



MARINE DOCKSIDE FIRE AWARENESS STANDARD

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PURPOSE OF THIS STANDARD

This document was prepared by the Alaska Fire Standards Council (AFSC) to define the marine dockside fire awareness standard for fire service certification in Alaska. The intent of this standard is to provide criteria for the basic qualifications for structural fire fighters who may be expected to assist in land-based fire and rescue operations involving marine vessels that are located at a dock or close to land. This material was developed in accordance with the [AFSC Standards and Directives Guidelines](#).

This standard is available for download at the AFSC web site: www.firestandards.alaska.gov

Comments or suggestions for revision of this standard can be sent via mail, fax, or by e-mail to:

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This standard will be revised as necessary to address the needs of the Alaska fire service.

ACKNOWLEDGEMENTS

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The AFSC extend our grateful acknowledgment to the National Fire Protection Association, the Washington State Patrol Fire Protection Bureau, the Puget Sound Marine Firefighting Commission, and the Alaska Division of Fire and Life Safety Training and Education Bureau for assistance in preparing this standard.

We also thank the communities of Valdez, Skagway, Petersburg, Sitka, and Juneau for their participation in defining the duties and capabilities of Alaska firefighters that perform land-based marine firefighting activities.

CHAPTER I- INTRODUCTION

1.1 SCOPE.

This standard identifies the elements of a Marine Dockside Fire Awareness program including, but not limited to, vessel familiarization, training considerations, pre-incident planning, and special hazards that enable land-based firefighters to extinguish vessel fires safely and efficiently. In general, the practices recommended in this publication apply to vessels that call at North American ports or that are signatory to the International Safety of Life at Sea (SOLAS) agreement.

This standard is not intended to modify, replace, or supplant core requirements contained in NFPA 1005, *Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters*, for the levels of Marine Firefighter I and II.

1.2 PURPOSE.

Due to the very complex nature of marine firefighting, this standard was created to define criteria for cognitive knowledge requirements that are essential for the protection of vital community property that is located on or near docks.

The purpose of this standard is to enable dockside responders with the knowledge to perform reconnaissance in a marine environment and report findings to the incident commander.

1.3 GENERAL.

This document is based upon NFPA Standard 1005 and NFPA Guide 1405 and is written in a standardized format so that fire departments, federal agencies, and private enterprises can bring their personnel to the Marine Dockside Fire Awareness level needed for their application.

1.3.1 Due to the ever-increasing familiarity and use of the National Incident Management System (NIMS) by fire service organizations, the Coast Guard, and several other response systems the use of Unified Command as part of NIMS will be discussed as it applies to marine fire operations.

1.3.2 There are no prerequisites for entry into marine dockside fire awareness training. Performance of the awareness requirements will be tested by written exams.

CHAPTER 2- DEFINITIONS

2.1 GENERAL.

The definitions contained in this section shall apply to the terms used in this standard. Where terms are not defined here or under another heading, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

2.1.1 Approved. Acceptable to the authority having jurisdiction.

2.1.2 Bow. The front end of a boat or vessel.

2.1.3 Compartment. A subdivision of space or room in a ship.

2.1.4 Control Zones. The areas at an incident that are designated based upon safety and the degree of hazard to the firefighter.

2.1.4.1 Cold Zone. The control zone of an incident that contains the command post and other support functions deemed necessary to control the incident. Personnel operating in the cold zone are not exposed to the products of combustion, hazardous materials, or other inherent hazards created by the incident.

2.1.4.2 Warm Zone. The control zone at an incident that surrounds the hot zone and in which the fire fighter may be exposed to low levels of the products of combustion requiring standard fire fighter personal protective equipment for protection.

2.1.4.3 Hot Zone. The control zone of an incident that includes the fire area or the area immediately surrounding hazardous materials and that extends far enough to prevent adverse effects from fire, products of combustion and/or hazardous materials releases to personnel outside the zone.

2.1.5 Draft. (1) The vertical distance between the water surface and the lowest point of a vessel. (2) The depth of water a vessel needs in order to float.

2.1.6 Fire Department. An organization providing rescue, fire suppression, and related activities. The term fire department shall include any public, governmental, private, industrial, or military organization engaging in this type of activity.

2.1.7 Hull. The main structural frame or body of a vessel below the weather deck.

2.1.8 Job Performance Requirement (JPR): A written statement that describes a specific job task, lists the items necessary to complete the task, and defines measurable or observable outcomes and evaluation areas for the specific task.

2.1.9 Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction

2.1.10 Marine Facility. Any land-based facility that incorporates buildings, personnel, equipment, docks, moorings, and other features to support the docking, loading, unloading, maintenance, and servicing of marine vessels.

2.1.11 Marine Incident. Any fire, explosion, hazardous material, utility, or other type of emergency incident on or in the vicinity of a marine vessel and/or facility to which a fire department can be expected to respond.

2.1.12 Master. The captain of a merchant ship.

2.1.13 Mate. A deck officer on a merchant ship ranking below the master.

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2.1.14 Mooring. (1) Permanent anchor equipment (attached by a chain to a buoy) to which a vessel can connect a line, wire, or chain, eliminating the need to use the vessel's anchor'. (2) The act of securing a vessel. (3) The location where a vessel is berthed.

2.1.15 Personal Protective Equipment. Consists of full personal protective clothing, plus a self-contained breathing apparatus (SCBA) and a personal alert safety system (PASS) device.

2.1.16 Port. General area of a shore establishment having facilities for the landing, loading/unloading, and maintenance of vessels; harbor with piers.

2.1.17 Port Side. The left-hand side of a ship when facing forward.

2.1.18 Port State Control. The government authority having ultimate legal jurisdiction over a port or jurisdictional waterways.

2.1.19 Procedure. The series of actions, conducted in an approved manner and sequence, designed to achieve an intended outcome.

2.1.20 Requisite Knowledge. Fundamental knowledge one must have in order to perform a specific task.

2.1.21 Requisite Skills. The essential skills one must have in order to perform a specific task.

2.1.22 Shall. Indicates a mandatory requirement.

2.1.23 Should. Indicates a recommendation or that which is advised but not required.

2.1.24 Standard: Something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality.

2.1.25 Starboard Side. The right-hand side of a ship as one faces forward.

2.1.26 Stern. The after end of boat or vessel.

2.1.27 Structural Fire Fighting. The activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, aircraft interiors, vehicles, vessels, aircraft, or like properties that are involved in a fire or emergency situation.

2.1.28 Task. A specific job behavior or activity.

2.1.29 Team. Two or more individuals who have been assigned a common task and are in proximity to and in direct communications with each other, coordinate their activities as a work group, and support the safety of one another.

2.1.30 Vessel. The general term for all craft capable of floating on water and larger than a rowboat.

CHAPTER 3- MARINE DOCKSIDE FIRE AWARENESS

Portions of the requirement for the Marine Dockside Firefighting Awareness are referenced to material within NFPA 1005, 2007 Edition and NFPA 1405 2011 Edition. Marine Dockside Fire Awareness criteria is designed to provide information to enhance safety during marine incidents and enable responders to differentiate between incidents in the marine environment and incidents limited to land-based operations. The following information is directed to personnel who are seeking AFSC recognition for the Marine Dockside Fire Awareness level of certification.

3 GENERAL REQUIREMENTS.

At the awareness level the marine dockside fire responder should have a general knowledge of the following:

- 1) Marine terminals
- 2) Piers and wharves
- 3) Vessel familiarization and vessel construction
- 4) Types of vessels
- 5) Vessel fire control plan
- 6) Interior arrangements: Structural fire protection
- 7) Marine environment
- 8) Authority of emergency responders.

3.1 MARINE TERMINALS.

In general, a marine terminal is the place where a merchant vessel moors to conduct business. Differences in type, size, construction, cargo-handling, and firefighting equipment make each marine terminal unique.

A) Requisite Knowledge. Identify marine terminal type given a picture, slide, or definition of the terminal; identify marine terminal hazards given a terminal type.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.2 PIERS AND WHARVES.

Piers and wharves may be constructed from varying materials. Creosote-soaked wood pilings are often the in-water foundations for either wood, concrete, or steel-framed piers and wharves.

A) Requisite Knowledge. Identify the problems, and risks associated with piers and wharves; identify fixed firefighting equipment and potable water systems in use on piers and wharves.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.3 VESSEL FAMILIARIZATION AND BASIC VESSEL CONSTRUCTION.

Large vessels are constructed of steel or aluminum plates welded together. This includes the side shell or hull, the decks, and the internal framing. The interior bulkheads can be made of steel or other materials to meet certain fire-resistive requirements established by both national law and international convention.

Smaller vessels—such as pleasure craft and fishing vessels—may be constructed of fiberglass, wood, concrete, or aluminum. These vessels may be modified by their owners and the use of fire-resistive materials in bulkheads may be limited or non-existent.

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A) Requisite Knowledge. Identify different materials used in construction of vessels; identify vessel structural components, including: keel, frames, hull, beam, decks, platforms, stringers, girders, and coamings; identify areas of vessels: aft, bow, superstructure, weather deck, 'tween deck, amidship, and forecastle; identify how vessels are flagged and provide information on where you would find information on the different regulations each vessel must follow.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.4 TYPES OF VESSELS.

The types of vessels are numerous and diverse. These vessels may come from any country and be in various states of repair or disrepair. Vessels can be classified into several general categories.

A) Requisite Knowledge. Identify the types of vessels found in the response area, such as dry bulk carriers, break bulk carriers, roll on/roll off vessel, container vessel, bulk liquid carriers, passenger vessel, ferries, barges, tug/tow boat, car carriers and fishing vessels.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.5 VESSEL FIRE CONTROL PLANS.

The vessel's fire control plan identifies the fire protection features and arrangement of the vessel. Fire control plans are generally required for large commercial vessels. Typically, this does not include tugs, barges, and commercial fishing vessels.

A) Requisite Knowledge. Identify the location of fire control plans on board a vessel, and how response personnel can utilize them during operations; identify fire extinguishing systems, types of portable extinguishers, fire stations, and the international shore connection.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.6 INTERIOR CONSTRUCTION: STRUCTURAL FIRE PROTECTION.

This duty involves identification of structural fire protection elements in vessel construction and design, so that the construction and design elements which inhibit the movement of fire are identified.

3.6.1 Using the fire control plan (for applicable vessels), vessel plans, pre-incident plans or other aids or combination thereof, so that the construction and design elements are identified and potential control points or contributions to the spread of the fire are identified.

A) Requisite Knowledge. Identify different bulkhead ratings as to classification, fire resistance, smoke resistance, and where typically found; identify interior arrangements as to ladders, companionways, passageways, cabins, machinery spaces, and cargo holds; identify exits from each compartment, machinery space, and cargo hold.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.7 MARINE ENVIRONMENT.

Response to a vessel fire involves environmental considerations which cause unique risks in addition to those faced in a land-based response.

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A) Requisite Knowledge. Describe the effects of weather, wind and tide on a vessel; describe the effects of a vessel incident on the environment; describe the unique differences between structural firefighting on land and firefighting on a vessel; describe the unique firefighter safety issues involved in a vessel fire; describe personal safety on a vessel and at a port facility.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness

3.8 AUTHORITY OF EMERGENCY RESPONDERS.

Given International Maritime Organization Conventions and national, state, and local legislation, the candidate shall:

A) Requisite Knowledge. Identify the authority of the vessel master; identify the authority of the emergency responder as it relates to a vessel incident; identify the authority of the national agency.

B) Requisite Skills. There are no skill requirements in this section for Marine Dockside Fire Awareness