



City of National City Fire Department

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MARINE FUELING - STIPULATIONS

DATE: May 21, 2018
TO: Marine Fueling Contractor
FROM: Robert Hernandez, Fire Marshal
CODES: CFC, NFPA, CCR Title 19 & Health and Safety Code
SUBJECT: Marine Fueling / Handled

Marine Fueling Criteria

This chapter shall apply to that portion of a property where liquids used as fuels are stored, handled, and dispensed from equipment located on shore or from equipment located on piers, wharves, or floating docks into the fuel tanks of marine craft, including incidental activity, except as covered elsewhere in this code or in other NFPA standards.

This chapter shall not apply to the following:

1. (1)
Bulk plant or terminal loading and unloading facilities
2. (2)
Transfer of liquids utilizing a flange-to-flange closed transfer piping system

3. (3)

Marine motor fuel dispensing facilities where liquids used as fuels are stored and dispensed into the fuel tanks of marine craft of 272 metric tons (300 gross tons) or more

Note: For the purpose of this document, the word *pier* shall also mean dock, floating dock, and wharf.

Storage

Liquids shall be stored in tanks or containers complying with section 4.3

Tanks that supply marine motor fuel dispensing facilities shall be located on shore or on a pier of the solid-fill type. Pumps that are not integral with the dispensing device shall also be located on shore or on a pier of the solid-fill type.

Exception: Tanks shall be permitted with the approval of the authority having jurisdiction to be located on a pier, provided the installation meets all applicable requirements of Chapters 4 and 5 of this code and 21.6.2 of NFPA 30, and the quantity stored does not exceed 4164 L (1100 gal) aggregate capacity.

Where a tank is at an elevation that produces a gravity head on the dispensing device, the tank outlet shall be equipped with a device, such as a normally closed solenoid valve, that will prevent gravity flow from the tank to the dispenser. This device shall be located adjacent to and downstream of the outlet valve specified by 4.3.2.5.1 of NFPA 30, *Flammable and Combustible Liquids Code*. The device shall be installed and adjusted so that liquid cannot flow by gravity from the tank to the dispenser if the piping or hose fails when the dispenser is not in use.

Piping Systems.

Piping shall be installed in accordance with all applicable requirements of NFPA 30 and 30A

Piping systems shall be supported and protected against physical damage and stresses arising from impact, settlement, vibration, expansion, contraction, and tidal action.

Means shall be provided to ensure flexibility of the piping system in the event of motion of the pier. Flexible piping shall be of a type designed to withstand the forces and pressures exerted upon the piping.

Where dispensing is from a floating structure or pier, approved oil-resistant flexible hose shall be permitted to be used between shore piping and the piping on a floating structure or pier and between separate sections of the floating structure to accommodate changes in water level or shoreline, provided that the hose is either resistant to or shielded from damage by fire.

A valve to shut off the liquid supply from shore shall be provided in each pipeline at or near the approach to the pier and at the shore end of each marine pipeline adjacent to the point where each flexible hose is attached.

Fuel Dispensing System.

All hose shall be listed. Where hose length exceeds 5.5 m (18 ft), the hose shall be secured so as to protect it from damage.

Dispensing nozzles shall be of the automatic-closing type without a latch-open device.

Dispensing devices shall be located so that exposure to all other operational marina or pleasure boat berthing area facilities is minimized. Where tide and weather conditions permit, liquid fuel handling shall be outside the main berthing areas. Where located inside marina or pleasure craft berthing areas, fueling facilities shall be located so that, in case of fire aboard a marine craft alongside, the danger to other craft near the facility is minimized.

No vessel or marine craft shall be made fast to any other vessel or marine craft occupying a berth at a fuel dispensing location during fueling operations.

A marine motor fuel dispensing facility located at a bulk plant shall be separated by a fence or other approved barrier from areas in which bulk plant operations are conducted. Dispensing devices shall not be supplied by aboveground tanks located in the bulk plant. Marine motor fuel dispensing facility storage tanks shall not be connected by piping to aboveground tanks located in the bulk plant.

Each marine motor fuel dispensing facility shall have an attendant or supervisor on duty whenever the facility is open for business. The attendant's primary function shall be to supervise, observe, and control the dispensing of liquids.

Sources of Ignition.

All electrical components for dispensing liquids shall be installed in accordance with Chapter 8.

All electrical equipment shall be installed and used in accordance with the requirements of *NFPA 70* as it applies to wet, damp, and hazardous locations.

Clearly identified emergency electrical disconnects that are readily accessible in case of fire or physical damage at any dispensing unit shall be provided on each marine wharf. The disconnects shall be interlocked to shut off power to all pump motors from any individual location and shall be manually reset only from a master switch. Each such disconnect shall be identified by an approved sign stating EMERGENCY PUMP SHUTOFF in 50 mm (2 in.) red capital letters.

All electrical wiring for power and lighting shall be installed on the side of the wharf opposite from the liquid piping system.

Smoking materials, including matches and lighters, shall not be used within 6 m (20 ft) of areas used for fueling, servicing fuel systems for internal combustion engines, or receiving or dispensing of Class I liquids. Conspicuous NO SMOKING signs shall be posted within sight of the customer being served.

The motors of all equipment being fueled shall be shut off during the fueling operation, except for emergency generators, pumps, and so forth, where continuing operation is essential.

Bonding and Grounding.

Pipelines on piers shall be bonded and grounded. Bonding and grounding connections on all pipelines shall be located on the pier side of hose riser insulating flanges, if used, and shall be accessible for inspection.

The fuel delivery nozzle shall be put into contact with the vessel fill pipe before the flow of fuel commences and this bonding contact shall be continuously maintained until fuel flow has stopped to avoid possibility of electrostatic discharge.

Fire Control.

Each marine motor fuel dispensing facility shall be provided with fire extinguishers installed, inspected, and maintained as required by NFPA 10, Standard for Portable Fire Extinguishers. Extinguishers for marine motor fuel dispensing areas shall be provided according to the extra (high) hazard requirements for Class B hazards, except that the maximum travel distance to an 80 B:C extinguisher shall be permitted to be 31 m (100 ft).

Piers that extend more than 152 m (500 ft) in travel distance from shore shall be provided with a Class III standpipe that is installed in accordance with NFPA 14, Standard for the Installation of Standpipe and Hose Systems

Materials shall not be placed on a pier in such a manner that they obstruct access to fire-fighting equipment or important piping system control valves. Where the pier is accessible to vehicular traffic, an unobstructed roadway to the shore end of the wharf shall be maintained for access by fire-fighting apparatus.

Containers and Movable Tanks.

The temporary use of movable tanks in conjunction with the dispensing of liquids into the fuel tanks of marine craft on premises not normally accessible to the public shall be permitted. Such installations shall only be made with the approval of the authority having jurisdiction.

Class I or Class II liquids shall not be dispensed into a portable container unless the container is constructed of metal or is approved by the authority having jurisdiction, has a tight closure, and is fitted with a spout or is so designed that the contents can be dispensed without spilling.

Portable containers of 45 L (12 gal) capacity or less shall not be filled while they are in or on a marine craft.

Cargo Tank Fueling Facilities.

The provisions of Section 11.2 shall not prohibit the dispensing of Class II liquids in the open from a tank vehicle to a marine craft located at commercial, industrial, governmental, or manufacturing establishments when the liquid is intended for fueling marine craft used in connection with those establishments' businesses if the requirements of 11.9.1 through 11.9.7 are met.

An inspection of the premises and operations shall be made and approval granted by the authority having jurisdiction.

The tank vehicle shall comply with the requirements of NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*.

The dispensing hose shall not exceed 15 m (50 ft) in length.

The dispensing nozzle shall be a listed, automatic-closing type without a latch-open device.

Nighttime deliveries shall only be made in areas deemed adequately lighted by the authority having jurisdiction.

The tank vehicle flasher lights shall be in operation while dispensing.

Fuel expansion space shall be left in each fuel tank to prevent overflow in the event of temperature increase.

Operating Requirements.

The following shall be the responsibilities of the attendant:

- (1) Prevent the dispensing of Class I liquids into portable containers that do not comply with 11.8.2
- (2) Be familiar with the dispensing system and emergency shutoff controls
- (3) Ensure that the vessel is properly moored and that all connections are made

- (4) Be within 4.6 m (15 ft) of the dispensing controls during the fueling operation and maintain a direct, clear, unobstructed view of both the vessel fuel filler neck and the emergency fuel shutoff control

Fueling shall not be undertaken at night except under well-lighted conditions.

During fueling operations, smoking shall be forbidden on board the vessel or marine craft and in the dispensing area.

Before opening the tanks of the vessel to be fueled, the following precautions shall be taken:

- (1) All engines, motors, fans, and bilge blowers shall be shut down.
- (2) All open flames and smoking material shall be extinguished and all exposed heating elements shall be turned off.

- (3) Galley stoves shall be extinguished.

- (4) All ports, windows, doors, and hatches shall be closed.

After the flow of fuel has stopped, the following shall occur:

- (1) The fill cap shall be tightly secured.
- (2) Any spillage shall be wiped up immediately.
- (3) If Class I liquid has been delivered, the entire vessel or marine craft shall remain open.
- (4) Bilge blowers shall be turned on and allowed to run for at least 5 minutes before starting any engines or lighting galley fires. If bilge blowers are not available, 10 minutes of ventilation shall be required.

No Class I liquids shall be delivered to any vessel having its tanks located below deck unless each tank is equipped with a separate fill pipe, the receiving end of which shall be securely connected to a deck plate and fitted with a screw cap. Such pipe shall extend into the tank. Vessels receiving Class II or Class IIIA liquids shall have the receiving end of the fill pipe securely connected to a deck plate and fitted with a screw cap. Such pipe shall be permitted to connect to a manifold system that

extends into each separate tank. Each tank shall be provided with a suitable vent pipe that shall extend from the tank to the outside of the coaming or enclosed rails so that the vapors will dissipate away from the vessel.

Owners or operators shall not offer their vessel or marine craft for fueling unless the following conditions exist:

- (1) The tanks being filled are properly vented to dissipate vapors to the outside atmosphere, and the fuel systems are liquid tight and vapor tight with respect to all interiors.
- (2) All fuel systems are designed, installed, and maintained in compliance with the specifications of the manufacturer of the vessel or marine craft.
- (3) Communication has been established between the fueling attendant and the person in control of the vessel or craft receiving the fuel so as to determine the vessel's fuel capacity, the amount of fuel on board, and the amount of fuel to be taken on board.
- (4) The electrical bonding and grounding systems of the vessel or craft have been maintained in accordance with the manufacturers' specifications.

Signage

A sign with the following legends printed in 50 mm (2 in.) red capital letters on a white background shall be conspicuously posted at the dispensing area:

Before Fueling:

- (1) Stop all engines and auxiliaries.
- (2) Shut off all electricity, open flames, and heat sources.
- (3) Check all bilges for fuel vapors.
- (4) Extinguish all smoking materials.
- (5) Close access fittings and openings that could allow fuel vapors to enter enclosed spaces of the vessel.

During Fueling:

- (1) Maintain nozzle contact with fill pipe.

- (2) Wipe up spills immediately.
- (3) Avoid overfilling.
- (4) Fuel filling nozzle must be attended at all times.

After Fueling:

- (1) Inspect bilges for leakage and fuel odors.
- (2) Ventilate until odors are removed.

Note: Additional corrections may be required based on information provided due to the above comments.