

Maritime Fire Service Operator Standards

Professional Qualifications



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Oregon Department of Public Safety Standards and Training

Standard for

Maritime Fire Service Operational Standards

Professional Qualifications

Approved Edition

Chapter 1 ADMINISTRATION

1-1 Scope This standard identifies the minimum job performance requirements for *maritime fire service personnel*.

1-2 Purpose The purpose of this standard is to specify the minimum job performance requirements for *maritime fire service personnel*.

It is not the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements.

This standard shall cover the requirements for maritime fire service personnel of all fire department boats engaged in water related activities.

1-3 General

1-3.1 *Maritime fire service personnel* shall meet the DPSST requirements for Entry Level Fire Fighter.

1-3.2 *Maritime fire service personnel* shall be licensed to drive automobiles by their state or provincial government.

1-3.3 All *Maritime fire service personnel* shall meet the demonstrated

ability of *Aquatic Stability* as determined by the *authority having jurisdiction*.

1-3.4 All *Maritime fire service personnel* shall meet the requirements of certification in Basic First Aid and be CPR trained as adopted by the *authority having jurisdiction*.

1-3.5 Fire service support personnel that are not normally assigned to a fire department boat but may work with or on such a craft in emergency situations shall meet the job performance requirements defined in Section 2-2 Basic Awareness.

1-3.6 Public fire service personnel can become accredited by meeting prescribed requirements in any one or combination of the following ways:

- a) Successful completion of accredited training through fire departments, colleges and universities, or special schools, courses, and seminars.
- b) Assessment of experience and documented training, which shows a professional value equal to specific requirements.
- c) Achieving passing scores on evaluation examinations (for personnel with three or more years of experience).

1-3.7 Individuals seeking accreditation should contact DPSST personnel for assistance.

1-3.8 Credit may be given for training received in other states providing it has been approved or accredited by the states involved, and provided the training is judged equivalent to Oregon standards.

1-3.9 Boat Operators shall have the

unimpeded capacity to command and control the immediate operation of the craft he or she is operating, unless relieved by a qualified operator of equal or better training.

1-3.10 Maritime fire service personnel shall have a working knowledge of the National Interagency Incident Management System adopted by the State Fire Marshal.

1-4 Definitions- For the purpose of this standard, the following terms shall have the meanings given below. Where conflicts arise, this document subscribes to the definitions adopted by reference ORS 830 (small craft) and OAR 250 (Oregon State Marine Board).

Aquatic Stability- Basic knowledge and skills of floating, treading water, and self rescue techniques by all who are near the water.

Authority Having Jurisdiction- The "authority having jurisdiction" is the organization, office, or individual responsible for "approving" equipment, installation, or a procedure.
NOTE: The phrase "authority having jurisdiction" is used in NFPA documents in a broad manner since jurisdictions and "approval" agencies vary as due their responsibilities. Where public safety is primary, the " authority having jurisdiction" may be a Federal, State, Local or other regional department or individual such as Fire Chief, Fire Marshal, Chief of a Fire Prevention Bureau, Labor Department, Health Department, building official, electrical inspector, or others having statutory authority. For training purposes, state/provincial, regional, or local training agencies may assume the responsibility of authority having jurisdiction. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the "authority having jurisdiction". In many circumstances the property owner or his designated agent assumes the role of the "authority having jurisdiction"; at government

installations, the commanding officer or departmental official may be the "authority having jurisdiction".

Boat- Every description of watercraft, including a seaplane on the water and not in flight, used or capable of being used as a means of transportation on the water, but does not include boathouses, floating homes, air mattresses, beach and water toys or single inner tubes.

Buoy- Any public or private floating devices used as a waterway marker or a sign for the purpose of a navigation aid.

Crew Member. Any individual assigned to perform the tasks of one or more positions on a boat.

Deck Hand Any *MFSP* assigned to perform tasks associated with line handling, and/or operating above/below deck systems, and not assigned to another position.

Fire Boat- A boat intended to carry personnel and/or equipment for marine fire-fighting.

IAW. In accordance with.

Maritime Fire Service Personnel (MFSP). Any fire service personnel operating on the water of the State of Oregon.

Motorboat- Any boat propelled in whole or in part by machinery, including boats temporarily equipped with detachable motors.

NASBLA- National Association of State Boating Law Administrators.

Navigable waters of the United States-

Those waters of the United States, including the territorial seas adjacent thereto, the general character of which is navigable, and which, either by themselves or by uniting with other waters, form a continuous waterway on which boats or vessels may navigate or travel between two or more states, or to and from foreign nations.

Operate- To navigate or otherwise use a boat.

Operator- The person who operates or who has charge of the navigation or use of a boat.

Passenger- Every person on board a boat who is not assigned to the boat as the master, operator, crewmember or other person engaged in any capacity in the business of the boat. Master means a person who is licensed and qualified for command of a boat.

Person on Board- Every person being carried on board or being towed by a boat.

Personal Protective Equipment- Equipment used for the protection from the environment encountered, work performed, and the potential hazards.

Rescue Boat- A boat intended to carry personnel and/or equipment for rescuing people and/or property.

Rescue Device- Equipment other than a rescue boat intended to be used in a rescue.

Restricted Visibility- Any condition in which visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms or any other similar causes.

Rules of the Road- Statutory and regulatory rules governing navigation of vessels.

Safe Boater Education Course- Any education course recognized by the National Association of State Boating Law Administrators (NASBLA) such as a course taught through the U.S. Coast Guard Auxiliary, U.S. Power Squadrons and Oregon State Marine Board.

Seaplane- Includes any aircraft designed to maneuver on the water.

Self Rescue- knowledge, skills, and ability to extricate self from immediate hazard.

Service Equipment Orientation- Personal familiarity with equipment in/on the boat related to assigned duty.

State Waters- those waters entirely within the confines of this state that have not been declared navigable waters of the United States.

Underway- when a boat is not at anchor, or moored or made fast to the shore, or aground.

Waters of this state- All waters within the territorial limits of the state, the marginal sea adjacent to this state and the high seas when navigated as part of a journey or ride to or from the shore of this state.

Chapter 2 General Requirements-Awareness

2-1 General: Prior to service on fire department boats and/or engaging in water related activities; the *MFSP* shall meet the job performance requirements defined in Section 2-2.

2-2 Basic Awareness:

The *MFSP* shall meet the requirements as set forth by their jurisdiction in the following topics.

- a) Personal Protective Equipment appropriate for the operating environment
- b) Self Rescue as determined by *authority having jurisdiction*
- c) Service Equipment Orientation as determined by *authority having jurisdiction*

Chapter 3 General Requirements-Deck Hand

3-1 Having met the requirements of Chapter 2 and prior to certification as a Deck Hand on fire department boats and/or engaging in water related activities, the *MFSP* shall meet the job performance requirements defined in Sections 3-1 through 3-11.

3-2 Boat Orientation: Understanding the fire department boat nomenclature, on-board systems, and special equipment.

3-3 Boat Maintenance: Perform routine checks, inspections, and servicing functions on systems and components so that the operational status of the boat is verified.

3-3.1 Prerequisite Knowledge: of a fire department's boat and *IAW* manufacturer's specifications.

3-4 Required and Recommended Equipment: Boat equipment required by Federal and State laws and additional equipment, electronics, communications required by *authority having jurisdiction*

3-5 Personal Safety: Personal protective equipment, clothing, and practices needed to enhance the *MFSP*'s personal safety during boat operations.

3-6 Aids to Navigation: Knowledge of Federal and State waterway marking systems.

3-7 Marlin Spike: Knowledge of line handling, appropriate knots, and use of ground tackle.

3-8 Trailering: Knowledge of trailering equipment and safety practices with a trailered boat.

3-8.1 Prerequisite skills: performance skills including transport, launch, and retrieval of a boat using a trailer.

3-9 Emergency Procedures: Knowledge of emergency procedures including on-board fire suppression, visual distress signals, and communications as determined by *authority having jurisdiction*.

3-10 Towing On Water: Knowledge of boat towing techniques, rigging, concepts, safety, and liability.

3-11 Beaching and Anchoring: Knowledge of beaching, anchoring techniques, rigging, and docking and mooring procedures.

Characteristics of static and dynamic waters including the influences on them by topography, geography, and the environment.

Chapter 4 General Requirements - Operator

4-1 Having met the requirements of Chapter 3 and prior to being certified as a Boat Operator, the *MFSP* shall meet the job performance requirements defined in Sections 4-1 through 4-10.

4-4 Towing: Safely take a boat in astern tow, bring alongside, and then moor it to a docking facility.

4-5 Restricted Visibility: Operate at safe speed with a proper lookout in a restricted visibility environment.

4-2 Close Quarter Maneuvering: Perform safe speed, proper steering techniques and proper throttle shift control to exhibit skill performing the following: Docking, Backing, Close Quarter Maneuvering at appropriate speeds and emergency stops.

4-5.1 Prerequisite Knowledge: identification and operation of the navigational aids available on the fire department boat.

4-2.1 Prerequisite knowledge: identification of the general characteristics of the fire department boat.

4-6 Emergency Procedures: Implement an applicable emergency procedure in a timely manner.

4-2.2 Prerequisite Skill: efficient and safe operation of the fire department boat on the waterways within the jurisdiction.

4-6.1 Prerequisite Knowledge: of all applicable procedures for the respective fire department boat. Have knowledge of the emergency procedures for the specific body of water or waterway. Examples of such would be swamping, hull breach, engine stall, launch ramp location, radio channels, etc.

4-3 Planning Speed Maneuvering: Perform at safe speed with proper steering techniques, throttle and shift control to accelerate to planning speed and decelerate safely. Properly trim the boat for planning speed; avoid collision or unexpected event while at planning speed. Safely maneuver boat through a series of opposing turns while at planning speed.

4-6.2 Prerequisite Skills: recognize an emergency situation and in a timely manner, perform an applicable fire department boat emergency procedure for the following situations:

4-3.1 Prerequisite Knowledge: specific navigation routes and applications on local and regional waterways.

- a) Loss of power
- b) Loss of steering
- c) Obstructions
- d) Person overboard
- e) Adverse environments
- f) Anchoring

4-7 Personnel Recovery:

Demonstrate the ability to safely and effectively retrieve people in both rescue and non-rescue situations.

4-7.1 Prerequisite Knowledge: of various retrieval techniques and rescue devices, and application and limitations of such. Able to recognize local hazardous conditions and what the effect will be on the rescues.

4-7.2 Prerequisite Skills: of retrieving victims or personnel from floating positions, pick off locations, and response area hazardous locations.

4-8 Anchoring: Safely perform effective anchor deployment, set, and retrieval.

4-9 Beaching: Demonstrate ability to locate an acceptable beaching location and successfully beach the boat without causing damage.

4-10 Navigation Rules: Knowledge of the "rules of the road IAW USCG M16672B Navigation rules as they apply to the jurisdiction's waterways.

Chapter 5 General Requirements- Rescue Boat Operator

5-1 Having met the requirements of Chapter 4 and prior to certification as a Rescue Boat Operator, the *MFSP* shall meet the job performance requirements defined in Sections 5-1 through 5-5.

5-1.2 Rescue Boat Operators shall meet the Operations Level requirements of

NFPA 1670 Chapter 7-3, or an equivalent knowledge of specialized water rescue skills, techniques and equipment as set forth by the *authority having jurisdiction*.

5-2 Water Rescues:

5-2.1 Develop an action plan for different types of in-water rescue applications in accordance with the *authority having jurisdiction*.

5-2.1.1 Prerequisite Knowledge: to differentiate between the following terms:

- a) Rescue vs. Recovery
- b) Risk vs. Benefit
- c) Static vs. Dynamic Waters

5-2.2 Recognize and identify hazardous water conditions and/or areas and use this information in developing an action plan.

5-2.2.1 Prerequisite Knowledge: local and regional water target hazards.

5-2.3 Identify applicable water rescue resources available to the jurisdiction.

5-2.3.1 Prerequisite Knowledge: local and regional water rescue resources, and the basic applications and limitations of these resources.

5-3 Special Considerations:

5-3.1 Demonstrate the ability to recognize and operate their rescue boat in adverse conditions. Examples of adverse conditions are as follows:

- a) Impaired visibility
- b) Extreme dynamic water
- c) Natural and manmade obstructions
- d) Weather
- e) Geography

5-3.2 Demonstrate the application of specialized navigational aids and equipment as they apply to the rescue operation.

5-3.2.1 Prerequisite Knowledge: A working knowledge of "industry standard" water rescue geographical terminology and operational visual/audible signals equal but not limited to:

- (a) River Right vs. River Left
- (b) Hand signals
- (c) Whistle commands
- (d) Local geographical names
- (e) Applicable charts and graphs

5-4 Rescue Operations:

5-4.1 Safely and efficiently interacts and function in a multi-craft operation.

5-4.2 Implement boat based water rescue search techniques in various water-related locations.

5-4.2.1 Prerequisite Knowledge: basic knowledge of victim search techniques involving persons on the water surface, submerged and on the shores of water bodies.

5-4.3 Demonstrate the ability to safely and efficiently deploy people in both rescue and non-rescue situations.

5-4.3.1 Prerequisite Knowledge: of various techniques and safety considerations for deploying personnel as it pertains to the boat and the situation.

5-4.4 Initiate and perform a rescue boat operation.

5-4.4.1 Prerequisite Knowledge: of NFPA 1670 water rescue

operations and the application and limitations of boat based rescues.

5-4.4.2 Prerequisite Skills: of efficient, safe and effective performances of applicable water rescue operations.

5-4.5 Demonstrate a boat based water rescue support operation.

5-4.5.1 Prerequisite Knowledge: of proper lookouts and safety margins while personnel and equipment are in the water. All primary and secondary water rescue communications.

5-5 Rescue Boat Preparations:

5-5.1 Perform routine tests, inspections, and basic servicing functions of rescue devices carried on the rescue boat.

5-5.1.1 Prerequisite Skill: operate and correctly apply each rescue device carried on the rescue boat.

Chapter 6 General Requirements- Fire Boat Operator

6-1.1 Having met the requirements of Chapter 4 and prior to certification as Fire Boat Operator, the *MFSP* shall meet the job performance requirements defined in Sections 6-1 through 6-3.

The requirements of Entry Level Fire Fighter as specified by the Board on Public Safety Standards and Training and appropriate level United States Coast Guard license, and the job performance requirements defined in Sections 6-1 through 6-3 shall be met prior to certification as a fire department Fire Boat Operator.

6-1.3 Perform routine tests, inspections, and servicing functions listed below, in addition to those specified in 3-3, given a fire department marine firefighting boat, so that the operational readiness of the boat is verified.

- a. Navigation systems
- b. Main propulsion systems
- c. Pumps
- d. Electrical systems
- e. Lubrication systems
- f. Fire-fighting systems
- g. Fire-fighting equipment
- h. Communication systems
- i. Boat operating characteristics
- j. Damage control procedures

6-1.4 Document the routine tests, inspections, and servicing functions, given maintenance and inspection forms, so that all items are checked for proper operation and deficiencies are reported.

6-2 Operation:

6-2.1 Operate a fire department marine firefighting boat, given a predetermined route on a public waterway that incorporates the maneuvers and features specified below that the pilot/fire boat operator is expected to encounter during normal operations, so that the boat is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of United States Coast Guard M16672B Navigation Rules.

6-2.2 Docking to port and starboard.

6-2.3 Astern maneuvering port and starboard around a fixed object.

6-2.4 Forward maneuvering port and starboard around a fixed object.

6-2.5 Station keeping at a designated location in relation to normal current.

6-2.6 Approach and position bow at a designated point with current, cross current, and against current.

6-2.7 Approach and position stern at a designated point with current, cross current, and against current.

6-2.8 Approach a fixed object using side-slipping/crabbing maneuver.

6-3 Fire Pump Operation

6-3.1 Produce effective hand or master streams, utilizing draft, so that the pump is safely engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved, and the vessel is continuously monitored for potential problems.

6-3.1.1 Prerequisite Knowledge:

Hydraulic calculations for friction loss and flow using both written formulas and estimation methods.
Safe operation of the pump.

6-3.1.2 Prerequisite Skills: Method(s) of power transfer from on-board engine to pump, drafting operations, operation of pump pressure control systems, operation of auxiliary cooling systems, and assembly of hose lines, nozzles, valves, and appliances.

6-3.2 Pump a supply line of 2.5 in. (65mm) or larger, given a relay pumping evolution, the length and size of the line, and desired flow, so that the proper pressure and flow are provided to the next pump in the relay.

6-3.3 Produce a foam fire stream, given foam-producing equipment, so that properly proportioned foam is provided.

6-3.4 Approach and operate a master stream on a predetermined point or object from set points at 90°, 180°, and 270° from object.