CHAPTER 94

FIRE PROTECTION FOR COVERED BOAT MOORAGE

Note: Chapter 94 is entirely Seattle amendments to the *International Fire Code* and is not underlined.

Chapter 94 Point of Information

The requirements of this chapter originated in City of Seattle Ordinance 121773, effective May 18, 2005. The requirements of this ordinance apply to all covered moorage marina facilities inexistence on the effective date of May 18, 2005.

SECTION 9401
GENERAL

9401.1 Scope. This chapter applies to covered portions of all marinas with covered boat moorage in existence at the time of its adoption.

Exceptions:

1. *Approved* designated facilities and shipyards in accordance with Administrative Rule 26.02.04, *Designated Hot Work Facilities and Shipyards*.
2. Boathouses.

9401.2 Intent. This Chapter is intended to promote the health, safety and welfare of life and property from fire at covered boat moorage.

9401.3 Modifications. The retroactive requirements of this chapter may be modified if their application clearly would be impractical for economic or physical reasons in the judgment of the *fire code official*, and only if it is clearly evident that a reasonable degree of safety is provided.

9401.4 Signage. Conspicuous signage shall be located at the fire apparatus access road termination point and the shore end of piers, wharves and floats. Signage shall indicate the address, directions and maps if required by the *fire code official*. For those structures that are designed to support vehicles, signage shall indicate the weight limit. Numbers and letters shall be easily legible and have high contrast with the color of the sign background. Numbers and letters shall not be less than 5 inches (127 mm) in height and shall have a minimum stroke of 0.5 inches (12.7 mm).

9401.5 Smoking Restrictions. Smoking is prohibited in all areas where fuels and other flammable and combustible liquids and gases are stored or dispensed, in battery rooms, and in other such locations as management or the *fire code official* designate. "No Smoking" signs shall be conspicuously posted.

9401.6 Transmittal of Fire Emergency. All marinas and boatyards shall have a means to notify the fire department rapidly in the event of an emergency. If a telephone is used for this purpose, it shall be available for use at all times and shall not require the use of a coin. The street address of the facility and the emergency telephone number(s) shall be displayed prominently on a sign at the telephone.

9401.7 Labeling electrical shutoffs. Electrical transformers, control panels, and breaker panels shall be readily accessible, clearly labeled and indicate the areas they service. See also SFC 605.3.

9401.8 Fire extinguishers. One portable fire extinguisher having a minimum rating of 2A 20-BC shall be provided within 75 feet (22,860 mm) of all portions of piers, wharves, and floats, or at each required hose station. Additional fire extinguishers, suitable for the hazards involved, shall be provided and maintained in accordance with SFC 906 and NFPA Standard 10.

SECTION 9402
DEFINITIONS

9402.1 Definitions. The following words and terms shall, for the purposes of this chapter, have the meanings shown here.

BERTH is the water space to be occupied by a boat or other vessel alongside or between bulkheads, piers, piles, fixed and floating docks, or any similar access structure. (See also definition for Slip.)

BOATHOUSE is an independently floating structure designed to be moored to a main float system to enclose and protect a vessel or vessels. A boathouse is capable of being moved on water, but is typically moored to a float system for long periods of time.

COVERED BOAT MOORAGE is a pier or system of floating or fixed accessways to which vessels on water may be secured and is covered by a roof.

DRAFT CURTAIN. A structure arranged to limit the spread of smoke and heat along the underside of the ceiling or roof.

FIRE PARTITION is a vertical assembly of materials designed to restrict the spread of fire in which openings are protected.

FLOAT is a floating structure normally used as a point of transfer for passengers and goods, or both, for mooring purposes.

GRAVITY-OPERATED DROP OUT VENTS. Automatic smoke and heat vents containing heat-sensitive glazing designed to shrink and drop out of the vent opening when exposed to fire.

MARINA is any portion of the ocean or inland water, either naturally or artificially protected, for the mooring, servicing, or safety of vessels and includes artificially protected works, the public or private lands ashore, and structures or facilities

provided within the enclosed body of water and ashore for the mooring or servicing of vessels or the servicing of their crews or passengers.

MARINE MOTOR FUEL-DISPENSING FACILITY. That portion of property where flammable or combustible liquids or gases used as fuel for watercraft are stored and dispensed from fixed equipment on shore, piers, wharves, floats, or barges into the fuel tanks of watercraft and includes all other facilities used in connection therewith.

PIER is a structure, usually of greater length than width, of timber, stone, concrete or other material, having a deck and projecting from the shore into waters so that vessels may be moored alongside for loading, unloading, storage, repairs or commercial uses.

SLIP is a berthing space between or adjacent to piers, wharves, or docks; the water areas associated with boat moorage. (See also definition for Berth.)

WHARF OR QUAY is a structure of timber, stone, concrete or other material having a platform built along and parallel to waters so that vessels may be moored alongside for loading, unloading, storage, repairs or commercial uses.

SECTION 9403
PLANS AND APPROVALS

9403.1 Plans. Plans for marina fire-protection shall be *approved* prior to installation. The work shall be subject to final inspection and approval after installation.

SECTION 9404
ACCESS AND WATER SUPPLY

9404.1 Fire apparatus access roads. Fire apparatus access roads shall be provided and so located as to provide fire department apparatus access to within 150 feet (45,720 mm) travel distance to the shore end of all marina piers, wharves, and floats. Fire apparatus access roads shall be in accordance with Appendix D of the 2003 Seattle Fire Code.

Exception: If *approved* by the *fire code official*, a Class I standpipe system may be installed on piers, wharves, or floats if conditions are such that providing fire department access lanes to within 150 feet (45,720 mm) to the shore end of the piers, wharves, and floats is not practical. Additional standpipe requirements are found in SFC 9405.1.

9404.2 Premises access. The fire department shall have access to fenced, gated, or locked grounds, piers, wharves or floats. Appropriate means of access (including keys and cardkeys) shall be provided in an *approved* secured lock box (Knox Box) on the premises in an *approved* location. The fire department shall be notified immediately of any changes in the means of access.

9404.3 Fire hydrants. At least two fire hydrants shall be provided. One hydrant shall be located within 500 feet (152,400 mm) of the closest point of fire department apparatus access to the shore end of the marina piers, wharves or floats, or to the fire department connection (FDC) for those piers, wharves or floats that are equipped with standpipes. The second fire hydrant shall be located within 1000 feet (304,800 mm) of the closest point of fire department apparatus access to the shore end of the marina piers, wharves, or floats, or to the FDC for those piers, wharves or floats that are equipped with standpipes.

Exception: The requirements for fire hydrants may be modified if alternate arrangements are *approved* by the *fire code official*.

9404.4 Water supply. All required hydrants shall be capable of delivering not less than 1,000 gpm at a minimum residual pressure of 20 psi each.

Exception: The requirements for water supply may be modified if alternate arrangements are *approved* by the *fire code official*.

SECTION 9405
FIRE PROTECTION EQUIPMENT

9405.1 Standpipe systems. A manual Class I standpipe system (or class III standpipe system if *approved* by the *fire code official*) in accordance with NFPA Standard 14 shall be provided for piers, wharves, and floats if the hose lay distance from the fire apparatus to the most remote accessible portion of the pier, wharf, or float exceeds 150 feet (45,720 mm). *Approved* plastic pipe may be used if installed underwater, or other *approved* method of protection from fire is provided. The standpipe piping shall be a minimum of 4 inches (102 mm), sized to provide a minimum of 500 gpm at 130 psi at the most remote hose connection, with a simultaneous flow of 500 gpm at the third most remote hose connection on the same pier while maintaining a maximum system pressure of 175 psi. Existing standpipe systems providing equivalent performance to the specification listed above may be acceptable if *approved* by the *fire code official*.

9405.1.1 Hose connections. Hose connections on required standpipes shall be provided at the water end of the pier, wharf, or float, and along the entire length of the pier, wharf, or float at spacing not to exceed 150 feet (45,720 mm) and as close as practical to the land end.

Exception: The hose connection at the land end of the pier, wharf or float may be omitted if a hose connection is located within 150 feet (45,720 mm) of the fire apparatus access road. Each hose connection shall consist of a valved 2 1/2-inch (64 mm) fire department hose outlet. Outlet caps shall have a predrilled 1/8-inch (3.2 mm) hole for pressure relief and be secured with a short length of chain or cable to prevent falling after removal. Listed equipment shall be used.

9405.2 Automatic sprinkler systems. Automatic sprinklers shall be provided for each separate covered boat moorage area exceeding 8,000 sq. ft. (743 m^2) in projected roof area, excluding roof overhangs. A separate covered boat moorage area is one that has at least 16 feet uncovered horizontal separation from any part of any adjacent covered boat moorage area.

The sprinkler system shall be designed and installed in accordance with NFPA Standard 13 for Extra Hazard Group 2 occupancy.

Exception: Covered boat moorage already protected by an automatic sprinkler system is not required to be upgraded to Extra Hazard Group 2 criteria.

9405.2.1 Monitoring. Sprinkler systems shall be monitored by an *approved* central station.

9405.3 Smoke and heat vents: *Approved* automatic smoke and heat vents shall be provided in covered boat moorage areas exceeding 2,500 sq. ft. (232 m^2) in area, excluding roof overhangs.

Exception: Smoke and heat vents are not required in areas protected by automatic sprinklers.

9405.3.1 Design and installation. If smoke and heat vents are required they shall be installed near the roof peak, evenly distributed and arranged so that at least one vent is over each covered berth. The effective vent area shall be calculated using a ratio of one square foot of vent to every 15 square feet of covered berth area (1:15). Each vent shall provide a minimum opening size of 4 ft. x 4 ft.

9405.3.1.1 Smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100 degrees F (56 degrees C) and 220 degrees F (122 degrees C) above ambient.

Exception: Gravity-operated drop out vents.

9405.3.1.2 Gravity-operated drop out vents. Gravity operated dropout vents shall fully open within 5 minutes after the vent cavity is exposed to a simulated fire represented by a time-temperature gradient that reaches an air temperature of 500 degrees F (260 degrees C) within 5 minutes.

9405.4 Draft curtains. Draft curtains shall be provided in covered boat moorage areas exceeding 2,500 sq. ft. (232 m^2) in area, excluding roof overhangs.

Exception: Draft curtains are not required in areas protected by automatic sprinklers.

9405.4.1 Draft curtain construction. Draft curtains shall be constructed of sheet metal, gypsum board or other *approved* materials that provide equivalent performance to resist the passage of smoke. Joints and connections shall be smoke tight.

9405.4.2 Draft curtain location and depth. The maximum area protected by draft curtains shall not exceed 2,000 sq. ft. (186 m^2) or two slips or berths, whichever is smaller. Draft curtains shall not extend past the piling line. Draft curtains shall have a minimum depth of 2 feet (609 mm) below the lower edge of the roof and shall not extend closer than 8 feet (2438 mm) to the walking surface on the pier.

9405.5 Fire department connections. Standpipe and sprinkler systems shall be equipped with not less than one two-way 2 1/2-inch (64 mm) fire department connection (FDC), which shall be readily visible and located at the fire apparatus access road or other *approved* location. The FDC for class I standpipe systems may be located at the shore end of the pier, wharf, or float if the distance between the fire apparatus access road and FDC is less than 150 feet (45,720 mm). See also SFC 9404.3 Fire hydrants.

9405.6 Marina fire protection confidence testing. Standpipe and sprinkler systems shall be inspected and hydrostatically tested at least annually. Reports of inspections and tests shall be submitted to the Seattle Fire Department Confidence Testing Unit in accordance with Administrative Rule 9.02.07 *Confidence Test Requirements for Life Safety Systems.* Notwithstanding fire department inspections, maintenance and periodic testing are the owner's responsibility. All persons performing such work shall have a certificate from the fire department to perform such work. See Administrative Rule 9.01.07 *Certification for Installing, Maintaining and Testing Life Safety Systems and Equipment*.

9405.7 Moorage in intervening moorage space. Vessels moored in open spaces between covered moorage shall not exceed 7 feet (2,133.6 mm) from the top of the vessel superstructure to the waterline, unless protected by an *approved* fire partition.

SECTION 9406
EMERGENCY PLANS AND TRAINING

9406.1 Emergency plan. Owners or operators of piers, wharves, floats and marinas shall prepare and maintain a current emergency plan for the facility. The plan shall include procedures for fire department notification, fire evacuation, and include location of portable fire extinguishers and hose cabinets, sprinkler and standpipe system control valves, fire department connections and electrical disconnects.

9406.2 Signage. Signs, posters, or posted instructions shall be provided where practicable to remind the public of basic fire safety practices and to warn of unusual or extreme fire hazards. All boat owners at the marina shall be provided with written instructions for reporting fires and other emergencies and actions to be taken in the event of a fire.

9406.2 Point of Information

For examples of emergency plans, see information bulletins located at www.seattle.gov/fire titled Emergency Procedures for Public Occupancies and Fire Evacuation Planning.

9406.3 Employee training. Practice drills shall be held a minimum of twice a year.

9406.3.1 All employees shall know the location of fire-fighting equipment, and shall be instructed in the procedures for response to a fire or other emergency, response to a fire alarm, reporting a fire or other emergency to the proper authorities (and to designated facility employees), and in the employees' designated role(s) in emergency situations. See SFC 9406.

9406.3.2 All employees, including office personnel, shall be given training in the use of portable fire extinguishers.

9406.4 Fire department liaison. If requested by the Seattle Fire Department, management shall assist the fire department in pre-fire planning for the following:

(1) Entries and access routes for equipment within the premises,

(2) Location, construction, use, and accessibility of all buildings and all their subdivisions including basements, storage lockers, and other areas,

(3) Location and extent of outside working areas,

(4) Location and means of access to both dry and wet boat-storage areas,

(5) Type and capacity of standpipes on piers and walkways, including all points where connection of hydrant or pumper supplies can be affected,

(6) Types and capacities of facility equipment, including work or tow boats, portable pumps, pier-mounted hose cabinets, all portable fire extinguishers, and other equipment,

(7) Voltages and capacities of electrical systems, and location of electrical disconnecting means.

SECTION 9407
OPERATIONAL HAZARDS

9407.1 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 the following:

(1) Procedures for disposal of trash;

(2) Location of nonsmoking areas;

(3) Location of fire extinguishers and hoses;

(4) Procedures for turning in a fire alarm; and

(5) Fueling procedures.

9407.2 Fueling Operations. Fueling of floating marine craft with Class I fuels at other than a marine motor fuel-dispensing facility is prohibited. Fueling of floating marine craft with Class II or III fuels at other than a marine motor fuel-dispensing facility shall be in accordance with SFC 2210.4.

SECTION 9408
COMPLIANCE

9408.1 Compliance. All corrections that may be necessary to provide the minimum fire safety requirements established in this Chapter shall be completed by the owners as follows:

(a) The *fire code official* shall develop a procedure for surveying marinas to effect compliance with this Chapter. The *fire code official* shall send written and signed notices to the owners of all non-complying marinas. Within 120 days of the date of notification by the *fire code official*, the owner shall submit to the *fire code official* a concept design and firm schedule for complying with the requirements of this chapter.

(b) The *fire code official* shall review the concept design and firm schedule and respond in writing. The time schedule for compliance shall be measured from the date of the *fire code official*'s response to the concept design and firm schedule for each marina, and shall not exceed the time limits set forth in subsection (c) of this section.

(c) The time limits for complying with the requirements of this Chapter are as follows:

Fire Extinguishers	1 year
Signage	1 year
Emergency Plan	1 year
Smoke and Heat Vents and Draft Curtains	7 years
Fire Hydrants	5 years
Standpipes	7 years
Sprinkler Systems	10 years

(d) Marinas will not be deemed to be in violation of this Chapter until the time limits set forth in subsection (c) above have expired. Appeals to compliance with this section shall be in accordance with SFC 108.