**Chapter 28 Marinas, Boatyards, Marine Terminals, Piers, and Wharves**

28.1 Marinas, Boatyards, and Other Recreational Marine Facilities

28.1.1 Scope

The construction and operation of marinas, boatyards, yacht clubs, boat condominiums, docking facilities associated with residential condominiums, multiple-docking facilities at multiple-family residences, and all associated piers, docks, and floats shall comply with NFPA 303 and Section 28.1. [303:1.1]

28.1.1.1

Section 28.1 also applies to support facilities and structures used for construction, repair, storage, hauling and launching, or fueling of vessels if fire on a pier would pose an immediate threat to these facilities, or if a fire at a referenced facility would pose an immediate threat to a docking facility. [303:1.1.1]

28.1.1.2

Section 28.1 applies to marinas and facilities servicing small recreational and commercial craft, yachts, and other craft of not more than 300 gross tons. [303:1.1.2]

28.1.1.3

Section 28.1 is not intended to apply to a private, noncommercial docking facility constructed or occupied for the use of the owners or residents of the associated single-family dwelling. [303:1.1.3]

28.1.1.4

No requirement in this chapter is to be construed as reducing applicable building, fire, and electrical codes. [303:1.1.4]

28.1.2 Fire Protection

28.1.2.1 Portable Fire Extinguishers

28.1.2.1.1 Placement

28.1.2.1.1.1

Selection and installation of portable fire extinguishers shall be in accordance with NFPA 10 unless otherwise permitted by 28.1.2.1.1.1.1, 28.1.2.1.1.1.2, or 28.1.2.1.1.1.3. [303:6.1.1.1]

28.1.2.1.1.1.1

Placement of portable fire extinguishers on piers and along bulkheads where vessels are moored or are permitted to be moored shall meet the following criteria:

Extinguishers listed for Class A, Class B, and Class C fires shall be installed at the pier/land intersection on a pier that exceeds 25 ft (7.62 m) in length.

Additional fire extinguishers shall be placed such that the maximum travel distance to an extinguisher does not exceed 75 ft (22.86 m).

Extinguishers shall be protected from environmental exposures to prevent damage and lack of operability.

[303:6.1.1.1.1]

28.1.2.1.1.1.2

All extinguishers installed on piers shall meet the rating requirements set forth in NFPA 10 for ordinary hazard. [303:6.1.1.1.2]

28.1.2.1.1.1.3 Fuel-Dispensing Areas

(A)

Portable fire extinguishers that meet the minimum requirements of NFPA 10 for extra hazard shall be installed on two sides of a fuel-dispensing area. [303:6.1.1.1.3.1]

(B)

On piers or bulkheads where long fueling hoses are installed for fueling vessels, additional extinguishers installed on piers or bulkheads shall meet the requirements of NFPA 10 for extra hazard and 28.1.2.1.1.1.1 of this Code. [303:6.1.1.1.3.2]

28.1.2.1.2 Visibility and Identification

All portable fire extinguishers shall be clearly visible and marked. [303:6.1.2]

28.1.2.2\* Fixed Fire-Extinguishing Systems

28.1.2.2.1 Buildings on Piers and Covered Piers

28.1.2.2.1.1

Buildings in excess of 500 ft2 (46 m2) that are constructed on piers and covered piers in excess of 5000 ft2 (460 m2) shall be protected by an approved automatic fire-extinguishing system unless otherwise permitted by 28.1.2.2.1.2 or 28.1.2.2.1.3. [303:6.2.1.1]

28.1.2.2.1.2

Buildings of Type I or Type II construction, as specified in NFPA 220 and without combustible contents, shall not be required to be protected by an automatic fire-extinguishing system. [303:6.2.1.2]

28.1.2.2.1.3\*

Existing facilities shall not be required to be protected by an automatic fire-extinguishing system where acceptable to the AHJ. [303:6.2.1.3]

28.1.2.2.2\* Buildings Exceeding 5000 ft2 (465 m2)

28.1.2.2.2.1

Marina and boatyard buildings in excess of 5000 ft2 (465 m2) in total area shall be protected by an approved automatic fire-extinguishing system unless otherwise permitted by 28.1.2.2.2.2. [303:6.2.2.1]

28.1.2.2.2.2\*

Existing facilities shall not be required to be protected by an automatic fire-extinguishing system where acceptable to the AHJ. [303:6.2.2.2]

28.1.2.2.3 Combustible Piers and Substructures

28.1.2.2.3.1

Combustible piers and substructures in excess of 25 ft (7.62 m) in width or in excess of 5000 ft2 (465 m2) in area, or within 30 ft (9.14 m) of other structures or superstructures required to be so protected, shall be protected in accordance with Section 4.3 of NFPA 307 unless otherwise permitted by 28.1.2.2.3.2, 28.1.2.2.3.3, or 28.1.2.2.3.4. [303:6.2.3.1]

28.1.2.2.3.2

Fixed piers shall not be required to be protected as specified in 28.1.2.2.3.1 where the vertical distance from the surface of mean high water level to the underside of the pier surface does not exceed 36 in. (914 mm). [303:6.2.3.2]

28.1.2.2.3.3

Floating piers shall not be required to be protected as specified in 28.1.2.2.3.1 where the vertical distance from the surface of the water to the underside of the pier surface does not exceed 36 in. (914 mm). [303:6.2.3.3]

28.1.2.2.3.4\*

Existing facilities shall not be required to be protected by an automatic fire-extinguishing system where acceptable to the AHJ. [303:6.2.3.4]

28.1.2.2.4 Indoor Rack Storage

28.1.2.2.4.1\*

Where boats are stored on multilevel racks in buildings, an approved automatic fire-extinguishing system shall be installed throughout the building unless otherwise permitted by 28.1.2.2.4.2 or 28.1.2.2.4.3. [303:6.2.4.1]

28.1.2.2.4.2

An automatic fire-extinguishing system shall not be required for buildings less than 5000 ft2 (465 m2) having multilevel racks where provided with one of the following:

An automatic fire detection and alarm system supervised by a central station complying with NFPA 72

An automatic fire detection and alarm system supervised by a local protective signaling system complying with NFPA 72 if the provisions of 28.1.2.2.4.2(1) are not technically feasible

A full-time watch service if the provisions of 28.1.2.2.4.2(1) are not technically feasible

[303:6.2.4.2]

28.1.2.2.4.3\*

Existing facilities shall not be required to be protected by an automatic fire-extinguishing system where acceptable to the AHJ. [303:6.2.4.3]

28.1.2.2.5\*

An approved water supply shall be provided within 100 ft (30 m) of the pier/land intersection or fire department connection serving fire protection systems. [303:6.2.5]

28.1.2.2.6

Access between water supplies and pier/land intersections or fire department connections shall be by roadway acceptable to the AHJ. [303:6.2.6]

28.1.2.3\* Fire Standpipe Systems

28.1.2.3.1

Class I standpipe systems shall be provided for piers, bulkheads, and buildings where the hose lay distance from the fire apparatus exceeds 150 ft (45 m). [303:6.3.1]

28.1.2.3.2

Class I standpipes shall be provided in all buildings used for the rack storage of boats. [303:6.3.2]

28.1.2.3.3

Standpipe systems, where installed, shall be in accordance with NFPA 14, except for the provisions identified in 28.1.2.3.4. [303:6.3.3]

28.1.2.3.4

Hose racks, hoses, and standpipe cabinets shall not be required on piers and bulkheads. [303:6.3.4]

28.1.2.4 In-Out Dry Storage and Rack Storage

28.1.2.4.1

Fire protection shall be provided as described in either 28.1.2.4.1.1 or 28.1.2.4.1.2. [303:6.4.1]

28.1.2.4.1.1

A Class II standpipe system shall be designed and installed in accordance with NFPA 14. [303:6.4.1.1]

28.1.2.4.1.2\*

Portable fire extinguishers shall be provided in accordance with NFPA 10. [303:6.4.1.2]

28.1.2.4.2

The fire protection provided in 28.1.2.4.1 shall be capable of reaching all boats, including those on the highest rack. [303:6.4.2]

28.1.2.5 Hydrants and Water Supplies

Hydrants and water supplies for fire protection in marinas and boatyards shall be provided in accordance with this Code, NFPA 13, NFPA 14, and NFPA 24. [303:6.5]

28.1.2.6\* Exposure Protection

The hazards of fire exposure and appropriate protection methods shall be evaluated. [303:6.7]

28.1.2.7 Transmittal of Fire Emergency

28.1.2.7.1

All marinas and boatyards shall have a means to notify the fire department rapidly in the event of an emergency. [303:6.8.1]

28.1.2.7.2

If a telephone is used to meet 28.1.2.8.1, the telephone installation shall meet the following criteria:

The telephone shall be available for use at all times.

Use of the telephone for emergency notification shall not require the use of a card, coin, or currency.

\* The street address of the facility and the emergency telephone number(s) shall be displayed prominently on a sign at the telephone.

[303:6.8.2]

28.1.2.8 Automatic Fire Detectors

28.1.2.8.1

Automatic fire detection devices and installation shall be in accordance with NFPA 72. [303:6.9.1]

28.1.2.8.2

Automatic fire detectors shall be installed in the following interior or covered locations unless those locations are protected by a fixed automatic sprinkler system installed in accordance with NFPA 13:

Rooms containing combustible storage or goods

Rooms containing flammable liquid storage or use

Rooms containing battery storage or maintenance

Rooms containing paint and solvent storage or use

Areas used for enclosed or covered storage of vessels

Areas used for enclosed or covered maintenance of vessels

Areas used for public assembly, dining, or lodging

Kitchens and food preparation areas

Dust bins and collectors

Inside trash storage areas

Rooms used for storing janitor supplies or linens

Laundry rooms

Furnace rooms

[303:6.9.2]

28.1.3 Berthing and Storage

28.1.3.1 Wet Storage and Berthing

28.1.3.1.1

Each berth shall be arranged such that a boat occupying the berth can be removed in an emergency without the necessity of moving other boats. [303:7.1.1]

28.1.3.1.2

Access to all piers, floats, and wharves shall be provided for municipal fire-fighting equipment. [303:7.1.2]

28.1.3.1.3\*

Electrical lighting shall be provided to ensure adequate illumination of all exterior areas, piers, and floats. [303:7.1.3]

28.1.3.1.4

Electrical lighting shall not interfere with navigation or aids to navigation. [303:7.1.4]

28.1.3.1.5

Only listed 120/240 V ac electrical equipment shall be operated unattended. [303:7.1.5]

28.1.3.2 Dry Storage

28.1.3.2.1 General

28.1.3.2.1.1 Heaters

28.1.3.2.1.1.1

The use of portable heaters in boat storage areas shall be prohibited except where necessary to accomplish repairs. [303:7.2.1.1.1]

28.1.3.2.1.1.2

Portable heaters used in accordance with 28.1.3.2.1.1.1 shall be used only when personnel are in attendance. [303:7.2.1.1.2]

28.1.3.2.1.1.3

Open flame heaters shall not be used in boat storage areas. [303:7.2.1.1.3]

28.1.3.2.1.2

Ladders long enough to reach the deck of any stored boat shall be provided and readily accessible. [303:7.2.1.2]

28.1.3.2.1.3

The use of blow torches or flammable paint remover shall be prohibited unless permitted by 8.7.1 of NFPA 303. [303:7.2.1.3]

28.1.3.2.1.4

The use of gasoline or other flammable solvents for cleaning purposes shall be prohibited. [303:7.2.1.4]

28.1.3.2.1.5

Where a boat is to be dry-stored for the season or stored indoors for an extended period of time, such as while awaiting repairs, the following precautions shall be taken:

The vessel shall be inspected for any hazardous materials or conditions that could exist, and corrective action shall be taken.

Liquefied petroleum gas (LPG) and compressed natural gas (CNG) cylinders, reserve supplies of stove alcohol or kerosene, and charcoal shall be removed from the premises or stored in a separate, designated safe area.

All portable fuel tanks shall be removed from the premises or emptied and, if emptied, the cap shall be removed and the tank left open to the atmosphere.

\* Permanently installed fuel tanks shall be stored at least 95 percent full.

[303:7.2.1.5]

28.1.3.2.1.6

No unattended electrical equipment shall be in use aboard boats. [303:7.2.1.6]

28.1.3.2.1.7

All storage areas shall be routinely raked, swept, or otherwise policed to prevent the accumulation of rubbish. [303:7.2.1.7]

28.1.3.2.1.8 Fire Department Access

28.1.3.2.1.8.1

Access to boats stored outside shall be such that the hose-lay distance from the fire apparatus to any portion of the boat shall not exceed 150 ft (45 m). [303:7.2.1.8.1]

28.1.3.2.1.8.2

Access to buildings in which boats are stored shall be such that the hose-lay distance from the fire apparatus to all exterior portions of the building shall not exceed 150 ft (45 m). [303:7.2.1.8.2]

28.1.3.2.1.8.3

Wet standpipe systems shall be permitted to be used to meet the requirement in 28.1.3.2.1.8.1 or 28.1.3.2.1.8.2. [303:7.2.1.8.3]

28.1.3.2.2 Indoors

28.1.3.2.2.1

When work is being carried out onboard a vessel in an unsprinklered storage building, management shall require an inspection of the vessel at the end of the day to ensure that no hazards resulting from the day's work are present. [303:7.2.2.1]

28.1.3.2.2.2

If a guard is employed, vessels addressed in 28.1.3.2.2.1 shall be included in the regular rounds. [303:7.2.2.2]

28.1.3.2.2.3

Class I flammable liquids shall not be stored in an indoor boat storage area. [303:7.2.2.3]

28.1.3.2.2.4

Work performed on boats stored indoors shall be performed by qualified personnel. [303:7.2.2.4]

28.1.3.2.2.5

Facility management shall maintain control over all personnel access to storage facilities and boats stored indoors. [303:7.2.2.5]

28.1.3.2.3 In-Out Dry Storage and Rack Storage

28.1.3.2.3.1

Where boats are stored either inside or outside in single- or multiple-level racks, those boats shall have unimpeded vehicular access at one end and equipment shall be available to remove any stored boat. [303:7.2.3.1]

28.1.3.2.3.2

Where boats are stored in multilevel racks, either inside or outside, for seasonal storage or for in-out operation, the following precautions shall be taken:

Drain plugs shall be removed (in sprinklered buildings).

Batteries shall be disconnected or the master battery switch turned off.

Fuel tank valves shall be closed.

For seasonal storage, the requirements of 28.1.3.2.1 shall apply.

[303:7.2.3.2]

28.1.3.2.3.3

Repairs to boats that are on racks or that are inside an in-out dry storage building shall be prohibited. [303:7.2.3.3]

28.1.3.2.3.4

Portable power lines, such as drop cords, shall be prohibited from use on boats in an in-out dry storage building. [303:7.2.3.4]

28.1.3.2.3.5

The charging of batteries shall be prohibited in an in-out dry storage building. [303:7.2.3.5]

28.1.3.2.4\* Battery Storage

Where due to size and weight the removal of batteries for storage or charging is impractical, batteries shall be permitted to remain onboard provided the following conditions are met:

The battery compartment is arranged to provide adequate ventilation.

A listed battery charger is used to provide a suitable charge.

The power connection to the charger consists of a three-wire cord of not less than No. 14 AWG conductors connected to a source of 110 V to 125 V single-phase current, with a control switch and approved circuit protection device designed to trip at not more than 125 percent of the rated amperage of the charger.

There is no connection on the load side of the charger to any other device except the battery, and the boat battery switch is turned off.

The battery is properly connected to the charger, and the grounding conductor effectively grounds the charger enclosure.

Unattended battery chargers are checked at intervals not exceeding 8 hours while in operation.

[303:7.2.4]

28.1.4 Operational Hazards

28.1.4.1\* Conditions on Individual Boats

28.1.4.1.1

The management shall have an inspection made of each boat received for major repair or storage as soon as practicable after arrival of the boat and before commencement of any work aboard. [303:8.1.1]

28.1.4.1.2

The inspection required in 28.1.4.1.1 shall include the following determinations:

Presence of combustible or flammable vapors in any compartment

General maintenance and cleanliness, and location of any combustible or flammable materials that require removal or protection for the safe accomplishment of the particular work involved

Quantity, type, and apparent condition of fire-extinguishing equipment onboard

Listed and appropriate shore power inlet(s) and ship-to-shore cable(s), when present

[303:8.1.2]

28.1.4.1.3

The management shall, as a condition to accepting a boat received for major repair or storage, require the owner to correct any inadequacies found in 28.1.4.1.2 or to authorize management to do so. [303:8.1.3]

28.1.4.2 General Precautions

28.1.4.2.1

Smoking in the working area shall be prohibited. [303:8.2.1]

28.1.4.2.2

Loose combustibles in the area of any hazardous work shall be removed. [303:8.2.2]

28.1.4.2.3

Unprotected battery terminals shall be covered to prevent inadvertent shorting from dropped tools or otherwise, and the ungrounded battery lead shall be disconnected. [303:8.2.3]

28.1.4.2.4

Personnel employed in the removal or installation of storage batteries shall be qualified. [303:8.2.4]

28.1.4.2.5

Where electric service is provided to boats in storage, the receptacle providing the power shall be protected with a ground-fault circuit-interrupter. [303:8.2.5]

28.1.4.2.6

The marina or boatyard operator shall post in a prominent location, or provide to boat operators using a marina or boatyard for mooring, repair, servicing, or storage, a list of safe operating procedures containing at least the following information:

A prohibition against the use of any form of hibachis, charcoal, wood, or gas-type portable cooking equipment, except in specifically authorized areas that are not on the docks, on boats in the berthing area, or near flammables

Procedures for disposal of trash

Designation of nonsmoking areas

Location of fire extinguishers and hoses

Procedures for turning in a fire alarm

\* Fueling procedures

\* Emergency contact information and marina address for notifying emergency services to respond to an incident

[303:8.2.6]

28.1.4.2.7

The information on fueling procedures referred to in 28.1.4.2.6(6) shall include at least the following information:

Procedures before fueling

Stop all engines and auxiliaries

Shut off all electricity, open flames, and heat sources

Check bilges for fuel vapors

Extinguish all smoking materials

Close access fittings and openings that could allow fuel vapors to enter the boat's enclosed spaces

Remove all personnel from the boat except the person handling the fueling hose

Procedures during fueling

Maintain nozzle contact with fill pipe

Attend fuel-filling nozzle at all times

Wipe up spills immediately

Avoid overfilling

Procedures after fueling and before starting engine

Inspect bilges for leakage or fuel odors

Ventilate until odors are removed

[303:8.2.7]

28.2 Marine Terminals, Piers, and Wharves

28.2.1

Section 28.2 shall apply to marine terminals as defined herein. Special use piers and wharf structures that are not marine terminals, such as public assembly, residential, business, or recreational occupancies that differ in design and construction from cargo handling piers, require special consideration. The general principles of NFPA 307 for the construction and fire protection of piers and wharves shall be applicable to such structures and shall comply with NFPA 307 and Section 28.2.

28.2.1.1

Marine terminals, piers, and wharves shall comply with 28.1.4.2.7.

28.2.2\*

Section 28.2 shall not apply to marinas and boatyards. (See Section 28.1.) [307:1.3.2]

28.2.3

shall not apply to the of the following:

\* Flammable or combustible liquids in bulk (See Chapter 66.)

\* Liquefied gases in bulk (See Chapter 69.)

[307:1.3.3]

28.2.4

Nothing in Section 28.2 shall supersede any of the regulations of governmental or other regulatory authority. [307:1.1.2]

28.3 Construction, Conversion, Repair, and Lay-Up of Vessels

28.3.1\*

The construction, conversion, repair, or lay-up of vessels shall comply with NFPA 312 and Section 28.3.

28.3.2

Nothing in Section 28.3 shall be construed as prohibiting the immediate dry-docking of a vessel whose safety is imperiled, as by being in a sinking condition or by being seriously damaged. [312:1.2.2]

28.3.3

In such cases, all necessary precautionary measures shall be taken as soon as practicable. [312:1.2.3]

28.3.4

Section 28.3 shall not apply to situations where it is in conflict with or superseded by requirements of any government regulatory agency. [312:1.1.2]