

## 527 CMR: BOARD OF FIRE PREVENTION REGULATIONS

527 CMR 15.00: THE USE, STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS ON WATERS OF THE COMMONWEALTH, INCLUDING REQUIREMENTS FOR MARINE FUELING FACILITIES, MOBILE MARINE FUEL VEHICLES, FUEL BARGES AND FUEL VESSELS

## Section

- 15.01: Purpose and Scope
- 15.02: Definitions
- 15.03: Construction or Alteration of Marine Fueling Facilities
- 15.04: Requirements Relating to the Design, Equipment and Signage Applicable to All New, Altered or Existing Marine Fueling Facilities
- 15.05: Fire Protection Requirements and Equipment Applicable to All New Marine Fueling Facilities
- 15.06: Requirements for Mobile Marine Fueling Vehicles
- 15.07: Provisions Relating to the Safe Fueling of Vessels
- 15.08: General Provisions for the Safe Handling, Storage or Transport of Flammable or Combustible Liquids on Waters of The Commonwealth
- 15.09: Fuel Vessels and Fuel Barges
- 15.10: Authorized Marine Fueling Operators
- 15.11: Inspections and Enforcement

15.01: Purpose and Scope

- (1) 527 CMR 15.00 applies to the fueling operations of marinas, boatyards, yacht clubs, boat condominiums, docking facilities associated with residential condominiums, multiple-docking facilities, and all associated piers, docks, mooring, and floats.
- (2) The purpose of 527 CMR 15.00 is to provide minimum requirements for the safe use, storage and handling of flammable and combustible liquids on waters of the Commonwealth and to provide minimum standards for the safe construction, maintenance and operation of marine fueling facilities, mobile marine fueling vehicles, fuel vessels and fuel barges used to deliver flammable or combustible liquids to vessels located on the waters of the Commonwealth.
- (3) The provisions of 527 CMR 15.00 are in addition to any federal or other state regulations, which may be applicable to such facilities, vehicles or activities.
- (4) The provisions of 527 CMR 15.00 shall not apply to:
  - (a) Private, non-commercial docking facilities constructed or occupied for the use by the owners or residents of an associated one or two family dwelling, unless there is a tank regulated by 527 CMR 9.00: *Tanks and Containers*;
  - (b) Liquefied petroleum gas containers and systems regulated by 527 CMR 6.00: *Liquefied Petroleum Gas Containers and Systems*;
  - (c) The receipt, storage or distribution of flammable or combustible liquids by fuel barges or fuel vessels in bulk plant loading and unloading facilities regulated by 527 CMR 18.00: *Flammable Liquids in Bulk Plant Loading and Unloading Facilities*;
  - (d) Fuel barges and fuel vessels transferring flammable or combustible liquid cargoes utilizing a flange to flange closed transfer-piping system approved by 33 CFR 154;
  - (e) Vessels certified under 46 CFR and vessels, or facilities that are regulated under 33 CFR 154 unless such vessel or facility is limited to less than 10,500 gallon capacity;
  - (f) Foreign vessels regulated under 33 CFR 155 and U.S. and foreign public vessels, *i.e.* warships, naval auxiliaries or other ships owned and operated by a country when engaged in non commercial service;
  - (g) The fueling of vessels transported to a garage or service station regulated by 527 CMR 5.00: *Operation and Maintenance of Buildings or Other Structures Used as Garages, Service Stations and the Related Storage, Keeping and Use of Gasoline or Other Motor Fuel*.

15.02: Definitions

For the purpose of 527 CMR 15.00, the following words shall have the meanings respectively assigned to them:

15.02: continued

Alteration, a change, modification or reconfiguration of a Marine Fueling Facility which may or may not require a building permit to be issued under the provisions of 780 CMR: *The State Building Code*, or any other change, modification or reconfiguration of any building, structure, Wharf or fueling equipment or piping or Standpipe within a Marine Fueling Facility, notwithstanding the requirement to apply for a Building Permit pursuant to 780 CMR: *The State Building Code*. An alteration shall not include the routine maintenance of such equipment or the replacement of a component of such equipment, if said equipment is replaced by equipment or component of identical or like kind.

Approved Auxiliary Tank, listed or labeled auxiliary tank whose construction and components are compatible with its intended use.

Approved Dispensing Nozzle, listed or labeled fuel dispensing nozzle which features automatic closing and kick back capability. Mechanical type tightly closed hose to tank fill connection may be provided with an automatic closing nozzle, suitable for the purpose, with a hold open device immediately upstream of the hard connection.

Approved Portable Fire Extinguisher, listed or labeled extinguisher with a 2A, 20 BC rating. The rating shall be in accordance with *National Fire Protection Association (NFPA) 10*, the Standard for Portable Fire Extinguishers.

Authorized Fueling System Operator, the permit holder of a marine fueling facility, mobile marine fueling vehicle, fueling vessel, fueling barge, or the designee of said permit holder, who has received adequate training and otherwise possess the minimum qualifications required by 527 CMR 15.11(3) to handle, dispense, or in the case of a vessel, receive, fuel at a marine fueling facility or a mobile marine fueling vehicle, fuel vessel or fuel barge.

Authorized Marine Fueling Operator, the owner or designee responsible for the personal oversight of the actual fueling activity of the marine fueling facility, mobile marine fueling vehicle, fueling vessel, fueling barge or vessel receiving fuel, as the case may be.

Boat Condominium, a dockside community of shared common access to privately owned slips for docking vessel that are privately owned.

Cargo Tank, any container having a liquid capacity of 119 gallons or more intended primarily for the carriage of flammable or combustible liquids, including appurtenances, reinforcements, fittings, and closures and which:

- (a) Is permanently attached to or forms a part of a motor vehicle, or is not permanently attached to a motor vehicle but which by reason of its size, construction or attachment to a motor vehicle is loaded or unloaded without being removed from the motor vehicle; and
- (b) Is not fabricated under a DOT specification for portable tanks; and
- (c) Does not solely supply Fuel for the propulsion of the transport vehicle upon which it is mounted.

Flammable Liquid, Any liquid having a flash point below 100°F and having a vapor pressure not exceeding 40 psi at 100°F.

Fuel, any fluid that individually or in combination is classified as flammable or combustible liquid and is capable of being used to power a vessel.

Fuel Barge, any vessel located on the waters of the Commonwealth not equipped with means of self-propulsion, converted or constructed to be used for the keeping, handling and transportation and dispensing of flammable or combustible liquids to vessels.

Fuel Hose, a hose that is listed or labeled for the intended purpose of dispensing fuel and features a continuous static ground.

Fuel Vessel, any vessel with a means of self-propulsion and converted or constructed to be used for the keeping, handling and transportation and dispensing fuel to vessels.

15.02: continued

Harbor Master, any individual including assistant harbor masters appointed in accordance with the provisions of M.G.L. c. 102.

Head of the Fire Department, the Head of the Fire Department as defined in M.G.L. c. 148, § 1 or the designee of the head of the fire department.

Labeled, equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Listed, equipment or materials included in a list published by a nationally recognized organization concerned with product evaluation, that maintains periodic inspection of production of listed equipment or materials and whose listing states either that equipment or materials meet appropriate standards or have been tested and found suitable for use in a specific manner.

Marina or Vessel Berthing Area, any sheltered area located within the waters of the Commonwealth, with moorings, floats, and buoys for vessels, including those areas assigned to a vessel in port when anchored or laying alongside a wharf

Marine Fueling Facility, any facility, used to deliver flammable or combustible Liquids to any vessel located upon the waters of the Commonwealth, including all buildings, structures, equipment, piping, wharfs and appurtenances used in connection with such facility

Marshal, the State Fire Marshal, or a designee of the State Fire Marshal as defined in M.G.L. c. 148, § 1.

Mobile Marine Fueling Vehicle, any tank truck or tractor and tank semi trailer combination equipped with a cargo tank mounted thereon or built as an integral part thereof, used for the purpose of transportation of flammable or combustible liquids upon the ways of the Commonwealth and used for the purpose of fuel at a marine fueling facility.

Mobile Marine Fueling Vehicle Operator, a qualified operator of a mobile marine fuel vehicle, as listed on the permit issued by the Marshal who has been designated, trained and qualified in accordance with 527 CMR 15.11(3).

Permit Holder, the legal owner or operator of a marine fueling facility, mobile marine fueling vehicle, fueling vessel or fueling barge who holds a permit issued by the Marshal to keep, store, and dispense fuel and conduct such permitted activities.

Registered Design Professional, a professional engineer or architect who is licensed by the Commonwealth of Massachusetts.

Safety Can, a listed or labeled container, designed and constructed to store and transport combustible or flammable liquids of five gallons capacity or less, having a spring closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

Standpipe, an arrangement of piping, valves, hose connections, and related equipment installed with the hose connections located in such a manner that water can be discharged in streams or spray patterns through attached hose and nozzles for the purpose of extinguishing a fire.

Travel Distance, the distance between two or more stated points measured by following the route that a person would normally be expected to walk or firefighter's expected route of travel to provide fire hose or fire suppression equipment.

Ullage, that portion or space of a tank or container which, upon filling, remains unfilled and is used to allow for the expansion of liquid without overflow.

## 15.02: continued

Vessel, every type of watercraft, including but not limited to, a boat or barge, used or capable of being used as a means of transportation on waters of the Commonwealth.

Waters of the Commonwealth, any body of water of the Commonwealth of Massachusetts, whether or not landlocked or located on or along the coastline or an island and shall include, but not be limited to any harbor, inlet, lake, pond, reservoir, river, canal or stream.

Wharf, that portion or area of a marine fueling facility, including any bulkhead, pier, wharf, dock or other structure and related appurtenances, built along, abutting, over or contiguous to any waters of the Commonwealth and used for fueling of any vessel.

15.03: Construction or Alteration of Marine Fueling Facilities

(1) Design Submission and Approval. Prior to conducting any construction of a new fixed marine fueling facility or alteration activity to an existing fixed marine fueling facility, a registered design professional shall prepare and submit three complete stamped and scaled set of plans and specifications to the Head of the Fire Department. One set of plans shall be marked STATE FIRE MARSHAL'S OFFICE COPY, a second set of plans shall be marked LOCAL FIRE DEPARTMENT COPY and the third set of plans marked OWNER'S COPY. Such marking for each set of plans shall be in bold and located on the lower right hand legend. All designs, blueprints, plans and specifications shall comply with the provisions of 527 CMR 15.00 and any other applicable state or federal regulations. The Head of the Fire Department and the Marshal must approve the design submission before any construction or modification is commenced. The packet of plans and specifications shall include the following:

- (a) The design review fee required by the Marshal.
- (b) A cover letter providing an overview of the planned work, the location of the work and the legal names and addresses of the facility owner, operator and person(s) or company who will be conducting the work.
- (c) A copy of the current and valid registration and a copy of the LICENSE to store flammables (Form FP-2) issued under M.G.L. c. 148, § 13 or a current and valid permit if a land license is not applicable under M.G.L. c. 148, § 13.
- (d) Current PERMIT to maintain an existing fueling facility.
- (e) Current PERMIT FP-294 (existing facilities only)
- (f) Scaled design plans indicating the locations of all piers, storage tank (*see* 527 CMR 9.00: *Tanks and Containers*), piping systems, hoses, dispensing nozzles locations, equipment, signage, path of the electrical static grounding systems, fire access roadway(s), travel from the closest fire apparatus to the foot of the wharf, the location and type of standpipe system; the location of the nearest hydrant, location of the piping system, flexible hose couplings, control valves, and swing and swivel joints, and for mobile marine fueling facilities the designated location(s) that the fuel truck or mobile marine fueling vehicle shall park to dispense fuel. A notation on the plan legend shall indicate the location and type of fire extinguishing systems, approved dispensing nozzles, and the maximum number of approved dispensing nozzles, which can be operated simultaneously.
- (g) A statement that the blueprints, plans and specifications of the installation comply with the requirements of the provisions of 527 CMR 15.00 and any other applicable state or federal regulation.
- (h) Clear indication of fire access roadways and appropriate signage as directed by the Head of the Fire Department to allow for local enforcement of fire lane designation.
- (i) A detailed drawing of all of the wharf and floats showing the fueling location, tie up area(s) and all of the berthing areas.

(2) Considerations for the Location of any Marine Fueling Facility.

- (a) A marine fueling facility shall be located so as to minimize exposure to any other marina or vessel berthing area. Where tide and weather conditions permit, all fuel handling activities shall be outside of said marina or vessel berthing area. Inside a marina or vessel berthing area, a marine fueling facility shall be so located to reduce the risk of danger to other vessels in the event of fire or explosion.

## 527 CMR: BOARD OF FIRE PREVENTION REGULATIONS

## 15.03: continued

(b) A marine fueling facility that employs a mobile fueling vehicle to conduct fueling operations shall assure, and clearly indicate on the plan design, that the mobile marine fueling vehicle is going to be so positioned to minimize the distance between the mobile marine fueling vehicle and the vessel receiving the fuel. Such distance shall not exceed 50 feet, unless by written approval of the Head of the Fire Department.

(3) Compliance with Applicable Regulations and Standards. Design, construction and installations at a marine fueling facility shall comply with the minimum standards set forth in 527 CMR, NFPA 30: *Flammable and Combustible Liquids Code*, 2008 edition and NFPA 30A: *Automotive and Marine Service Station Code*, 2008 edition.

(a) All electrical components for dispensing fuel shall be installed in accordance with the current requirements of 527 CMR 12.00: *The Massachusetts Electrical Code* and shall comply with the enhanced installation requirements for wet, damp and hazardous locations.

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

(c) Clearly identified emergency switches readily accessible in case of fire or physical damage at any dispensing unit shall be located on each wharf so interlocked as to shut off power to all pump motors from any individual location and to reset only from the master switch at the main electrical disconnect panel. Each such switch is to be identified by an approved sign stating "EMERGENCY PUMP SHUTOFF" in two-inch red block capital letters.

15.04: Requirements Relating to the Design, Equipment and Signage Applicable to All New, Altered or Existing Marine Fueling Facilities

(1) Piping Systems, Hoses, Valves, Shut-offs and Related Components.

(a) All marine fueling facility piping systems shall be substantially supported and protected against physical damage and stress associated with impact, settlement, vibration, expansion, contraction, or tidal action. A method shall be employed to assure flexibility of piping to accommodate any motion of wharfs caused by manmade or natural occurrence. Flexible piping and swing joints shall be of an approved type designed to withstand the forces and pressures exerted upon piping.

(b) Pipe, valves, faucets, fittings and other pressure containing parts of piping systems shall meet the material specifications, pressure and temperature limitations of ANSI B31.3: *Petroleum Refinery Piping*. Nodular iron shall conform to *American Society for Testing Materials (ASTM) A395, Ferric Ductile Iron Pressure Retaining Castings for Use at Elevated Temperatures*. Flexible piping which is approved, certified as suitable for its intended use by the manufacturer, and provides product secondary containment shall meet the requirements of 527 CMR 15.04.

(c) Pipelines on wharfs shall be adequately bonded and grounded according to the provisions of 527 CMR 12.00: *The Massachusetts Electrical Code* if flammable liquids are handled. If excessive stray currents are encountered, insulating joints shall be installed. Bonding and grounding connections on all pipelines shall be located on the wharf side of the hose riser insulating flanges, if used, and shall be accessible for inspection.

(d) Any fuel hoses used in connection with filling tanks or the discharge of fuel shall be listed and labeled, supported properly, and of sufficient length to prevent undue strain. While filling a fuel tank, a tight connection shall be made between the approved dispensing nozzle or discharge pipe and the filler pipe of the tank being filled. At marine fueling facilities, the fuel hose shall not exceed 30 feet in length without the written approval of the Head of the Fire Department. Where fuel hose length at a marine fueling facility exceeds 30 feet, the fuel hose shall be secured by a hose retrieving mechanism to protect it from damage.

15.04: continued

(e) Any wharf of a marine fueling facility shall be equipped with only listed or labeled control valves and devices. Authorized fueling facility system operators shall be aware of the location of all such shut off control devices. The use of additional shut off control valves in excess of the required minimum shall be allowed to facilitate fuel system servicing and to control fuel flow during both normal and emergency operation. Cast iron valves or fittings shall not be used in any pipe connection located between the tank and approved dispensing nozzle. 527 CMR 15.04(1)(e)4. and 6. may be required on a site specific basis.

1. All Marine Fueling Facilities.

a. Approved dispensing nozzle.

b. Dispenser shut off. All dispensers shall be provided with an approved shut-off valve at the fuel-dispensing unit. This valve may be the dispenser unit shut off.

c. Manual electrical emergency fuel shut-off pull stations shall be U.L. listed and shall be provided to disrupt power to all dispensers and fuel storage tank (527 CMR 9.00: *Tanks and Containers* discharge pump(s)). These pull stations shall be located within 25 feet of any metering unit. And shall be located to be in the path of exit travel. Additional pull station shall be provided as required by the Head of the Fire Department or the Marshal. Pull stations shall not be located on gangways. All pull stations are to be marked "EMERGENCY FUEL SHUT OFF" in two inch red block capital letters and shall be accessible at all times.

d. Fuel piping systems on fixed piers shall be provided with a readily accessible shut-off valve on the pier within four feet of the flexible connector to the land and on the land within 15 feet of the pier. Said shut off controls are to be marked "EMERGENCY FUEL SHUT OFF" in two inch red block capital letters and shall be accessible at all times.

e. Emergency shut-off valves, incorporating a fusible link or other approved thermally actuated device designed to close automatically in event of fire exposure or severe impact, shall be installed in accordance with the manufacturer's instructions in the flammable or combustible liquid supply line. The shut-off valve shall be located at the base of each individual dispenser or at the inlet to the overhead dispenser. The automatic closing feature of excess flow valves shall be tested at least once per month by manually tripping the hold open device. The valves shall be readily accessible and shall employ cover or similar means located on the shore side of the wharf and shall be so marked by two inch red block capital letters.

f. Divisional valves shall be installed on the marine wharf so that the maximum length of the piping system is 300 ft between divisional valves. They shall be marked by two inch red block capital letters.

g. All other valves shall be clearly identified, by marking with a permanent plate or tag indicating its system function.

h. At marine fueling facilities where tanks are at an elevation which produces a gravity head on the dispensing unit, the tank outlet shall be equipped with a device, approved, such as a solenoid valve, positioned adjacent to, and downstream from , the tank so installed and adjusted that liquid cannot flow by gravity from the tank in case of piping or hose failure when the dispenser is not in use.

i. All valves shall be equipped with a pressure-relieving device that will relieve any pressure generated by thermal expansion of the contained liquid back to the storage tank (*see* 527 CMR 9.00: *Tanks and Containers*).

2. Floating Installations. Fuel piping systems to floats shall be provided with a readily accessible approved shut off valve on the fixed pier (or land if applicable) within 15 feet of the flexible connector from the pier (or land) to the float. Said shut off controls are to be marked "EMERGENCY FUEL SHUT OFF" in two inch red block capital letters and shall be accessible at all times.

(2) Signage and Notifications. A suitable sign, printed in two-inch, red block capital letters on a white background, shall be conspicuously posted at the dispensing area of all marine fueling facilities stating the following:

(a) BEFORE FUELING:

1. Stop all engines.

2. Shut off all unnecessary engines, operations, appliances, electricity, open flames, and heat sources.

## 15.04: continued

3. Extinguish all smoking materials.
  4. Close access fittings and openings that could allow fuel vapors to enter enclosed spaces of the vessel.
- (b) DURING FUELING:
1. Maintain nozzle contact with fill pipe.
  2. Wipe up spills immediately.
  3. Avoid overflowing.
  4. Fuel filling nozzle must be attended at all times.
  5. Keep engine ventilation operating to avoid fuel vapor build up.
  6. No smoking.
- (c) AFTER FUELING:
1. Inspect bilges for leakage and fuel odors.
  2. Ventilate until odors are removed.
- (3) Access in the Event of an Emergency Response. A marine fueling facility and associated wharfs shall be kept clear of any materials that would interfere or obstruct easy access to fire fighting equipment or emergency shutdown devices or piping system control valves.
- (4) Approved Portable Fire Extinguishers. An approved portable fire extinguisher shall be provided within 75 feet of areas requiring fire protection, as approved by the Head of the Fire Department.

15.05: Fire Protection Requirements and Equipment Applicable to All New Marine Fueling Facilities

- (1) Access in the Event of an Emergency Response.
- (a) A marine fueling facility and associated wharfs shall be kept clear of any materials that would interfere with or obstruct easy access to fire fighting equipment or emergency shutdown devices or piping system control valves.
  - (b) All roadways within a marine fueling facility that may be used by fire apparatus shall provide a minimum of 18 feet width, and be capable of safely handling the weight of firefighting apparatus.
  - (c) If a marine fueling facility, including an associated wharf is capable of vehicular traffic, an unobstructed roadway to within 150 feet or less of the designated fueling area shall be maintained for access by fire fighting apparatus.
  - (d) All marine-fueling facilities shall provide roadways to provide for adequate access for emergency vehicles, including fire apparatus to within 150 feet or less travel distance to the shore end of the marine wharf. Except, when approved by the Head of the Fire Department, a manual standpipe system maybe installed along marine wharfs when conditions are such that providing fire department access roads to within 150 feet of the shore end of the marine wharf is not practical.
- (2) Standpipes.
- (a) A manual standpipe system shall be installed at all wharfs where the travel distance from the closest point of access for the fire department apparatus to the most remote accessible portion of the wharf exceeds 150 feet. The type and location of standpipe systems and standpipe outlets shall be approved by the Head of the Fire Department, but in no case shall they be more than 150 feet of travel distance apart, and no more than 150 feet, travel distance from a dead end. The fire department pumper can be considered as a standpipe system discharge point if it is within 150 feet of the shore end of the wharf. The standpipe piping shall be no less that three inches inside side nominal diameter and sized to provide a minimum of 500 gpm at 100 psi outlet pressure at the hydraulically most remote outlet with an outlet.
  - (b) The use of a flexible type conduit material (*i.e.* additional materials) for monolithic type of floats is acceptable for standpipe usage if the material utilized meets pressure and flow requirements and is approved by the Head of the Fire Department having jurisdiction. The Registered Design Professional shall be required to submit documentation on monolithic type of floats if requested by the Head of the Fire Department.

15.05: continued

(3) Hydrants.

(a) Hydrants shall be provided on marine fueling facility wharfs where fire apparatus is expected to drive onto the wharf to protect a marine fueling facility. The hydrants shall be installed, tested and maintained in accordance with NFPA 307: *Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves*, 2011 edition, in locations approved by the Head of the Fire Department. In addition, a hydrant shall be within 100 feet of the required standpipe connection. If available, the type and capacity of the water supply system for the fire hydrants shall be sufficient to deliver adequate water and water pressure as determined by the Head of the Fire Department who shall take into consideration the relative fire hazard, the property involved, the availability of marine firefighting equipment, and the time frame that the water supply volume will be required to be maintained.

15.06: Requirements for Mobile Marine Fueling Vehicles

(1) Mobile marine fueling vehicles shall comply with the provisions of 527 CMR 8.00: *Transportation of Flammable and Combustible Liquids*, in so much as said provisions do not conflict with the provisions of 527 CMR 15.00.

(2) Mobile marine fueling vehicles used to dispense fuel at a marine fueling facility shall be reasonably positioned to minimize risk of fire and explosion exposure to all other operational marina or vessel berthing area facilities. Where tide and weather conditions permit, all fuel handling shall be outside the main berthing area. Inside marina or vessel berthing area, fueling facilities shall be so located that in case of fire aboard a vessel alongside, the danger to other vessels near the facility will be minimal. No vessel shall be made fast to or berthed at any wharf, except during fueling operations, and no vessel shall be made fast to any other vessel occupying a berth at a wharf or other marine fueling facility. The mobile marine fueling vehicle shall be located and arranged so as to minimize the travel distance from the mobile marine fueling vehicle to the vessel receiving the fuel. The required travel distance shall not exceed 50 feet in length without the written approval of the Head of the Fire Department and the Marshal.

(3) No mobile marine fueling vehicle containing any fuel shall be parked unattended at any wharf for more than one hour unless the driver notifies the Head of the Fire Department in the city or town where the mobile marine fueling vehicle is parked and receives approval. The Head of the Fire Department may assume control of the mobile marine fueling facility and its contents if the driver or owner is unable or unwilling to remove the mobile marine fueling vehicle or its fuel contents within a reasonable time.

(4) A mobile marine fueling vehicle shall fuel a vessel only at a properly permitted marine fueling facility. In emergency situations the Head of the Fire Department may permit fueling prior to written authorization by the Head of the Fire Department. Such authorization shall be given to the Marshal within 24 hours of such situations.

(5) A copy of the provisions contained in 527 CMR 15.07(7) through (17) shall be conspicuously posted in the cab of each mobile marine fueling vehicle.

(6) Reasonable written instructions on a document in a size of at least 8.5" x 11" and protected against the weather, shall be conspicuously posted at the pump controls of all mobile marine fueling vehicles and shall contain the instructions stated in 527 CMR 15.07(1).

(7) As a condition to maintaining and operating a marine fueling facility that uses mobile marine fueling vehicles for fueling operation, the Head of the Fire Department may require reasonable additional safety precautions to alert and protect the general public during fueling activities. Examples include, but are not limited to: the activation of vehicle emergency flashers, deploying traffic cones or warning signs in or around the fueling area or on the mobile marine fueling vehicle or restricting access to fueling areas being utilized.

## 527 CMR: BOARD OF FIRE PREVENTION REGULATIONS

15.07: Provisions Relating to the Safe Fueling of Vessels

- (1) No fuel shall be delivered to the tank of any vessel from a storage tank (527 CMR 9.00: *Tanks and Containers*), fuel vessel, fuel barge, marine fueling facility, or mobile marine fuel vehicle unless an authorized fueling system operator who meets all the requirements 527 CMR 15.00 is present to supervise the entire delivery activity. Said authorized fueling system operator shall be positioned within 15 feet of such dispensing controls during the fueling operation and shall remain within a direct, clear unobstructed view of both the vessel fuel filler neck and the marine fueling facility emergency fuel shut off mechanism. Prior to the delivery of any fuel, the fueling system operator shall insure that the vessel is properly moored and that all connections are made.
- (2) Fueling of floating vessels at other than a marine fueling facility is prohibited except by prior written authorization by the Head of the Fire Department and the Marshal.
- (3) Fueling operations conducted after sunset and before sunrise shall only be undertaken when permitted by the Head of the Fire Department and if adequate, permanent lighting is provided.
- (4) No fueling shall occur in such a manner that the fuel hose runs over one or more vessels to reach the vessel being fueled.
- (5) The fuel hose shall never be allowed to run into the water.
- (6) During fueling operations, smoking shall be forbidden on board the vessel and on the marine fueling facility.
- (7) No owner or operator of any vessel shall offer their vessel for fueling unless they have complied with the following:
  - (a) Assure that the tanks being filled are properly vented to dissipate fumes to the outside atmosphere and the fuel systems are liquid and vapor tight with respect to hull interiors.
  - (b) All fuel systems are designed, installed and maintained in compliance with the specifications of the manufacturer of the vessel.
  - (c) Communication has been established between the fueling system operations supervisor and the person in control of the vessel receiving fuel so as to determine the vessel fuel capacity, the amount of fuel on board, and the amount of fuel to be taken on board while providing the appropriate ullage to prevent overflows,
  - (d) The electrical bonding and grounding systems of the vessel have been maintained in accordance with the manufacturer's specifications.
- (8) Before opening the tanks of the vessel to be fueled, the following precautions shall be observed;
  - (a) All engines, motors, fans and bilge blowers, which are not explosion proof, shall be shut down.
  - (b) All open flames and smoking material shall be extinguished and all exposed heating elements shall be turned off.
  - (c) Galley stoves shall be extinguished.
  - (d) All ports, windows, doors and hatches shall be closed.
  - (e) The quantity of fuel to be taken aboard shall be determined in advance of fueling operations by the fueling facility operator *see* 527 CMR 15.02.
  - (f) A sufficient number of approved portable fire extinguishers, as determined by the Head of the Fire Department shall be readily accessible.
  - (g) The approved dispensing nozzle shall be put into contact with the vessel fill pipe before the flow of fuel shall commence and this bonding contact shall be continuously maintained until fuel flow has stopped.
- (9) Tanks shall not be completely filled and shall allow a minimum of 2% of tank space for expansion. This space allowance should be 6% if the fuel taken aboard is at a temperature of 32°F or below. After the fuel flow has stopped;
  - (a) The fill cap shall be tightly secured.
  - (b) Any spillage whatsoever shall be wiped up immediately.

15.07: continued

(c) If flammable liquid has been delivered, the entire vessel shall remain opened and bilge blowers turned on and allowed to run for at least five minutes before starting any engines or lighting galley fires. If bilge blowers are not available, an additional five minutes of venting shall be required.

(10) In the event of a leak, rupture, spill, overflow or other incident involving the handling of fuel within 1500 feet of the marine fueling facility, the fire department shall be notified immediately by the authorized marine fueling operator or the permit holder.

(11) Conformance with the requirements of 527 CMR 15.08(1) through (12) shall be the responsibility of the authorized fueling system operator. The authorized fueling system operator shall immediately terminate fueling operations if the provisions of 527 CMR 15.00 are not complied with.

15.08: General Provisions for the Safe Handling, Storage or Transport of Flammable or Combustible Liquids on Waters of the Commonwealth

(1) No person shall, handle, store, or transport fuel, or dispose of crude petroleum or any of its products on any of the waters of the Commonwealth except in accordance with 527 CMR 15.00.

(2) Fuel shall not be handled, stored or transported on the Waters of The Commonwealth unless a permit has first been secured therefore from the Marshal.

(a) Application for the permit is to be made on Fire Prevention (FP) form 293, as revised.

(b) The permit shall be issued on Fire Prevention (FP) form 294, as revised.

(c) The permit provided for in the preceding section shall remain in force for a term to be determined by the Marshal unless suspended or revoked for cause by the Marshal, and shall be subject to examination at all times by the Head of the Fire Department, Marshal, police officer, or Harbor Master within his or her jurisdiction.

(3) Fuel and crude petroleum or any of its products kept on waters of the Commonwealth shall be kept, transported, stored and delivered in fuel barges, fuel vessels, mobile marine fueling vehicles, tanks and containers, all of which shall be specially designed, constructed or adapted and approved for such purposes.

(4) Any fuel being transported on any waters of the Commonwealth other than by permanent supply tank shall be transported only in approved auxiliary tanks or safety cans which are listed or labeled for the particular in-use activity. Such approved auxiliary tanks or safety cans shall have a combined capacity not to exceed 21 gallons. Any approved auxiliary tank or safety can larger than seven gallons must be securely fastened to prevent any possible shift of more than two inches in any direction caused by vessel motion.

(5) Flammable liquids shall not be delivered to any vessel having 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 completely into the tank. Vessels receiving combustible liquids shall have the receiving end of the fill pipe securely connected to a deck plate and fitted with a screw cap. Such pipe may connect to a manifold fuel fill system that shall extend completely into each separate tank. Each fuel tank shall be provided with a suitable vent pipe that shall extend from the tank to the outside of the coaming or enclosed rails to enable vapors to dissipate outboard.

(6) No fuel shall be delivered to any storage tank (*see 527 CMR 9.00: Tanks and Containers*) by means of a pump or by means under pressure unless such storage tank (*see 527 CMR 9.00: Tanks and Containers*) is of sufficient size and designed to withstand the additional stress and pressure caused by such delivery method.

(7) No flammable liquids shall be delivered to the tank of a vessel from a marine fueling facility except by means of a proper fuel hose equipped with an approved dispensing nozzle.

## 527 CMR: BOARD OF FIRE PREVENTION REGULATIONS

## 15.08: continued

- (8) Any combustible liquids shall only be delivered to the tank of any vessel from a Marine Fueling Facility:
- (a) In compliance with 527 CMR 15.08(6) if no flange-to-flange connection is possible, or is being used.
  - (b) By means of a flange-to-flange closed transfer piping system utilizing fuel hose and full threaded connections or flanges that meet Standard B16.5: *Steel Pipe Flanges and Flange Fittings* or Standard B16.24: *Brass or Bronze Pipe Flanges of the American National Standards Institute (ANSI)* or quick connect couplings that are approved by the Marshal.
- (9) A portable or fixed fill vent and signal device shall be securely affixed to the fuel filler pipe of the tanks receiving combustible liquids to prevent overflow.
- (10) No fuel shall be sold or delivered to the tank of any vessel or to any person by any person other than an authorized fuel system operator who meets the requirements of 527 CMR 15.00.
- (11) No fuel shall be delivered from a portable fuel container to the tank of any vessel with a fuel tank capacity greater than 21 gallons without the prior written approval of the Head of the Fire Department, except for the single delivery of not more than seven gallons in an emergency fuel situation. However, in such emergency situations, all other of the provisions of both 527 CMR 15.07(7)) and 15.08(6) shall be complied with.
- (12) Fuel shall only be delivered to the tank of any vessel from a storage tank (*see 527 CMR 9.00: Tanks and Containers*), fuel vessel, fuel barge, marine fueling facility and related wharf or mobile marine fueling vehicle by an authorized marine fueling operator and shall be positioned within 15 feet of such dispensing controls during the fueling operation and shall remain within a direct clear unobstructed view of both the vessel fuel filler neck and the marine fueling facility emergency fuel shut off mechanism. Prior to the delivery of any fuel, the authorized fueling system operator shall assure that the vessel receiving fuel is safely moored and secured and that all fuel connections are in accordance with 527 CMR 15.00
- (13) No vessel shall be fueled after sunset or before sunrise, except under well lighted conditions.
- (14) There shall be no smoking or the ignition of any open flame on board any vessel or in the vicinity of any fueling operation.
- (15) All vessel fueling operations shall be carefully accomplished in accordance with the 527 CMR 15.00 and utmost caution shall be exercised during all such operations.

15.09: Fuel Vessels and Fuel Barges

- (1) No fuel barge or fuel vessel shall be permitted to anchor or moor for fueling purposes within any Marina or Vessel Berthing Area. A minimum of a 200-foot radius shall be maintained between any Fuel Vessel or Fuel Barge and any marina or vessel berthing area. This minimum 200 foot radius may be modified in writing upon review of the Head Fire Department under unique circumstances. A copy of which shall be given to the State Fire Marshal.
- (2) The location of Fuel Vessels or Fuel Barges within a Marina or Vessel Berthing area shall be determined by the Harbor Master in accordance with the authority vested in said Harbor Master by M.G.L. c. 102, in consultation with the head of the Fire Department. When located on Waters of the Commonwealth not within the jurisdiction of a Harbor Master, the determination of the permanent location shall be made by the Marshal.
- (3) Fuel kept for resale on fuel barges or fuel vessels shall be stored in metal tanks. Such tanks shall be constructed, braced and secured so as to prevent injury, rupture or displacement and to withstand the normal stresses to which they may be subjected. Tanks constructed in accordance with 46 CFR will be considered as complying with the requirements of 527 CMR 15.07(4).

## 15.09: continued

(4) Fuel vessels and fuel barges which, in the opinion of the Head of the Fire Department or the Marshal, pose a substantial fire hazard due to fuel cargo or location, may be required to rig fire warps which shall consist of hawsers of sufficient size to adequately tow the fuel barge or fuel vessel in the event of an emergency. Fire warps shall be secured to the deck of the fuel barge or fuel vessel and shall hang outboard to within six feet of the surface of the water. An eye shall be spliced into the outboard end of the warp of sufficient size to permit the rapid attachment of a towing shackle.

(5) When receiving, discharging or storing fuel, every fuel barge or fuel vessel shall display on a suitable staff an International Code Flag B which shall be readily discernible from a distance of not less than 1000 feet by day and shall be properly illuminated after sunset and before sunrise.

(6) Every fuel barge, fuel vessel, and marine fueling facility used for the keeping of fuel shall be equipped with additional fire extinguishing appliances which may reasonably be prescribed by the Marshal.

15.10: Authorized Marine Fueling Operators

(1) The permit holder of every marine fueling facility, mobile marine fueling vehicle, fueling vessel or fueling barge shall designate one or more persons to be an authorized marine fueling operator. The authorized marine fueling operator shall be responsible for the oversight of the actual fueling activity conducted by the marine fueling facility, mobile marine fueling vehicle, fueling vessel, fueling barge.

(2) The authorized marine fueling operator shall be 18 years of age or older, and shall be the permit holder of the marine fueling facility, mobile marine fueling vehicle, fueling vessel or fueling barge, as the case may be, or shall be an agent or employee of the permit holder and under the direct control or supervision of said permit holder.

(3) The permit holder shall be responsible to assure that each current or newly designated authorized marine fueling operator is adequately and properly trained prior to conducting any fueling activity at the permitted facility or by a marine fueling vehicle, fuel barge or fuel vessel or vessel receiving delivery of fuel. Such training shall, be conducted at least on an annual basis and at a minimum, shall include the following areas:

- (a) Familiarity of 527 CMR 15.00;
- (b) The properties and hazards of fuel;
- (c) Handling precautions for fuel;
- (d) The manufacturers operating instructions for operating all fueling equipment (pumps, approved dispensing nozzles, controls, emergency shutoff *etc.*) and related equipment;
- (e) Familiarity with the operation and location of all fueling equipment and of all emergency equipment and procedures, including:
  1. Emergency notifications by site specific);
  2. Evacuation procedures;
  3. Emergency shutoff equipment location and operation;
  4. Fire extinguisher locations and operations;
  5. Location and proper operation of any extinguishing systems;
  6. Standby for the arrival of emergency responders.

(4) The permit holder shall keep a written record for each authorized marine fueling operator. Such record shall be maintained for a period of three years at the office of the permit holder and shall include, at a minimum the following information:

- (a) The name, home address, telephone number and age of the authorized marine fueling operator;
- (b) The date(s) and location of the attended training activity;
- (c) A summary of the areas and topics of the training program;
- (d) A dated signature(s) of the employee(s) administering the training;
- (e) A signed and dated statement from the employee receiving the training indicating confirming that the training was received and understood.

## 15.10: continued

(5) The marine fueling facility, mobile marine fueling vehicle, fueling vessel or fueling barge shall keep on file a copy of all current licenses and endorsements held by each authorized marine fueling operator.

(6) The records required to be maintained in accordance with 527 CMR 15.00(4) and (5) shall be made available for inspection by the Marshal, Head of the Fire Department or Harbor Master to assure compliance.

15.11: Inspections and Enforcement

(1) All marine fueling facilities, fuel vessels, fuel barges and mobile marine fueling vehicles shall be open to inspection by the Marshal, or the Head of the Fire Department, the Harbor Master, during all hours of operation and at any other time, upon reasonable notification of the intent to conduct an inspection thereof for the purpose of verifying compliance with 527 CMR 15.00 or any other related provisions of 527 CMR and M.G.L. c. 148.

(2) In addition to the general enforcement authority authorized by the provisions of M.G.L. c. 148 and 527 CMR, the Marshal and the Head of the Fire Department is authorized under 527 CMR 15.00 and 527 CMR 1.03: *Enforcement Authority* to take any reasonable action necessary to prevent, eliminate or abate any dangerous or unsafe condition in order to prevent any actual or potential harm caused by a fire, explosion or to enhance the spread of fire any other occurrence that could tend to reasonably jeopardize public safety. Such action may include the suspension or revocation of any permit issued under the provisions of 527 CMR 15.00, 527 CMR to operate any such Marine Fueling Facility, Fuel Vessel, Fuel Barge or Marine Fueling Vehicle. Such action shall be taken in accordance with the provisions of M.G.L. c. 30A.

## REGULATORY AUTHORITY

527 CMR 15.00: M.G.L. c. 148, §§ 9, 10, 38E and 38H.

UNOFFICIAL COPY

527 CMR: BOARD OF FIRE PREVENTION REGULATIONS

NON-TEXT PAGE