ensure that the fuel farm and all equipment are kept neat and free of trash or debris that could cause or contribute to fuel contamination or fire.
- m. Fire extinguishers must be checked for charge and condition at least semi-annually. Replace defective fire extinguishers.
- n. Fuel service operations must be suspended when there is lightning in the area of TPA. Fueling operations will not resume until the "all clear" has been given.

E. Fueler Records

1. Fueler Staff and Supervisors

At a minimum, fueler staff and supervisors will develop and maintain adequate records of the fueling operation for at least 12 consecutive calendar months, which show the following:

- 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 at TPA.

2. Inspections

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

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3. Proof of Training

Each aviation fueling agent at TPA is required to provide written proof to the Authority once a year that the following has occurred:

- a. At least one supervisor has completed an aviation fuel training course in fire safety that is acceptable to 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.

F. 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 every three consecutive calendar months of each year.

G. Inspection Forms

The "Fuel Agent Inspection Report – Fuel Farm" and "Quarterly Fuel Agent Inspection Report – Mobile Fuelers/Hydrant Carts" forms are referenced below. The forms are the safety survey forms that will be used for the quarterly and follow-up inspections. The completed survey records will be maintained electronically by Airport Operations for at least 12 consecutive calendar months.

H. Corrective Action

Upon completion of any safety inspection, the airport tenant fueling agent will be required to take immediate corrective action whenever notified of noncompliance with these

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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 deem appropriate.

APPROVED: Joe Lopano

DATE: 04/24/19



Fuel Agent Inspection Report - Fuel Farm

Inspector: _____ Fueling Agent: _____ Date: _____

P - Pass F - Fail C - Comments below R - Recertification Inspection	No.				No.				No.			
	Type				Type				Type			
NO SMOKING SIGNAGE:	P	F	C	R	P	F	C	R	P	F	C	R
Posted at the entrance to the fueling areas												
Clear and visible												
IGNITION SOURCES:												
Fuel storage areas are free of trash, vegetation, other combustible material												
Switches and wires are protected from heat or other ignition sources												
No evidence of smoking												
PIPING:												
Good operating condition and free of leaks												
Piping identifying fuel type and arrows showing direction of fuel flow												
Protection such as bollards or guardrails												
BONDING:												
Piping, filters, tanks, and pumps are bonded together and interconnected to an adequate ground rod												
Loading / unloading facility has a serviceable bond / ground wire												
Hazmat placards/flammable/product sign/tank identifier displayed on all sides of tanks												
FIRE EXTINGUISHERS:												
At least two accessible 40-B:C rated or greater fire extinguishers												
Verify fire extinguisher inspection date is within current month												
All ladbels and safety pin intact. No signs of tampering												
Pressure guages in the green and not damaged or showing "recharge"												
Covered and protected from weather												
DEADMAN CONTROL:												
Good condition												
No notches or latches												
AIRCRAFT FUELING HOSES:												
Hoses and nozzles are stored to avoid kinks and maintain the bend radius												
Hoses free of abrasions, blistering, cracking, cuts, nicks, saturations, or leaks at couplings												
EMERGENCY FUEL SHUTOFFS:												
Located outside of the probable spill areas and visible from from 50 (ft.) with a clear path to Emergency Fuel Shutoff(s)												
Placard boldly marked and in good condition, letters at least 2 inches high, method of operation indicated, letters are contrasted with background for visibility, and 7 (ft.) above grade measured from the bottom of the placard												
FUELING CABINETS/SELF-SERVICE STATIONS:												
Located at least 50 (ft.) from any building												
SECURITY:												
Adequate fencing and security to prevent unauthorized access												
ADDITIONAL INFORMATION:												
Emergency Instructions posted for notification to fire department in dispensing area												
Emergency contact phone numbers and location information in clear view in case of an emergency												
COMMENTS:												



Fuel Inspection Report - Hydrant Carts

Inspector: _____ Fueling Agent: _____ Date: _____

P - Pass F - Fail C - Comments below R - Recertification Inspection	No.				No.				No.			
	Type				Type				Type			
	P	F	C	R	P	F	C	R	P	F	C	R
SIGNAGE												
Lettering at least 3 inches high												
"No Smoking" placards visible from all sides												
"Flammable" placards visible from all sides												
"1863" Product code placards visible from all sides												
"JET A" Hazmat placards visible from all sides												
IGNITION SOURCES												
No loose or frayed wires (properly covered and protected)												
Electrical equipment, switches, and wiring has reasonable protection from heat, abrasion, or impact												
BONDING												
Bonding cables provided and clips and plugs functional												
FIRE EXTINGUISHERS												
One 40-B:C rated or greater fire extinguisher												
Verify fire extinguisher inspection date is within the current month												
All labels and safety pin intact. No signs of tampering												
Pressure gauges are in the green and not damaged or showing "recharge"												
DEADMAN CONTROL												
Good condition												
No notches or latches												
AIRCRAFT FUELING HOSES												
Hoses and nozzles are stored to avoid kinks and maintain the bend radius												
Hoses free of abrasions, blistering, cracking, cuts, nicks, saturations, or leaks at couplings												
EMERGENCY FUEL SHUTOFFS												
Emergency Fuel Shutoffs accessible on both sides												
Properly placarded, clearly visible, and not faded												
GENERAL CONDITION												
Parked at least 50 feet from any structure and at least ten feet from each other												
All lights / reflectors are functional												
Fuel filters are up to date (annually from date of installation)												
Brake mechanism work as designed												
At least one tire properly chocked												
Tires are in good condition												
COMMENTS:												



Fuel Inspection Report - Mobile Fuelers

Inspector: _____ Fueling Agent: _____ Date: _____

P - Pass F - Fail C - Comments below R - Recertification Inspection	No.				No.				No.			
	Type				Type				Type			
	P	F	C	R	P	F	C	R	P	F	C	R
SIGNAGE												
Lettering should be at least 3 inches high												
"No Smoking" placards visible from all sides												
"Flammable" placards visible from all sides												
"1203" or "1863" product code placards visible from all sides (as applicable)												
"AVGAS 100LL" or "JET-A" fuel type placards visible from all sides (as applicable)												
SAFETY												
Brake interlock override safety switch intact and guarded												
No ashtrays or cigarette lighters												
No evidence of smoking												
IGNITION SOURCES												
All Dome cover seals intact with forward mounting hinge												
Vehicle exhaust system has no exhaust leaks and adequate shielding												
Electrical equipment, switches, and wiring has reasonable protection from heat, abrasion, or impact												
No loose or frayed wires (covered and protected)												
BONDING												
Bonding cables provided and clips and plugs functional												
FIRE EXTINGUISHERS												
Two 40-B:C rated or greater fire extinguishers accessible from each side of mobile fueler												
Verify fire extinguisher inspection date is within the current month												
All labels and safety pin intact. No signs of tampering												
Pressure gauges in the green and not damaged or showing "recharge"												
DEADMAN CONTROL												
Good condition												
No notches or latches												
AIRCRAFT FUELING HOSES												
Hoses and nozzles are stored to avoid kinks and maintain the bend radius												
Hoses free of abrasions, blistering, cracking, cuts, nicks, saturations, or leaks												
No fuel leaks from hoses, nozzles, gaskets, valves, or couplings												
EMERGENCY FUEL SHUTOFFS												
Emergency Fuel Shutoffs accessible on both sides												
Properly placarded, clearly visible, and not faded												
GENERAL CONDITION												
Mobile fuelers parked at least 50 feet from any structure and at least ten feet from each other												
Operator name and vehicle identifier located on both sides												
All lights / reflectors are functional												
Fuel filters are up to date (annually from date of installation)												
COMMENTS:												