DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
STATE FIRE TRAINING
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Date: January 13, 2023

To: Statewide Training and Education Advisory Committee
State Board of Fire Services

From: Chris Fowler, Deputy State Fire Marshal III, Supervisor, CAL FIRE

SUBJECT/AGENDA ACTION ITEM:
Marine Fire Fighting for Land-Based Fire Fighters (2019) New Curriculum

Recommended Actions:
Motion to Approve

Background Information:
This is the second reading of the curriculum, with no stakeholder requests for edits following the October 2022 STEAC meeting.

SFT developed the Marine Fire Fighting for Land-Based Fire Fighters curriculum in alignment with National Fire Protection Association (NFPA) 1005: Professional Qualifications Standard for Marine Fire Fighting for Land-Based Fire Fighters, 2019 edition as part of the California Fire Service Training and Education System (CFSTES).

SFT develop this curriculum to ensure an effective and coordinated response to marine incidents throughout the state. Currently, a unified training program does not exist for public agency emergency personnel to incidents in a marine environment. This course is intended to provide the knowledge and skills to ensure safe, effective, and consistent fire fighter response across the state's waterways. It is aligned with the United States Coast Guard (USCG) best practices and provides a framework for SFT to use when building new SFT professional certification tracks in this field.

Analysis/Summary of Issue Standard:

CTS Guide

- SFT developed a CTS guide for Marine Fire Fighting for Land-Based Fire Fighters to document how training standards align with NFPA 1005 (2019).

Course Plan

- SFT developed a course plan for land-based emergency personnel with responsibility for responding to incidents in a marine environment.
- This course incorporates cognitive and psychomotor training based on NFPA 1005 (2019).
- Prerequisites
    - OSFM Fire Fighter 2 certification
      or
    - Meet the minimum job performance requirements for Fire Fighter 2 in NFPA 1001: Standard for Fire Fighter Professional Qualifications related to safety; fire behavior; portable extinguishers; personal protective equipment (PPE); ladders; fire hose, appliances, and streams; overhaul; water supply; ventilation; and forcible entry as demonstrated through two (2) years' full-time or four (4) years' part-time/volunteer experience.
- Course length is 40 hours (24.75 lecture / 15.25 application).
- Maximum class size set at 30. Minimum course size is 15 (required to complete activities).
- Instructor-to-student ratio set at
    - 1:30 for lecture (SFT Registered Marine Fire Fighting for Land-Based Fire Fighters Instructor)
    - 1:5 for application (a minimum of one Registered Marine Fire Fighting for the Land-Based Fire Fighters Instructor per IDLH prop or scenario, and as many Skills Coaches as needed to meet the 1:5 student ratio).

Certification Task Book (Certification Requirements)

- Be an OSFM certified Fire Fighter 2
- Complete Marine Fire Fighting for Land-Based Fire Fighters (SFT)
- Complete Marine Fire Fighting for Land-Based Fire Fighters (2019) Certification Task Book
- Have a minimum of one (1) year full-time paid or two (2) years' volunteer or part-time paid experience performing suppression duties in a recognized California fire agency

Instructor Task Book (Instructor Requirements)

New Marine Fire Fighting for Land-Based Fire Fighters (2019) Registered Instructors shall:

- Be an OSFM certified Fire Fighter 2
- Be an OSFM Registered Instructor
- Complete the following coursework:
    - Marine Fire Fighting for Land-Based Fire Fighters (SFT)
    - Confined Space Rescue: Awareness (SFT, IAFF, or CSTI)
- Complete the Marine Fire Fighting for Land-Based Fire Fighters (2019) Instructor Task Book

- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression duties within a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Marine Fire Fighting for Land-Based Fire Fighters training
- Submit an SFT Instructor Registration Application and pay the registration fee

Reciprocity Marine Fire Fighting for Land-Based Fire Fighters (2019) Registered Instructors shall:

- Be an OSFM Registered Instructor
- Have a Pro Board NFPA 1005 certification **or** complete one of the following courses offered through a state or federal agency, an accelerated California community college or university, or a California fire agency:
    - Advanced Firefighting (STCW – 2010 or newer)
    - Marine Fire Fighting for Land-Based Fire Fighters (TEEX or TMSA)
    - Marine Firefighter Operations (CA Division of Boating and Waterways)
    - U.S. Navy General Shipboard Fire Fighting
- Complete Confined Space Rescue: Awareness (SFT, IAFF, or CSTI)
- Complete the Marine Fire Fighting for Land-Based Fire Fighters (2019) Instructor Task Book
- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience as a fire fighter performing suppression duties within a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Marine Fire Fighting for Land-Based Fire Fighters training
- Submit an SFT Instructor Registration Application and pay the registration fee

Reciprocity will be available for two years after the curriculum launches on March 1, 2023. Reciprocity instructor candidates who do not submit their application to SFT postmarked by February 28, 2025, must complete the requirements for new instructors.

To become a Registered Instructor after serving on the curriculum development cadre, a candidate must meet the same requirements as a reciprocity instructor but is not required to complete the Marine Fire Fighting for Land-Based Fire Fighters (2019) Instructor Task Book or pay the registration fee.

MARINE FIRE FIGHTING FOR LAND-BASED FIRE FIGHTERS (2019) Implementation Plan

Issued: XXXX 2023

OVERVIEW

This document is intended to provide information for all State Fire Training (SFT) stakeholders on the new Marine Fire Fighting for Land-Based Fire Fighters (2019) curriculum. SFT encourages stakeholders to study this information carefully and seek clarification if questions arise.

The Marine Fire Fighting for Land-Based Fire Fighters curriculum will be phased in for the California Fire Service Training and Education System (CFSTES). SFT developed a CTS guide, course plan, certification task book, and instructor task book based on the current National Fire Protection Association (NFPA) Standard, NFPA 1005: Professional Qualifications Standard for Marine Fire Fighting for Land-Based Fire Fighters (2019). The curriculum documents are now available on the SFT website.

IMPLEMENTATION

This is a new curriculum. All candidates entering the SFT system should enroll in Marine Fire Fighting for Land-Based Fire Fighters and comply with the new requirements.

New Curriculum	Hours
Marine Fire Fighting for Land-Based Fire Fighters (2019)	40 hours

Marine Fire Fighting for Land-Based Fire Fighters Curriculum…….March 1, 2023

INSTRUCTOR REQUIREMENTS

Instructor Registration……March 1, 2023
Instructors for the Marine Fire Fighting for Land-Based Fire Fighters curriculum must meet the SFT requirements for a Registered Instructor and have appropriate education with practical experience relating to the specific course content.

New Instructor Registration
To become a Registered Instructor for this curriculum, a candidate must:

- Be an OSFM Registered Instructor
- Be an OSFM certified Fire Fighter 2
- Complete the following coursework:
    - Marine Fire Fighting to Land-Based Fire Fighters (SFT)
    - Confined Space Rescue: Awareness (SFT, IAFF, or CSTI)
- Complete the Marine Fire Fighting for Land-Based Fire Fighters (2019) Instructor Task Book

- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression duties within a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Marine Fire Fighting for Land-Based Fire Fighters training
- Submit an SFT Instructor Registration Application and pay the registration fee

Reciprocity Registered Instructors
To become a Registered Instructor for this curriculum using reciprocity, a candidate must:

- Be an OSFM Registered Instructor
- Have a Pro Board NFPA 1005 certification **or** complete one of the following courses offered through a state or federal agency, an accredited California community college or university, or a California fire agency:
    - Advanced Firefighting (STCW – 2010 or newer)
    - Marine Fire Fighting for Land-Based Fire Fighters (TEEX or TMSA)
    - Marine Firefighter Operations (CA Division of Boating and Waterways)
    - U.S. Navy General Shipboard Fire Fighting
- Complete Confined Space Rescue: Awareness (SFT, IAFF, or CSTI)
- Complete the Marine Fire Fighting for Land-Based Fire Fighters (2019) Instructor Task Book
- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression duties within a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Marine Fire Fighting for Land-Based Fire Fighters training
- Submit an SFT Instructor Registration Application and pay the registration fee

Reciprocity will be available for two years after the curriculum launches on March 1, 2023. Reciprocity instructor candidates who do not submit their application to SFT postmarked by February 28, 2025, must complete the requirements for new instructors.

Cadre Members
To become a Registered Instructor after serving on the curriculum development cadre, a candidate must meet the same requirements as a reciprocity instructor but is not required to complete the Marine Fire Fighting for Land-Based Fire Fighters (2019) Instructor Task Book or pay the registration fee.

POTENTIAL AGENCY IMPACTS

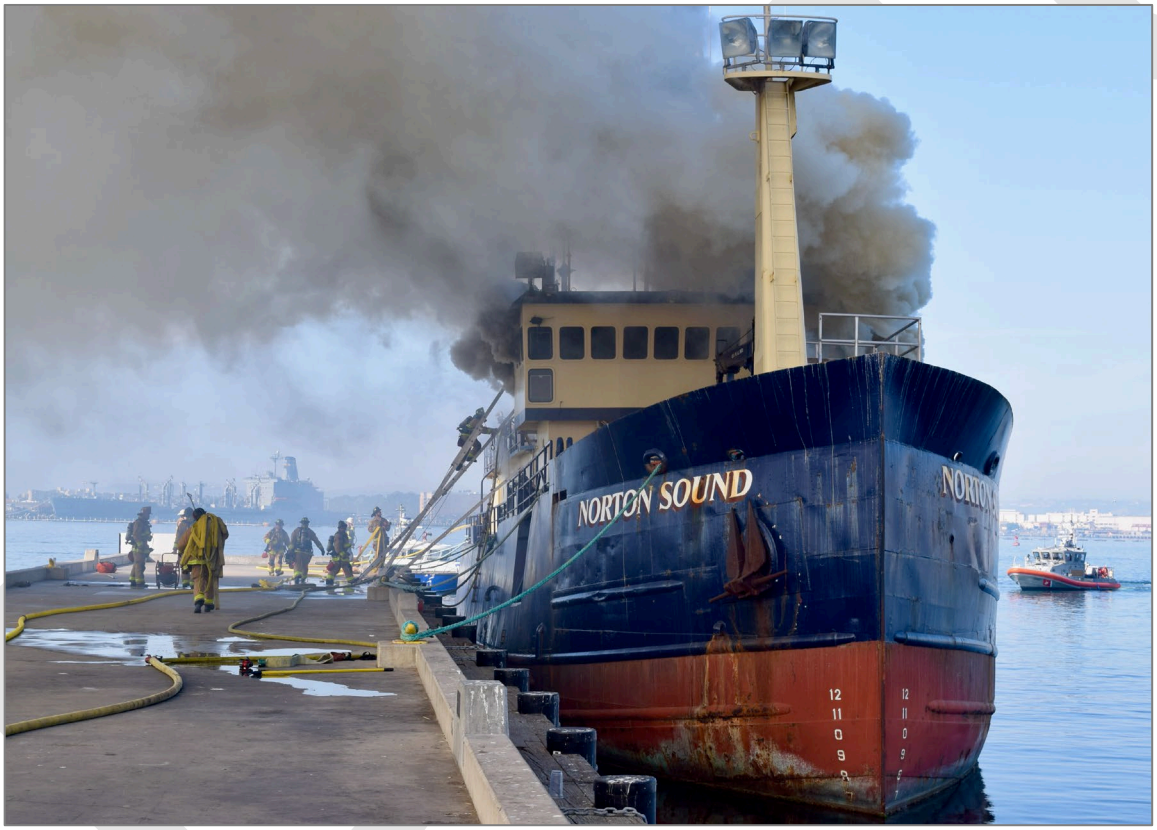
Fire agencies desiring to use the Marine Fire Fighting for Land-Based Fire Fighters (2019) curriculum as a requirement for their recruitment/promotion activities need to review the curriculum requirements to be sure that all agency training needs are met. After review, fire agencies should update their job specifications and recruitment documentation to reflect these new course requirements.

Accredited Regional Training Programs (ARTP), Accredited Local Academies (ALA), community colleges, and all other local delivery venues need to review the curriculum and seek approval from their curriculum committee / program sponsor, as appropriate. ARTPs should review the new Marine Fire Fighting for Land-Based Fire Fighters (2019) curriculum and discuss potential impacts with their advisory committees.

Marine Fire Fighting for Land-Based Fire Fighters

(NFPA 1005: Marine Fire Fighting for Land-Based Fire Fighters)

Certification Training Standards Guide (2019)



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Marine Fire Fighting for Land-Based Fire Fighters

Certification Training Standards Guide (2019)

Publication Date: Month Year

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Marine Fire Fighting for Land-Based Fire Fighters certification:

- NFPA 1005: Professional Qualifications Standard for Marine Fire Fighting for Land-Based Fire Fighters (2019)

State Fire Training coordinated the development of this CTS guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) recommended this CTS guide for adoption by the Office of the State Fire Marshal (OSFM).

Cover photo courtesy of Steven Lozano, Deputy Fire Chief, San Diego Fire-Rescue Department.

Published by State Fire Training.

Table of Contents

Acknowledgements

State Fire Training appreciates the hard work and accomplishments of those who built the solid foundation on which this program continues to grow.

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CAL FIRE

- Joe Tyler, Director
- Mike Richwine, State Fire Marshal
- Andrew Henning, Assistant Deputy Director: Fire and Life Safety, State Fire Training, Code Development and Analysis
- (Vacant), Chief of State Fire Training
- John Binaski, Chair, Statewide Training and Education Advisory Committee (STEAC); Chief, Clovis Fire Department

Cadre – 2022 Curriculum Development

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- Brook Mancinelli, Lieutenant, San Francisco Fire Department
- Martin W. Ratcliff, Firefighter/Paramedic, Los Angeles County Fire Department
- John Rose, Chief Warrant Officer, U.S. Coast Guard
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How to Read a CTS Guide

Overview

A certification training standard (CTS) guide lists the requisite knowledge, skills, and job performance requirements an individual must complete to become certified in a specific job function.

It also documents and justifies the OSFM-approved revisions to the certification's NFPA standard and identifies where each certification training standard is taught (course plan), tested (skill sheets), and validated (task book).

Individuals aspiring to meet State Fire Training's certification training standards must do so in accordance with the codes, standards, regulations, policies, and standard operating procedures applicable within their own agency or jurisdiction.

Format

Each certification training standard is comprised of eight sections.

Section Heading
Training standards are grouped by section headings that describe a general category. For example, the Fire Fighter 1 CTS guide includes the following section headings: NFPA Requirements, Fire Department Communications, Fireground Operations, and Preparedness and Maintenance.

Training Standard Title
The training standard title provides a general description of the performance requirement contained within the individual standard.

Authority
The CTS guide references each individual standard with one or more paragraphs of the corresponding National Fire Protection Association (NFPA) Professional Qualifications. This ensures that each fire service function within California's certification system meets or exceeds NFPA standards.

When California requirements exceed the NFPA standard, the CTS guide cites the Office of the State Fire Marshal as the authority and prints the corresponding information in *italics*.

Job Performance Requirements
This segment includes a written statement that describes a specific job-related task, the items an individual needs to complete the task, and measurable or observable outcomes.

Requisite Knowledge
This segment lists the knowledge that an individual must acquire to accomplish the job performance requirement.

Requisite Skills
This segment lists the skills that an individual must acquire to accomplish the job performance requirement.

Content Modification
This table documents and justifies any revisions to the NFPA standard that the development or validation cadres make during the development of a CTS guide.

Cross Reference
This table documents where each training standard is taught (course plan), tested (skill sheets), and validated (task book).

Marine Fire Fighting for Land-Based Fire Fighters

Section 1: General Requirements

1-1: Identifying Marine Vessel Types and Potential Products Transported

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.1.1

Job Performance Requirement

Identify marine vessel types and potential products transported, given general information on the vessel types in the local response jurisdiction, awareness level information on products transported by marine vessels, AHJ policies and procedures, and overall scene safety considerations at marine incidents, so that the scene of the incident and the hazards are recognized.

Requisite Knowledge

1. Identify generalized marine vessel types
2. Identify awareness level hazardous product information
3. Identify general hazard classes of product and structural fire-fighting PPE compatibilities
4. Identify policies and procedures associated with marine incident response

Requisite Skills

1. Reading comprehension
2. Oral communication

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-2 (RK4) • Topic 2-3 (RK1, RK2, RK3)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 1	Marine Fire Fighting for Land-Based Fire Fighters • JPR 5

1-2: Defining Common Marine Vessel Construction and Terminology

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.1.2

Job Performance Requirement

Define common marine vessel construction and terminology, given vessel construction terminology, marine vessel terminology and general structural hazards associated with marine vessels, so that Land-Based Fire Fighters have a working knowledge of general terms when communicating with marine vessel personnel.

Requisite Knowledge

1. Describe general knowledge of marine vessel construction
2. Describe marine vessel terminology
3. Describe structural hazards with marine vessels

Requisite Skills

1. Reading comprehension
2. Oral communication

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-4	Marine Fire Fighting for Land-Based Fire Fighters • JPR 2	Marine Fire Fighting for Land-Based Fire Fighters • JPR 6

1-3: Boarding a Marine Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.1.3

Job Performance Requirement

Board a marine vessel, given a vessel, gangway, approved PPE, water survival techniques, approved hand tools and suppression equipment, and AHJ policies and procedures, so that the Land-Based Fire Fighters are transferred to the vessel in a safe manner.

Requisite Knowledge

1. Describe effect of vessel movement due to tide, wakes, currents, or other factors
2. Describe effect of water depth
3. Describe water survival techniques
4. Describe uses and hazards associated with gangways

Requisite Skills

1. Don approved PPE
2. Carry tools and equipment in a proper and safe manner
3. Climb techniques for gangways

Content Modification

Block	Modification	Justification
RK4	Changed “how to draft for” to “uses and hazards associated with”.	“Draft” has multiple meanings in the marine environment and creates confusion. Cadre believes intent of RK4 is to address how gangway uses and hazards impact boarding.

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-5 (RK4) • Topic 3-4 (RK1, RK2, RK3, RS1, RS2, RS3)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 3	Marine Fire Fighting for Land-Based Fire Fighters • JPR 15

1-4: Retrieving a Vessel Fire Control Plan and Other Specified Documents

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.1.4

Job Performance Requirement

Retrieve a vessel fire control plan and other specified documents from a cold zone on the vessel, given a vessel, an assignment, a vessel fire control plan and other documents, and any necessary equipment, so that the vessel fire control plan and documents are located and brought to the Incident Commander within the time specified by the AHJ.

Requisite Knowledge

1. Describe location(s) on the vessel where the vessel fire control plan and other documents, such as dangerous cargo manifests, trim and stability documents, cargo-loading manuals where applicable, and crew and passenger lists are stored
2. Describe vessel compartmentalization and associated marking
3. Describe primary and alternative routes to reach the location(s) where the vessel fire control plan and other documents are stored
4. Describe response personnel utilization of the vessel fire control plan
5. Identify location of the command post

Requisite Skills

1. Boarding and negotiating or traveling through the vessel
2. Recognition of the vessel fire control plan and other types of documents

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-4 (RK2) • Topic 2-7 (RK1, RK5, RS2) • Topic 2-8 (RK4) • Topic 3-2 (RK3, RS1)	Marine Fire Fighting for Land-Based Fire Fighters JPR 4	Marine Fire Fighting for Land-Based Fire Fighters • JPR 9

Section 2: Access

2-1: Identifying a Specified Location on a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.2.1

Job Performance Requirement

Identify a specified location on a vessel, given a vessel fire control plan and an assignment, so that the assignment is completed and reported.

Requisite Knowledge

1. Identify vessel construction, including maritime terminology (e.g., bow, stern, port, starboard)
2. Describe unique hazards associated with various locations in a vessel
3. Describe terminology and symbols used on a vessel fire control plan

Requisite Skills

1. Negotiating vessel ladders, decks, and corridors
2. Operating vessel doors and hatches

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-4 (RK1) • Topic 2-5 (RK2) • Topic 2-8 (RK3, RS1, RS2)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 5	Marine Fire Fighting for Land-Based Fire Fighters • JPR 10

2-2: Identifying Onboard Vessel Fixed Fire Suppression Systems

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.2.2

Job Performance Requirement

Identify onboard vessel fixed fire suppression systems as a member of a team, given an incident, an assignment, standard operating procedures, and communications equipment, so that the system is activated or shut down when information is requested by the Incident Commander.

Requisite Knowledge

1. Identify types of fixed suppression systems found on vessels
2. Describe appropriate times to activate fixed suppression systems on vessels
3. Describe hazards associated with operating fixed suppression systems and agents

Requisite Skills

1. Recognizing fire suppression system controls
2. Operating communications equipment located at the fire suppression system control room
3. Understanding vital precautions to be taken as a fire team member after fire suppression systems have been activated

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-6	Marine Fire Fighting for Land-Based Fire Fighters • JPR 6	Marine Fire Fighting for Land-Based Fire Fighters • JPR 8

Section 3: Response

3-1: Establishing Connections for the Water Supply at an Incident

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.3.1

Job Performance Requirement

Establish connections for the water supply at an incident, given international shore connections, so that an uninterrupted supply of water is established and all hoses are connected and positioned according to procedures and in coordination with the ship's crew.

Requisite Knowledge

1. Identify an international shore connection

Requisite Skills

1. Ability to recognize and use an international shore connection

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-7	Marine Fire Fighting for Land-Based Fire Fighters • JPR 7	Marine Fire Fighting for Land-Based Fire Fighters • JPR 18

3-2: Protecting an Exposure on a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.3.2

Job Performance Requirement

Protect an exposure on a vessel as a member of a team, given an assignment, an exposure, a water supply source, approved PPE, fire hose, nozzles, and equipment, so that the exposure is protected.

Requisite Knowledge

1. Identify potential exposures in incident environment
2. Identify vessel construction
3. Describe fire behavior aboard vessel

Requisite Skills

1. Participating as part of a team to protect exposures
2. Operating handlines
3. Operation master streams

Content Modification

Block	Modification	Justification
RK1	Added “potential exposures in incident”.	Added to clarify meaning of “environment”.

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-4 (RK2) • Topic 3-10 (RK1, RS1, RS2, RS3)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 8	Marine Fire Fighting for Land-Based Fire Fighters • JPR 21

3-3: Accessing a Fire Compartment

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.3.3

Job Performance Requirement

Access a fire compartment as a member of a team, given a vessel, an incident, and an assignment, so that vessel integrity is maintained, doors and hatches are opened, tools are used, barriers are removed, and the opening is made ready for entry.

Requisite Knowledge

1. Describe construction and normal operation of vessel doors and hatches
2. Describe safety procedures for securing vessel doors and hatches to prevent them from closing behind fire fighters
3. Describe desired entry methods for various tactical operations, including ventilation, observation, dewatering, and agent application

Requisite Skills

1. Identifying and operating vessel doors and hatches

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-8 (RS1) • Topic 3-11 (RK1, RK2, RK3)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 9	Marine Fire Fighting for Land-Based Fire Fighters • JPR 22

3-4: Collecting and Reporting Vessel Stability Information

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.3.4

Job Performance Requirement

Collect and report vessel stability information, given a vessel, an incident, an assignment, measuring devices, and standard operating procedures, so that any current or potential hazards to stability are recognized and reported according to procedures.

Requisite Knowledge

1. Describe effect of tide, wakes/waves, currents, fire-fighting operations, vessel stability
2. Describe procedures for reporting the information
3. Describe vessel draft marking systems

Requisite Skills

1. Visualizing the position of a vessel
2. Using internal and external measuring devices or procedures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-9	Marine Fire Fighting for Land-Based Fire Fighters • JPR 10	Marine Fire Fighting for Land-Based Fire Fighters • JPR 11

Section 4: Communications

4-1: Transmitting and Receiving Messages via Communications Equipment

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.4.1

Job Performance Requirement

Transmit and receive messages via marine facility and vessel communications equipment, given marine facility and vessel communications equipment and standard operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ.

Requisite Knowledge

1. Identify marine communications terminology and procedures
2. Identify proper marine radio frequencies to be used
3. Describe types and capabilities of vessel communications systems
4. Describe methods for overcoming language barriers

Requisite Skills

1. Operate marine facility and vessel communication systems
2. Operate marine radios

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-5	Marine Fire Fighting for Land-Based Fire Fighters • JPR 11	Marine Fire Fighting for Land-Based Fire Fighters • JPR 16

4-2: Locating a Marine Facility or Vessel Representative

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.4.2

Job Performance Requirement

Locate a marine facility or vessel representative, given a marine facility or vessel and an assignment, so that a line of communication is established between the fire department and the facility or vessel representatives.

Requisite Knowledge

1. Identify locations on a vessel where the ship's master, mate, engineer, or ship's agent can be located
2. Identify marine frequencies monitored by the vessel master
3. Identify locations where facility representatives are normally located
4. Identify methods for contacting representatives after normal working hours

Requisite Skills

1. Operate marine facility and vessel communications equipment
2. Board a vessel
3. Negotiate or travel through the facility or vessel

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-2	Marine Fire Fighting for Land-Based Fire Fighters • JPR 12	Marine Fire Fighting for Land-Based Fire Fighters • JPR 13

4-3: Transmitting and Receiving Messages to Vessel Personnel and Responding Agencies

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.4.3

Job Performance Requirement

Transmit and receive messages to vessel personnel and other agencies responding to an incident, given an incident, a list of the other agencies responding to the incident, communications equipment, and standard operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ.

Requisite Knowledge

1. Identify marine communications terminology and procedures
2. Identify proper marine radio frequencies to be used
3. Identify land-based frequencies used in mutual aid situations
4. Identify other agencies that respond to marine incidents

Requisite Skills

1. Operate vessel and mobile communication systems, marine radios, and fire department communications equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-5	Marine Fire Fighting for Land-Based Fire Fighters • JPR 13	Marine Fire Fighting for Land-Based Fire Fighters • JPR 16

4-4: Controlling Access to a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.4.4

Job Performance Requirement

Control access to a vessel, given a vessel, an incident, an accountability system, an incident management system, and response personnel, so that all emergency responders boarding the vessel are noted and accounted for.

Requisite Knowledge

1. Describe the accountability systems used by the AHJ
2. Identify personnel who are authorized to operate a marine incident

Requisite Skills

1. Use accountability tactical worksheets

Content Modification

Block	Modification	Justification
RK2	Removed “knowledge of”.	Adjusted for verb use consistency and grammar.

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-3	Marine Fire Fighting for Land-Based Fire Fighters • JPR 14	Marine Fire Fighting for Land-Based Fire Fighters • JPR 14

4-5: Evacuating a Vessel or Exposure

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.4.5

Job Performance Requirement

Evacuate a vessel or exposure, given an occupied vessel or exposure, an incident, an accountability system, an incident management system, and response personnel, so that all personnel are removed from the hazard area to an area of refuge.

Requisite Knowledge

1. Describe vessel evaluation and accountability procedures used by the AHJ

Requisite Skills

1. Control, direct, and move passengers and crew

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-6	Marine Fire Fighting for Land-Based Fire Fighters • JPR 15	Marine Fire Fighting for Land-Based Fire Fighters • JPR 17

Section 5: Fire Control

5-1: Ventilating Smoke from a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.5.1

Job Performance Requirement

Ventilate smoke from a vessel as a member of a team, given a vessel, an incident, an assignment, approved PPE, ventilation equipment, and standard operating procedures, so that equipment is positioned for ventilation, vessel integrity is maintained, a specified ventilation opening is created and left unobstructed, and ventilation barriers are removed.

Requisite Knowledge

1. Describe construction principles of a vessel that affect ventilation operations
2. Describe principles, advantages, limitations, and effects of horizontal, vertical, natural, and forced ventilation
3. Describe safety considerations when venting a vessel
4. Describe signs, causes, effects, and prevention of backdrafts
5. Describe methods of heat transfer and principles of thermal layering on vessels
6. Describe effects of vessel construction on fire behavior and heat transfer

Requisite Skills

1. Transport, deploy, and operate ventilation equipment on a vessel

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 2-5 (RS6) • Topic 3-8 (RS5) • Topic 3-14 (RK1, RK2, RK3, RK4, RS1)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 16	Marine Fire Fighting for Land-Based Fire Fighters • JPR 25

5-2: Monitoring Fire Conditions on a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.5.2

Job Performance Requirement

Monitor fire conditions on a vessel as a member of a team, given a vessel, an assignment, an incident, approved PPE, a hose or safety line, a thermal imaging camera, and communications equipment so that vessel integrity is maintained and changes to fire conditions are reported to the Incident Commander.

Requisite Knowledge

1. Describe fire behavior on vessels
2. Describe procedures for operating a thermal imaging camera
3. Describe safety procedures for operating in or near fire compartments on vessels

Requisite Skills

1. Negotiate vessel ladders, stairs, corridors, and decks
2. Operate in high heat and vision-obscured areas utilizing a thermal imaging camera

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-8	Marine Fire Fighting for Land-Based Fire Fighters • JPR 17	Marine Fire Fighting for Land-Based Fire Fighters • JPR 19

5-3: Removing Water from a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.5.3

Job Performance Requirement

Remove water from a vessel as a member of a team, given a vessel containing water, an assignment, dewatering equipment, and approved PPE, so that hazards are identified, water is removed, and vessel stability is maintained.

Requisite Knowledge

1. Describe safety precautions to be taken when working in water
2. Describe hazards associated with water collecting in various areas of a vessel
3. Describe hazards associated with water removal in a vessel

Requisite Skills

1. Deploying and operating dewatering equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-15	Marine Fire Fighting for Land-Based Fire Fighters • JPR 18	Marine Fire Fighting for Land-Based Fire Fighters • JPR 26

5-4: Attacking a Fire on a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.5.4

Job Performance Requirement

Attack a fire on a vessel as a member of a team, given a vessel, an incident, an assignment, an attack line a secondary line, approved PPE, and tools and equipment, so that vessel integrity is maintained, attack line is deployed, access is gained to the fire compartment, effective water application practices are used, and fire is extinguished and overhauled.

Requisite Knowledge

1. Describe precautions to be followed when advancing hose line to a fire on a vessel
2. Describe principles of exposure protection
3. Identify types of fuels found on a vessel
4. Identify types and application of attack lines used on vessels
5. Describe effective application of fire streams

Requisite Skills

1. Advance charged and uncharged hose lines up and down vessel ladders and stairs, through corridors, and across decks
2. Operate fire streams
3. Advance multiple hose lines for fire attack

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-10 (RK2) • Topic 3-12 (RK1, RK3, RK4, RK5, RS1, RS2, RS3)	Marine Fire Fighting for Land-Based Fire Fighters • JPR 19	Marine Fire Fighting for Land-Based Fire Fighters • JPR 23

5-5: Conducting Search and Rescue Operations on a Vessel

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.5.5

Job Performance Requirement

Conduct a search and rescue operation for a missing person on a vessel as a member of a team, given a vessel, an incident, an assignment, a vessel fire control plan or other documents, a person, approved PPE, forcible entry tools, and other equipment, so that areas where the person could be located are searched, the person is located and removed, and vessel integrity is maintained.

Requisite Knowledge

1. Identify psychological effects of operating in vision-obscured conditions
2. Describe methods to determine if the area is tenable
3. Describe primary and secondary search techniques
4. Describe victim removal methods
5. Identify likely locations of passengers, crew members, shipyard workers, and contractors
6. Describe location and use of emergency escape and across decks
7. Describe removing victims

Requisite Skills

1. Use forcible entry tools
2. Use self-contained breathing apparatus (SCBA)
3. Access remote or enclosed compartments
4. Advance charged and uncharged hose lines up and down vessel ladders and stairs, through corridors, and across decks
5. Remove victims

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighter • Topic 3-13	Marine Fire Fighting for Land-Based Fire Fighters • JPR 20	Marine Fire Fighting for Land-Based Fire Fighters • JPR 24

5-6: Assisting in Deploying Extinguishing Agents

Authority

1. NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019)
   - Paragraph 4.5.6

Job Performance Requirement

Assist in deploying extinguishing agents other than water, given a vessel, an incident, an assignment, approved PPE, select extinguishing agents, and agent application equipment, so that the need is identified and communicated to the Incident Commander and agent is applied.

Requisite Knowledge

1. Identify appropriate extinguishing agents
2. Describe effects of various extinguishing agents
3. Describe hazards associated with various extinguishing agents, including onboard systems
4. Identify sources of bulk extinguishing agents

Requisite Skills

1. Read cargo manifests and technical information on extinguishing agents
2. Deploy and operate extinguishing equipment and agents

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Certification Task Book	Instructor Task Book
Marine Fire Fighting for Land-Based Fire Fighters • Topic 3-9	Marine Fire Fighting for Land-Based Fire Fighters • JPR 21	Marine Fire Fighting for Land-Based Fire Fighters • JPR 20

Marine Fire Fighting for Land-Based Fire Fighters

Course Plan

Course Details

CTS Guide: Marine Fire Fighting for Land-Based Fire Fighters (2019)

Description: This course provides the knowledge and skills needed for the land-based fire fighter to work safely and efficiently at a marine fire incident or exposure. This training program includes an awareness of the maritime domain; organizational roles, structures, and resources; vessel types and transported products; vessel construction and terminology; vessel safety and hazards; and fire detection, signaling and suppression systems. It also includes operational strategies and tactics for sizing up a marine incident; controlling access to, boarding, and evacuating a vessel; establishing water supply connections; monitoring fire conditions; protecting an exposure; accessing a fire compartment; attacking a fire; conducting a search and rescue operation; ventilating smoke; and removing water from a vessel. This course incorporates training based on NFPA 1005 (2019).

Designed For: Land-based emergency personnel with responsibility for responding to incidents in a marine environment.

Prerequisites: OSFM Fire Fighter 2 certification

or

Meet the minimum job performance requirements for Fire Fighter 2 in NFPA 1001: Standard for Fire Fighter Professional Qualifications related to safety; fire behavior; portable extinguishers; personal protective equipment (PPE); ladders; fire hose, appliances, and streams; overhaul; water supply; ventilation; and forcible entry as demonstrated through two (2) years' full-time or four (4) years' part-time/volunteer experience.

Standard: Attend and participate in all course sections

Successful completion of all activities and skills

Successful completion of summative exam with a score of 80%

Hours (Total): 40 hours

(24.75 lecture / 15.25 application)

Minimum Class Size: 15

Maximum Class Size: 30

Instructor Level: SFT Registered Marine Fire Fighting for Land-Based Fire Fighters Instructor

Instructor/Student Ratio: 1:30 (lecture)

1:5 (application/skills) – a minimum of one Registered Marine Fire Fighting for the Land-Based Fire Fighters Instructor per IDLH prop or scenario, and as many Skills Coaches as needed to meet the 1:5 student ratio)

Restrictions: See Equipment, Facilities, and Personnel requirements

SFT Designation: CFSTES

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Marine Fire Fighting for Land-Based Firefighters* (ISFTA, 3rd edition, ISBN: 978-087939641-1)
- NFPA 1005: Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2019 or current)
- NFPA 1925: Standard on Marine Fire Fighting Vessels (2018 or current)
- Full structural PPE and SCBA

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/

- None

Student Resources

To participate in this course, students need:

- *Marine Fire Fighting for Land-Based Firefighters* (ISFTA, 3rd edition, ISBN: 978-087939641-1)
- Full structural PPE and SCBA

Facilities, Equipment, and Personnel

Facilities

The following facilities are required to deliver this course:

- Standard learning environment or facility, which may include:
    - Writing board or paper easel chart
    - Markers, erasers
    - Amplification devices
    - Projector and screen
    - Laptop or tablet with presentation or other viewing software
    - Internet access with appropriate broadband capabilities
- A training site with the NFPA 1005 and NFPA 1925 required facilities, structures, work areas, materials, props, tools, and equipment of adequate size, type, and quantity to fully and safely support the cognitive and psychomotor training required to deliver the Marine Fire Fighting for Land-Based Fire Fighters curriculum

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this course. The equipment listed below is the minimum for the delivery of this course. The student is responsible for providing all personal protective equipment and ensuring that it meets AHJ and site requirements.

The following equipment is required to deliver this course:

15 Students	30 Students	Equipment
1	2	Line gun (optional per AHJ)
2	4	Pry bar
1	2	Bolt cutter
2	4	Pike pole
2	4	Scoop shovel
2	4	Shovels; round point, long handle
2	4	Shovels; square point, long handle
4	6	Adjustable hydrant wrench
1	1	Sprinkler shut-off wedge
15	30	Utility rope
1	2	Floating stretcher with harness (optional per AHJ)
2	4	Portable extinguisher
2	4	Dry chemical extinguisher
1	2	Electrical extension cords
2	4	Flathead axe
2	4	Pick head axe
15	30	SCBA cylinders; 1 per student
1	1	SCBA cascade/fill station or mask unit
2	4	Halligan tool or equivalent (optional per AHJ)
1	2	Spanner wrench
2	4	Sledgehammer
2	4	Grappling hook (optional per AHJ)
2	4	Ropes in a throw bag
2	4	Heaving line
2	4	NFPA 1983 life safety rope
TBD	TBD	Jet siphons; 2½” to 3½” or larger
1	2	Positive pressure fan; portable, size determined by AHJ
1	2	Chainsaw; gas-powered with fuel can, chain oil, and extra chain
1	1	Generator; with extension cord

1	2	Hydraulic rescue tool; gas-powered or manual
2	4	Atmospheric monitor; with tubing
1	1	Circular saw
4	8	Salvage covers
15	30	Head lamp
15	30	Flashlight/streamlight
TBD	TBD	Hose; supply line, attack line (determined by AHJ)
TBD	TBD	Fire apparatus; with associated equipment (determined by AHJ)
1	1	Fire boat (optional)
5	5	Smoke machines; with liquid smoke and extension cords
TBD	TBD	Gas meters
TBD	TBD	Thermal imaging camera (TIC)
TBD	TBD	R95 masks (for instructors)
1	1	International Shore Connection (ISC)
TBD	TBD	Gated wyes
TBD	TBD	Low pressure (75 psi) variable fog nozzles for handlines
1	1	Manikin
1	1	ATTACK™ Digital Fire Training System (with weighted hoses and nozzles) (optional)
*Assuming you use Storz connections TBD = AHJ hosting course determines minimum requirements based on vessel or vessel prop and activities		

Training Props

The following training props are required to deliver this course:

- Access to a vessel or a vessel prop that enables students to practice skills and complete course objectives

The provider or agency assumes all responsibility, liability, and maintenance for the engineering design, strength, stability, and adequacy of all props. The provider or agency further assumes all responsibility, liability, and maintenance for all tools, equipment, and supplies used at the site for the delivery of a Marine Fire Fighting for Land-Based Fire Fighters class.

Personnel

The following personnel are required to deliver this course:

- A minimum of one Registered Marine Fire Fighting for the Land-Based Fire Fighters Instructor per IDLH prop or scenario, and as many Skills Coaches as needed to meet the 1:5 student ratio for application and skills

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.75	0.0	
Topic 1-2: Marine Fire Fighting for Land-Based Fire Fighters Certification Process	0.25		
Unit 1 Totals	**1.0**	**0.0**	**1.0**
Unit 2: Awareness			
Topic 2-1: Understanding the Maritime Domain	1.0	0.0	
Topic 2-2: Understanding Organizational Roles, Structures, and Resources	0.5	0.0	
Topic 2-3: Identifying Vessel Types and Potential Products Transported	1.5	0.0	
Topic 2-4: Defining Common Marine Vessel Construction and Terminology	1.5	0.0	
Topic 2-5: Describing Vessel Safety and Hazards	1.0	0.0	
Topic 2-6: Identifying Fire Detection, Signaling, and Suppression Systems	1.0	0.0	
Topic 2-7: Retrieving a Vessel Fire Control Plan and Other Specified Documents	0.25	*	
Topic 2-8: Identifying a Specified Location on a Vessel	0.25	0.5	
Topic 2-9: Collecting and Reporting Vessel Stability Information	0.5	*	
Unit 2 Totals	**8.0**	**0.5**	**8.5**
Unit 3: Operations			
Topic 3-1: Sizing Up a Marine Incident	0.75	0.25	
Topic 3-2: Locating a Marine Facility or Vessel Representative	0.5	0.0	
Topic 3-3: Controlling Access to a Vessel	1.0	*	
Topic 3-4: Boarding a Marine Vessel	1.0	*	
Topic 3-5: Transmitting and Receiving Messages	1.0	*	
Topic 3-6: Evacuating a Vessel or Exposure	1.0	*	
Topic 3-7: Establishing Water Supply Connections	1.5	0.5	
Topic 3-8: Monitoring Fire Conditions on a Vessel	1.0	0.0	
Topic 3-9: Assisting in Deploying Extinguishing Agents	1.0	0.5	
Topic 3-10: Protecting an Exposure on a Vessel	1.0	*	
Topic 3-11: Accessing a Fire Compartment	1.0	0.0	
Topic 3-12: Attacking a Fire on a Vessel	2.0	*	

Topic 3-13: Conducting a Search and Rescue Operation on a Vessel	1.0	*	
Topic 3-14: Ventilating Smoke from a Vessel	1.0	*	
Topic 3-15: Removing Water from a Vessel	1.0	*	
Unit 3 Totals	**15.75**	**1.25**	**17.0**
Other			
Field Trip (walk and talk through vessel)	**0.0**	**4.0**	**4.0**
Formative Assessments			
* Skill Sheets Completed on Vessel or Prop	**0.0**	**8.0**	**8.0**
Summative Assessment			
Written Exam	**0.0**	**1.5**	**1.5**
Course Totals	**24.75**	**15.25**	**40.0**

Time Table Key

1. The Time Table documents the amount of time required to deliver the content included in the course plan.

2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.

3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.

4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size and student ratios identified in the Course Details section.

5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, skills exercises, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
   - Restroom locations
   - Food locations
   - Smoking locations
   - Emergency procedures
2. Identify classroom requirements
   - Start and end times
   - Breaks
   - Electronic device policies
   - Special needs and accommodations
   - Other requirements as applicable
3. Review course syllabus
   - Course objectives
   - Calendar of events
   - Course requirements
   - Student evaluation process
   - Assignments
   - Activities
   - Required student resources
   - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Have students complete all required registration forms.

Topic 1-2: Marine Fire Fighting for Land-Based Fire Fighters Certification Process

Terminal Learning Objective

At the end of this topic a student will be able to identify the requirements for Marine Fire Fighting for Land-Based Fire Fighters certification and be able to describe the certification task book and examination process.

Enabling Learning Objectives

1. Identify the differed levels of certification in the certification track
2. Identify the prerequisites for certification
3. Identify the course work required for certification
4. Identify the exams required for certification
5. Identify the task book requirements for certification
6. Identify the experience requirements for certification
7. Identify thee position requirements for certification
8. Describe the certification task book process
9. Describe the certification examination process

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 2: Awareness

Topic 2-1: Understanding the Maritime Domain

Terminal Learning Objective

At the end of this topic a student, given information about ports, marinas, and the maritime environment, will be able to understand the maritime domain, so that land-based fire fighters are prepared to respond to a marine incident.

Enabling Learning Objectives

1. Describe risks unique to marine fire fighting
2. Describe environmental concerns when responding to a marine incident
    - Weather
        - Wind
        - Temperature extremes
    - Ocean/water body movement
        - Tides
        - Currents
        - No wake zones
    - Vessel traffic
    - Man overboard/person in water
3. Identify port facilities and resources common to the AHJ
4. Identify port services and systems that may impact operational decision making
5. Describe port equipment that may impact operational decision making
    - Mooring equipment
        - Mooring line danger zone
    - Facility firefighting equipment
6. Identify marina facilities and resources common to the AHJ
7. Describe marina equipment that may impact operational decision making

Discussion Questions

1. How do marine environmental conditions (tides, wind, etc.) impact firefighting operations?
2. What port services and systems might impact emergency response?
3. Why are mooring lines dangerous? How large is a mooring line danger zone?
4. What are some differences between ports and marinas?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: None

Topic 2-2: Understanding Organizational Roles, Structures, and Resources

Terminal Learning Objective

At the end of this topic a student, given marine domain organizational roles, structures, and resources, will be able to understand the organizational roles, structures, and resources associated with marine firefighting, so that marine firefighting operations are carried out in accordance with applicable laws, standards, policies, and procedures.

Enabling Learning Objectives

1. Describe the role of port authorities during a marine incident
   - Manages port and port operations
   - Pre-planning emergency operations with fire service
   - Responsible party (harbor master, vessel agent, qualified individual) to grant vessel access
2. Describe the organizational structure of a commercial vessel as it relates to fire fighting
   - Master, Captain, person in charge
   - Vessel station bill or muster list documents organizational structure
   - Identify engineering officer (or equivalent)
3. Describe the organizational structure of a military vessel as it relates to fire fighting
   - Commanding Officer (CO), Captain
   - Emergency response team always on board
   - Identify Engineering Officer
   - More people on board on a military vessel than a commercial vessel
   - More defined chain of command than a commercial vessel
4. Describe the role of land-based fire fighters at a marine incident
   - Respond to any fire or rescue incident within response area or as directed
   - Work under authority of unifying command to carry out strategies and tactics
5. Identify governmental organizations that may be involved in a marine incident
   - Federal
     - U.S. Coast Guard
     - Customs and Border Protection
   - State
     - Department of Fish and Wildlife
     - Cal OES
     - CAL FIRE
   - Local
     - Municipal fire departments
     - Law enforcement
     - Emergency Operations Center (EOC)
     - Port authority or harbor department
     - Local U.S. Coast Guard sector control
6. Describe legal considerations for land-based fire fighters at a marine incident
   - Maritime law is different and more complex than state and local laws (i.e., permission to board, who is in charge, etc.)

7. Identify policies and procedures associated with marine incident response
8. Identify resources that may be available during a marine incident

Discussion Questions

1. What is the role of a land-based fire fighter at a marine incident?
2. Who gives permission for fire fighters to board a vessel?
3. What resources are available during a marine incident in your AHJ?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-1

Topic 2-3: Identifying Vessel Types and Potential Products Transported

Terminal Learning Objective

At the end of this topic a student, given general information on vessel types common to the AHJ, awareness level information on products transported by marine vessels, AHJ policies and procedures, and overall scene safety considerations at marine incidents, will be able to identify marine vessel types and potential products transported, so that the scene of the incident and the hazards are recognized.

Enabling Learning Objectives

1. Identify characteristics of generalized marine vessel types
    - Passenger vessels
    - Pleasure craft
    - Floating structures
    - Tankships
    - Cargo vessels
    - Special purpose vessels
    - Military vessels
    - Other vessel types
2. Identify awareness-level hazardous product information
3. Identify general hazard classes of product and structural firefighting PPE compatibilities

Discussion Questions

1. What type of vessels are common in your AHJ?
2. What hazards are associated with those vessel types?
3. What can cause stability issues with those vessel types?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-1

Topic 2-4: Defining Common Marine Vessel Construction and Terminology

Terminal Learning Objective

At the end of this topic a student, given vessel construction terminology, marine vessel terminology, and general structural hazards associated with marine vessels, will be able to define common marine vessel construction and terminology, so that Land-Based Fire Fighters have a working knowledge of general terms when communicating with marine vessel personnel.

Enabling Learning Objectives

1. Describe marine vessel terminology
    - Bow/stern
    - Port/starboard
    - Forward/aft
    - Main deck (identified on fire control plan)
    - Above/below deck
    - Transom
    - Keel
    - Gunwhales
    - Rudder
    - Helm
    - Hull/superstructure
    - Cleat
    - Draft/freeboard
2. Describe general marine vessel construction
    - Framing systems
    - Bulkheads
    - Decks, platforms, levels
    - Construction materials
3. Identify arrangement and hazards of vessel spaces
    - Control spaces
        - Bridge
        - Engine control room
        - Fire control room
    - Machinery spaces
        - Engine space
        - Fire pump and foam room
    - Accommodation spaces
        - Berth
        - Galley
        - Head
    - Storage spaces
        - Cargo
        - Tanks

- Void spaces

4. Describe common vessel markings
   - Interior
     - Exits
     - Frame numbering
     - Fire stations
     - Hazardous materials
     - Ladders, escape trunks
   - Exterior
     - Draft markings
     - Load lines
5. Identify vessel compartment access and egress points and methods
   - Watertight/weathertight doors
     - Quick acting
     - Individual dog
   - Interior joiner (standard) doors
   - Hatches/hatchways
   - Ladders, escape trunks
   - Stairs
6. Identify the major systems necessary on a large vessel
   - Power generation and lighting
   - Heating, refrigeration, air conditioning, ventilation
   - Fuel and ballast transfer
   - Mooring
   - Steering
   - Propulsion and thrusters
   - Cargo handling
   - Bilge
   - Communication
7. Describe challenges associated with smaller vessels
   - Not required to meet large vessel design and construction standards
   - May not have fire detection, containment, or suppression systems
   - May use combustible materials not permitted on large commercial vessels
   - Do not have flooding resistance or containment features found on large vessels
   - Likely to flood, become unstable, capsize, or sink more rapidly than large vessels
   - Likely to have smaller passageways, compartments, doors, and hatches than large vessels
   - Often modified by owners compromising safety and stability

Discussion Questions

1. How do the differences between large and small vessels impact operations?
2. Where is “frame zero”?
3. Where are draft markings located? What do they indicate?
4. Where is the bridge located?

Application

1. Determined by instructor

Instructor Notes

1. Marine terminology and fire service terminology have similar terms (ladder, line, draft, etc.) with different meanings. Be clear about intended meaning when teaching this class.

CTS Guide Reference: CTS 1-2, 1-4, 2-1, 3-2

Topic 2-5: Describing Vessel Safety and Hazards

Terminal Learning Objective

At the end of this topic a student, given hazards unique to marine incidents, personal protective equipment (PPE), requisite equipment, and available specialized resources, will be able to recognize common vessel hazards so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and victims are minimized; and rescue time constraints are considered.

Enabling Learning Objectives

1. Describe safety measures to take at a marine incident
    - Personnel accountability
        - System determined by AHJ
        - Working with impaired communications
            - Louder or echoed environments
            - Radio failure
            - Dampened/compressed sound
    - Respiratory protective equipment
        - Determined by AHJ
    - Emergency response access/egress
        - Door safety
            - Opening sequence
            - Pressure changes
            - Securing doors
            - Knife edges
            - Trip hazards/coaming
            - Heat transfer
        - Gangways
            - Overloading
            - Movement
            - Falls
        - Ladder safety
            - Overloading
            - Falls
2. Identify hazards unique to a marine incident
    - Water hazards
        - Falls into water
            - Water rescue (self/RIC)
            - Personal flotation devices
            - Throw ring
    - Environmental (natural) hazards
        - Slick surfaces
        - Freezing temperatures
        - Changes in water level

    - Water currents spread pollutants and flammable liquids
    - Lightning
    - Wind
    - Waves
- Vessel hazards
    - Construction
        - Deck openings/knife edges
        - Automatic doors
        - Metal hulls and superstructures
        - Overhead hazards
    - Confined spaces
        - Atmospheric hazards
    - Machinery and systems
        - Crush hazards
        - Exposure, electrical shock, explosions
        - Noise
        - Pressurized contents
- Cargo types and hazards
    - Break bulk
        - Anticipate Class A combustibles associated with dunnage and packaging materials
    - Roll-on/roll-off (RO/RO)
        - Fuel
        - Lithium batteries
        - Electrical wiring
        - Tire explosions when exposed to fire
        - Unknown contents (propane tanks, ammunition, dangerous goods)
    - Containerized
        - Lack of access to containers
        - Unknown contents
        - Exposure of adjacent containers
    - Liquid bulk
        - Flammability
        - Vapor clouds
        - Severe damage to human tissue
        - Storage vessel failure
        - Explosions
    - Dry bulk
        - Atmospheric hazards
        - Shifting loads
        - Engulfment
        - Explosions
- Pier, wharf, dock hazards
    - Stability

    - Weight limits
    - Overhead hazards
    - Mooring lines
    - Moving vehicles
    - Trains and train tracks
    - Electrical hazards
3. Describe personal safety practices to take at a marine incident
    - Stay aware of surroundings
    - Never step backwards without looking
    - Note path taken through a vessel
    - Face ladders while descending
    - Slide or shuffle feet
    - Assume any closed space can be hazardous
4. Describe vessel monitoring procedures
    - List
    - Draft
    - Trim

Discussion Questions

1. What is your AHJ's personnel accountability system? How might you need to adapt it in a marine environment?
2. What are some common atmospheric hazards in a marine environment?
3. How does the natural environment contribute to marine hazards?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-3, 2-1, 5-1

Topic 2-6: Identifying Fire Detection, Signaling, and Suppression Systems

Terminal Learning Objective

At the end of this topic a student, given an incident, an assignment, standard operating procedures, and communications equipment, will be able to identify onboard vessel and land-based fixed fire suppression systems as a member of a team, so that the system is activated or shut down when information is requested by the Incident Commander.

Enabling Learning Objectives

1. Identify fire detection and signaling systems
   - Smoke detection
   - Heat detection
   - Flame detection
   - Alarm system control units
   - Automatic system operations
   - Vessel watch and patrol systems
2. Identify types of fire suppression systems found on vessels
   - Water
     - Limited gallons per minute
     - May be unreliable
     - Not intended as a primary water supply
     - May be used to support boundary cooling
   - Chemical
   - Inert gas
   - Foam
3. Describe hazards associated with operating suppression systems and agents
4. Describe appropriate times to activate fixed suppression systems on vessels
   - Determined by onboard crew
5. Identify land-based fire suppression components found at ports and marinas
   - Fixed
     - Hose cabinets
       - Wet
       - Dry
     - Fire department connection (FDC)
     - Hydrants
     - Monitors
   - Portable
     - Extinguisher
     - Apparatus
     - Pump
6. Recognize fire suppression system controls
7. Operate communications equipment in a fire suppression control room
8. Understand vital precautions to take when activating fire suppression systems

Discussion Questions

1. What types of fire detection systems can be found on vessels?

2. What types of land-based fire suppression components are available in a marina or port?
3. What are the advantages and disadvantages of using water?
4. What are the advantages and disadvantages of using carbon dioxide?
5. What are the advantages and disadvantages of using foam?

Application

1. IFSTA Skill Sheet 6-1: Locate and Identify Onboard Fire Suppression Systems (optional)

Instructor Notes

1. None

CTS Guide Reference: CTS 2-2

Topic 2-7: Retrieving a Vessel Fire Control Plan and Other Specified Documents

Terminal Learning Objective

At the end of this topic a student, given a vessel, an assignment, a vessel fire control plan and other documents, and any necessary equipment, will be able to retrieve a vessel fire control plan and other specified documents from a cold zone on the vessel, so that the vessel fire control plan and documents are located and brought to the Incident Commander within the time specified by the AHJ.

Enabling Learning Objectives

1. Identify the purpose of the fire control plan during emergency response
    - Assist with control of fire emergencies on a vessel
    - Assist land-based fire fighters
        - Develop pre-incident plans
        - Develop incident action plans
        - Deploy rapid intervention teams
    - Help plan primary and secondary access and egress routes
2. Identify other important documents
    - Passenger/crew list
    - Stability, trim, and loading documents
    - Dangerous cargo manifests
    - Cargo loading manuals
3. Describe location(s) on the vessel where the vessel fire control plan and other documents are stored
4. Identify location of the command post
    - Deliver fire control plan to appropriate command based on incident complexity
        - Operations
        - Branch/Division
        - Incident Command

Discussion Questions

1. Are all vessels required to have a fire control plan?
2. On vessels greater than 300 tons, where is the fire control plan required to be located?
3. Where might fire control plans be located on vessels weighing less than 300 tons?
4. What other vessel documents are relevant to marine fire fighting?

Application

1. IFSTA Skill Sheet 7-1: Locate and Retrieve a Fire Control Plan from a Vessel

Instructor Notes

1. None

CTS Guide Reference: CTS 1-4

Topic 2-8: Identifying a Specified Location on a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel fire control plan and an assignment, will be able to identify a specified location on a vessel, so that the assignment is completed and reported.

Enabling Learning Objectives

1. Describe terminology and symbols used on a vessel fire control plan
2. Identify contents of a vessel fire control plan
   - Fixed fire-suppression systems
   - Portable/semiportable fire-suppression equipment
   - Vessel construction features
   - Fire detection systems
   - Ventilation system
   - Means of access and egress
3. Describe how to interpret and use a vessel fire control plan
4. Negotiate vessel ladders, decks, and corridors
5. Operate vessel doors and hatches

Discussion Questions

1. How would you identify your specific location on a vessel?
2. What types of information can you gather from a fire control plan?

Application

1. Given a fire control plan, have students work in groups to research and identify vessel features, frame numbering, means of egress, and the location of fire suppression systems.

Instructor Notes

1. None

CTS Guide Reference: CTS 1-4, 2-1, 3-3

Topic 2-9: Collecting and Reporting Vessel Stability Information

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, an assignment, measuring devices, and standard operating procedures, will be able to collect and report vessel stability information, so that any current or potential hazards to stability are recognized and reported according to procedures.

Enabling Learning Objectives

1. Identify basic vessel stability concepts
   - Heel, list, trim
   - Center of gravity
   - Center of buoyancy
   - Danger angle
2. Describe the effect of tides, wakes/waves, and currents on vessel stability
3. Describe vessel draft marking systems and how to assess and monitor vessel stability
   - Draft markings
   - Trim lines
   - Load lines
4. Describe vessel stability as it relates to fire fighting
   - Stability impacts if/when to board and evacuate vessel
   - Fire damage can shift loads
   - Addition of external water impacts stability
5. Describe procedures for reporting information
   - Report information to appropriate command based on incident complexity
     - Operations
     - Branch/Division
     - Incident Command
6. Visualize the position of a vessel
7. Use internal and external measuring devices or procedures

Discussion Questions

1. What is the difference between heel and list?
2. How do you assess and monitor vessel stability?

Application

1. IFSTA Skill Sheet 10-1: Collect and Report Vessel Stability Information

Instructor Notes

1. None

CTS Guide Reference: CTS 3-4

Unit 3: Operations

Topic 3-1: Sizing Up a Marine Incident

Terminal Learning Objective

At the end of this topic a student, given an incident, background information and applicable reference materials, will be able to size up an incident, so that operational mode is defined, resource availability and response time are determined, types of rescues are determined, resource needs are assessed, and information required to develop an incident action plan is obtained.

Enabling Learning Objectives

1. Identify size up considerations
    - Fuel type
    - Vessel type and construction
    - Vessel occupancy/service
    - Vessel trim and stability
    - Life hazards
    - Water supply
    - Fixed systems
    - Street/wharf/dock access
    - Staging and safety areas
    - Environment (weather, tides, current, etc.)
    - Exposures
    - Fire location
    - Time of day
    - Hazardous materials
2. Identify steps to take after size up
    - Establish incident command
    - Request additional resources (as needed)
    - Issue appropriate notifications including marine/vessel responsible party
3. Conduct scene size up

Discussion Questions

1. Why is it critical to determine vessel fuel type as soon as possible?
2. What size up information can you determine from a pier (without a 360 evaluation)?
3. How will size up of a larger vessel differ from size up of a smaller vessel?

Application

1. Given incident scenarios, background information, and applicable reference materials, have students size up an incident and share their findings with the group.

Instructor Notes

1. None

CTS Guide Reference: None

Topic 3-2: Locating a Marine Facility or Vessel Representative

Terminal Learning Objective

At the end of this topic a student, given a marine facility or vessel and an assignment, will be able to locate a marine facility or vessel representative, so that a line of communication is established between the fire department and the facility or vessel representatives.

Enabling Learning Objectives

1. Identify locations on a vessel where the ship's master, mate, engineer, or ship's agent can be located
2. Identify marine frequencies monitored by the vessel master
3. Identify locations where facility representatives are normally located
4. Identify methods for contacting representatives after normal working hours
5. Operate marine facility and vessel communications equipment
6. Board a vessel
7. Negotiate or travel through the facility or vessel

Discussion Questions

1. What are some common marine radio channels?
2. Where would you find the responsible party on a ship?
3. Where would you find thee responsible party at a marina?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-4, 4-2

Topic 3-3: Controlling Access to a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, an accountability system, an incident management system, and response personnel, will be able to control access to a vessel, so that all emergency responders boarding the vessel are noted and accounted for.

Enabling Learning Objectives

1. Describe accountability systems used by the AHJ
2. Identify personnel who are authorized to operate a marine incident
3. Identify methods for controlling access to a vessel
    - Staging areas
        - On land for shore response
        - On the vessel for onboard response
    - Fireline tape
    - Physical barriers
    - Personnel stationed at the access point
    - Documentation (physical or digital)
4. Use accountability tactical worksheets

Discussion Questions

1. Why is it important to control access to a vessel during an incident?
2. How does your AHJ document personnel accountability?
3. How are vessel staging areas different from land-based staging areas?
4. What resources can you use to control access?

Application

1. IFSTA Skill Sheet 5-3: Control Access to a Vessel Using Accountability Tactical Worksheets

Instructor Notes

1. ELO 1 is already covered in Topic 2-5. Students just need a reminder of how to use it in context here.

CTS Guide Reference: CTS 3-3

Topic 3-4: Boarding a Marine Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel, gangway, approved PPE, water survival techniques, approved hand tools and suppression equipment, and AHJ policies and procedures, will be able to board a marine vessel, so that Land-Based Fire Fighters are transferred to the vessel in a safe manner.

Enabling Learning Objectives

1. Describe effect of vessel movement due to tide, wakes, currents, or other factors
2. Describe effect of water depth
3. Describe gangway uses and hazards
4. Identify key components of gangway safety
    - Maintain 10 feet spacing between personnel
    - Distribute weight of personnel, tools, and equipment
    - Always face/travel forward
    - Maintain three points of contact
5. Describe water survival techniques
    - Self-rescue
        - Stay calm
        - Assess surroundings
        - Roll onto back
        - Move away from debris
        - Notify others
        - Group together (if there are multiple people in water)
        - Use available equipment for added flotation
        - Use SCBA (if needed)
        - Doff PPE
    - Witnessing a person in the water
        - Illuminate (if needed)
        - Maintain visual contact (serve as a lookout)
        - Initiate Mayday/man overboard call
        - Throw flotation device
6. Don approved PPE
7. Transfer tools and equipment to the vessel in a proper and safe manner
8. Climb a gangway

Discussion Questions

1. How can tidal changes impact gangway operations?
2. What should you do if you fall into the water?
3. What should you do if you see someone else fall into the water?
4. How far apart should personnel be on a gangway?

Application

1. IFSTA Skill Sheet 5-2: Board a Marine Vessel

Instructor Notes

1. None

CTS Guide Reference: CTS 1-3

Topic 3-5: Transmitting and Receiving Messages

Terminal Learning Objective

At the end of this topic a student, given marine facility and vessel communications equipment and standard operating procedures, will be able to transmit and receive messages via marine facility and vessel communications equipment to vessel personnel and other agencies responding to an incident, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ.

Enabling Learning Objectives

1. Identify marine communications terminology and procedures
2. Identify proper frequencies to use
   - Marine radio frequencies
   - Land-based frequencies
3. Describe types, capabilities, and limitations of communications systems
   - Vessel systems
   - Port systems
   - Marina systems
   - Fire department systems
4. Identify other agencies that respond to marine incidents
   - Government
   - Law enforcement
   - Medical
   - Mutual aid agencies
   - Aerial assets
5. Describe methods for overcoming language barriers
   - Translation services (or apps)
6. Operate marine facility, vessel, and fire department communication systems
7. Operate marine radios

Discussion Questions

1. What channel is used for marine emergencies?
2. How would you determine which frequencies to use for communication interoperability?
3. What other agencies might respond and impact communications at a marine incident?

Application

1. IFSTA Skill Sheet 4-1: Operate Communications at a Marine Incident

Instructor Notes

1. None

CTS Guide Reference: CTS 4-1, 4-3

Topic 3-6: Evacuating a Vessel or Exposure

Terminal Learning Objective

At the end of this topic a student, given an occupied vessel or exposure, an incident, an accountability system, an incident management system, and response personnel, will be able to evacuate a vessel or exposure, so that all personnel are removed from the hazard area to an area of refuge.

Enabling Learning Objectives

1. Describe AHJ vessel evaluation and accountability procedures
2. Describe how to evacuate a vessel of exposure
    - Determine need for evacuation
    - Contact marine facility or vessel representative
    - Identify established evacuation routes (fire control plan)
    - Establish alternate evacuation routes (as needed)
        - One at the bow and one at the stern
        - Out of the way of attack routes
    - Control and direct passenger and crew movement to an area of refuge
    - Use accountability system
    - Ensure all personnel are evacuated
    - Isolate affected area
    - Address security and/or Customs issues with international personnel or passengers (if applicable)
    - Complete all required documentation
3. Control, direct, and move passengers and crew

Discussion Questions

1. How do you determine if a vessel has an established evacuation plan?
2. What equipment can you use to create alternate evacuation paths?
3. How will you ensure that all personnel are evacuated?

Application

1. IFSTA Skill Sheet 5-1: Control, Direct, and Move Passengers and Crew to Evacuate a Vessel or Exposure (optional)

Instructor Notes

1. ELO 3 will be taught but not practiced.

CTS Guide Reference: CTS 4-5

Topic 3-7: Establishing Water Supply Connections

Terminal Learning Objective

At the end of this topic a student, given international shore connections, will be able to establish connections for the water supply at an incident, so that an uninterrupted supply of water is established, and all hoses are connected and positioned according to procedures and in coordination with the ship's crew.

Enabling Learning Objectives

1. Identify reliable water sources
    - Hydrant
    - Drafting
        - Tidal changes create challenges
        - Establish a secondary supply
    - Water tender
    - Fire boat
2. Identify an international shore connection
    - Supplies firefighting water to a vessel's fire main from an off-ship supply
    - At least one required on either side of the vessel
    - Two-part system
        - A standard-size flange with nuts, bolts, washers
        - A coupling suitable for supply hoses
    - Do not exceed maximum pressure rating of 150 psi
3. Use an international shore connection

Discussion Questions

1. What is the purpose of an ISC?
2. How do you find the ISC?
3. What is the designed pressure rating for an ISC?

Application

1. IFSTA Skill Sheet 8-3: Establish an International Shore Connection

Instructor Notes

1. Give students an opportunity to practice this skill on a prop in the classroom before they do it on a vessel or in a prop.

CTS Guide Reference: CTS 3-1

Topic 3-8: Monitoring Fire Conditions on a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel, an assignment, an incident, approved PPE, a hose or safety line, a thermal imaging camera, and communications equipment, will be able to monitor fire conditions on a vessel as a member of a team, so that vessel integrity is maintained and changes to fire conditions are reported to the Incident Commander.

Enabling Learning Objectives

1. Describe fire behavior on vessels
2. Describe how to operate a thermal imaging camera
3. Describe how to monitor fire conditions on a vessel
    - Vessel systems
        - Smoke detection
        - Heat detection
            - Heat transfer
            - Thermal layering
        - Flame detection
        - Alarm system control units
        - Automatic system operations
        - Vessel watch and patrol systems
        - Fire suppression systems
    - Vessel exterior
        - Heat conduction
        - Smoke patterns
        - Exposures
    - Fire location and boundaries
        - Extension
        - Smoke
        - Heat
4. Describe safety procedures for operating in or near fire compartments on a vessel
    - Personnel accountability and communication
    - Heat conducted through metal
    - Air management
    - Appropriate lighting
    - Emergency egress procedures
    - Fatigue (proper rehab)
    - TICs may have limited search capability due to excessive heat in metal walls
5. Negotiate vessel ladders, stairs, corridors, and decks
6. Operate in high heat and vision-obscured areas utilizing a thermal imaging camera

Discussion Questions

1. How does heated steel impact TIC use?
2. What can you monitor using the vessel's systems?
3. What can you monitor from the vessel's exterior?
4. What can you monitor near the fire location or fire boundaries?

Application

1. Determined by instructor

Instructor Notes

1. ELO 6: Students will have a chance to practice in vision-obscured areas but not in high heat areas.

CTS Guide Reference: CTS 3-2, 5-1, 5-2

Topic 3-9: Assisting in Deploying Extinguishing Agents

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, an assignment, approved PPE, select extinguishing agents, and agent application equipment, will be able to assist in deploying extinguishing agents other than water, so that the need is identified and communicated to the Incident Commander and agent is applied.

Enabling Learning Objectives

1. Identify appropriate extinguishing agents
   - Based on fire location and fuel
2. Describe effects of various extinguishing agents
3. Describe hazards associated with various extinguishing agents, including onboard systems
4. Identify sources of bulk extinguishing agents
5. Identify role of land-based fire fighter in assisting with deploying extinguishing agents
   - Determine if agent has already been deployed
   - If vessel crew is present, work in collaboration and follow direction/assist
   - If vessel crew is absent, assess risk, request approval, and act
6. Read cargo manifests and technical information on extinguishing agents
7. Deploy and operate extinguishing equipment and agents

Discussion Questions

1. Determined by instructor

Application

1. Given fire scenarios (instructor power point or photos), have students identify:
   - Requirements for use
   - Steps to take before use
   - Hazards of use

Instructor Notes

1. Use Table 6.1 Guidelines for Marine Use of Fixed Fire-Suppression Systems in textbook to build out this topic.

CTS Guide Reference: CTS 5-6

Topic 3-10: Protecting an Exposure on a Vessel

Terminal Learning Objective

At the end of this topic a student, given an assignment, an exposure, a water supply source, approved PPE, fire hose, nozzles, and equipment, will be able to protect an exposure on a vessel as a member of a team, so that the exposure is protected.

Enabling Learning Objectives

1. Identify potential fire boundaries on a vessel
   - Six-sided approach (four sides, above, and below)
   - Set boundaries as soon as possible
     - Primary
     - Secondary
   - Secure utilities for the fire location
     - Ventilation system
     - Electrical system
2. Describe how to set fire boundaries on a vessel
   - Secure hatches and doors to contain fire
   - Remove combustibles
   - Use firefighting water (attack line) to cool decks or bulkheads adjacent to fire compartment (if necessary)
     - Less than one inch in areas above the fire
     - Short bursts (not continuous flow)
     - Consider vessel water system for boundary cooling
   - Monitor conditions
   - Maintain continuous communication
   - If fire fighter must retreat
     - Close all hatches and doors upon departure
     - Communicate with Command
3. Identify potential exposures around the vessel exterior
   - Fully engulfed vessel impacting vessels, docks, structures, or equipment
   - Land-based fire impacting vessels
4. Participate as part of a team to protect exposures
5. Operate handlines
6. Operate master streams

Discussion Questions

1. Why is it important to set fire boundaries?
2. When would you expand a boundary?
3. What exposures exterior to the vessels might exist in a marine environment?

Application

1. IFSTA Skill Sheet 8-2: Protect Exposures by Operating Handlines and Master Streams

Instructor Notes

1. None

CTS Guide Reference: CTS 3-2, 5-4

Topic 3-11: Accessing a Fire Compartment

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, and an assignment, will be able to access a fire compartment as a member of a team, so that vessel integrity is maintained, doors and hatches are opened, tools are used, barriers are removed, and the opening is made ready for entry.

Enabling Learning Objectives

1. Identify when to access a fire compartment
    - Observing fire conditions
    - Life hazard/survivability profile
    - Applying agents
    - Ventilation
    - Dewatering
2. Describe desired entry methods for various tactical operations
    - Open door, hatch, scuttle, window
    - Breaching (smaller vessels)
3. Describe how to access a fire compartment
    - Secure utilities for the fire location
        - Ventilation system
        - Electrical system
    - Observe door conditions (cracks, paint peels)
    - Quick acting doors
        - Relieve pressure
        - Stand on non-hinged side
    - Dogged doors
        - Opening order
            - Hinged side: top, bottom, middle
            - Non-hinged side: top, bottom, middle
        - Don’t open final dog until fully prepared for fire attack with charged hose

Discussion Questions

1. Why would you access a fire compartment?
2. How do you determine if it safe to access a fire compartment?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 3-3

Topic 3-12: Attacking a Fire on a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, an assignment, an attack line a secondary line, approved PPE, and tools and equipment, will be able to attack a fire on a vessel as a member of a team, so that vessel integrity is maintained, attack line is deployed, access is gained to the fire compartment, effective water application practices are used, and fire is extinguished and overhauled.

Enabling Learning Objectives

1. Identify types of fuels (things burning) found on a vessel
   - Determines extinguishing agent to use
   - Determines strategies and tactics
2. Describe factors to consider when placing attack lines
   - Water source
     - Location
     - Source (must be an off-vessel source)
     - Pressure
     - Volume
     - Friction loss
   - Proper hose compliment
     - Number and location of lines
     - Size
     - Length
     - Nozzles
   - Available personnel
3. Describe how to develop a water supply to the vessel
   - Transport hose and fittings to vessel
     - Aerial ladder
     - Hoist/cargo nets
     - Carry manually
     - Drop bag
   - Lay out uncharged hose
   - Use chocks, bits, or fairleads to guide hose
   - Secure hose with ladder strap or webbing
   - Terminate supply line at an appliance
4. Describe strategies and tactics to advance hose from vessel edge to the warm zone
   - Use fire control plan to determine location and route
     - Route must be upwind of fire
     - Route should not impede access/egress
   - Locate seat of fire
   - Use two hoses (attack and backup from separate sources if possible)
   - All teams should advance from the same direction
   - Attempt to advance from same level as the fire

- Position all personnel on same side of fire hose
- Maneuvering through doors
    - Position personnel at pinch points to manage hose
    - Closing doors can sever hose lines
    - Trip hazards
- Maneuvering up and down ladders/stairs
    - Sounding for stability
    - Three points of contact
    - Face the ladder/stair when ascending/descending
    - Someone above or below feeding hose
    - Place hose over shoulder while ascending/descending
- Identify evacuation escape routes and signals

5. Describe strategies and tactics to advance hose line to hot zone
    - Offensive vs. defensive strategy
    - Verify hose lay before charging
    - Final personnel safety check
    - Evaluate heat
    - Cool deck above fire compartment
    - Rotate personnel frequently to avoid heat exhaustion
    - Tend to hot spots to avoid ruptured hoses
    - Access fire compartment with charged hoseline
6. Describe hazards associated with advancing hose line to a fire on a vessel
    - Impaired visibility
    - Narrow approach routes
    - Limited operational space
    - Higher temperatures
    - Less access to fresh air
    - Smoke and steam compromising access/egress, escape routes
    - Flooding
    - Entrapment
    - Disorientation
    - Trip/fall hazards
    - Pinch points
    - Knife edges
    - Doors and hatches
    - Ladders
7. Identify types and application of attack lines used on vessels
    - Supply lines
    - Attack lines
        - Primary
        - Secondary
    - Boundary cooling lines

8. Describe effective application of fire streams
    - Direct
    - Indirect
9. Advance charged and uncharged hose lines up and down vessel ladders and stairs, through corridors, and across decks
10. Advance multiple hose lines for fire attack
11. Operate fire streams

Discussion Questions

1. Determined by instructor

Application

1. IFSTA Skill Sheet 8-5: Attack a fire on a Vessel Using Water
2. IFSTA Skill Sheet 8-6: Determine Appropriate Extinguishing Agent for Onboard Cargo (optional)
3. IFSTA Skill Sheet 8-4: Attack a fire on a Vessel Using Appropriate Extinguishing Agents Other than Water (optional)

Instructor Notes

1. None

CTS Guide Reference: CTS 5-4

Topic 3-13: Conducting a Search and Rescue Operation on a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, an assignment, a vessel fire control plan or other documents, a person, approved PPE, forcible entry tools, and other equipment, will be able to conduct a search and rescue operation for a missing person on a vessel as a member of a team, so that areas where the person could be located are searched, the person is located and removed, and vessel integrity is maintained.

Enabling Learning Objectives

1. Identify psychological effects of operating in vision-obscured conditions
2. Identify likely locations of passengers, crew members, shipyard workers, and contractors
3. Describe methods to determine if the area is tenable
   - Determines “go / no go”
4. Describe primary and secondary search techniques
5. Identify search and rescue considerations
   - Establish RIC
   - Work with vessel representative
   - Identify last known location(s)
   - Wear full PPE and SCBA
   - Have hoseline available in immediate area
   - Mark areas already searched to avoid duplicated efforts
   - Identify escape routes, temporary refuge areas (TRA), and safe zones
   - Don’t assume all victims are located until fire is extinguished, smoke is ventilated, and a second search is complete
6. Describe location and use of emergency escape breathing devices (EEBD)
   - Even if EEBD are available, land-based fire fighters should use RIC kit breathing apparatus
7. Describe victim removal methods
   - Vessel design and construction may make it difficult to use standard victim removal techniques
8. Use forcible entry tools
9. Use self-contained breathing apparatus (SCBA)
10. Access remote or enclosed compartments
11. Advance charged and uncharged hose lines up and down vessel ladders and stairs, through corridors, and across decks
12. Remove victims

Discussion Questions

1. Where are victims likely to be found on a vessel?
2. How is victim removal on a vessel different from victim removal in a structure?
3. What conditions on a vessel determine a “go/no go” search and rescue decision?

Application

1. IFSTA Skill Sheet: 8-7 Locate and Remove a Missing Person on a Vessel

Instructor Notes

1. None

CTS Guide Reference: CTS 5-5

Topic 3-14: Ventilating Smoke from a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel, an incident, an assignment, approved PPE, ventilation equipment, and standard operating procedures, will be able to ventilate smoke from a vessel as a member of a team, so that equipment is positioned for ventilation, vessel integrity is maintained, a specified ventilation opening is created and left unobstructed, and ventilation barriers are removed.

Enabling Learning Objectives

1. Describe construction principles of a vessel that affect ventilation operations
   - Location of ventilation space
     - Above deck
     - Below deck
   - Available onboard vessel ventilation systems
2. Describe principles, advantages, limitations, and effects of ventilation
   - Horizontal vs. vertical
   - Natural vs. forced
     - Positive pressure
     - Negative pressure
     - Combination positive/negative
     - Hydraulic
   - Compartmentalization vs. ventilation to open air
3. Describe safety considerations when venting a vessel
   - Impact of ventilation flow path on surrounding spaces
   - Signs, causes, effects, and prevention of backdrafts or hostile smoke events
   - Improper use of vessel ventilation systems
   - Use “intrinsically safe” ventilation techniques when ventilating potentially flammable environments
4. Describe how to ventilate a vessel after extinguishment
   - Evaluate current conditions
   - Communicate with chief engineer (or vessel representative)
   - Follow ventilation plan
   - Reassess and adjust plan as needed
5. Transport, deploy, and operate ventilation equipment on a vessel

Discussion Questions

1. When would you use smoke compartmentalization versus smoke ventilation?
2. What type of hostile smoke events can occur during ventilation operations?
3. How does the location of the ventilation area (above vs. below deck) impact ventilation operations?
4. How can the flow path of smoke be used to identify a potential escape route?

Application

1. IFSTA Skill Sheet 8-1: Ventilate Smoke on a Vessel

Instructor Notes

1. None

CTS Guide Reference: CTS 5-1

Topic 3-15: Removing Water from a Vessel

Terminal Learning Objective

At the end of this topic a student, given a vessel containing water, an assignment, dewatering equipment, and approved PPE, will be able to remove water from a vessel as a member of a team, so that hazards are identified, water is removed, and vessel stability is maintained.

Enabling Learning Objectives

1. Identify dewatering operations in large vessels
    - Larger vessels will have a salvage plan
        - Documents work to be done matched with available resources
        - Schedules work
        - Documents responsibilities of individuals and organizations
        - Provides coordination of all salvage efforts to meet target dates and times
2. Identify primary methods for dewatering a vessel
    - External drains from weather decks
    - Internal drains
    - Pumping equipment
        - Fixed
        - Portable
3. Describe dewatering considerations
    - Rate and volume of water accumulation
    - Operational status of bilge pumps
    - Availability of contracted boom services
    - Using portable pumps as needed
    - Working in coordination with Incident Command, divisions, and groups
4. Describe hazards associated with water collecting in various areas of a vessel
    - Vessel stability
    - Spreading hazardous substances/pollution
    - Flammable liquids
    - Electrocution
    - Falling through hatches
    - Water obscures floor visibility
    - Impacts access and egress routes
    - Impacts dynamics in other compartments
5. Describe safety precautions to be taken when working in water
    - Monitor water levels
    - Secure electrical systems
    - Shuffle feet when traveling
    - Remove people from water before dewatering
6. Describe hazards associated with water removal in a vessel
    - Vessel stability
    - Large vessel pumps can deplete air

- Initiation potential/shock hazards from equipment
- Releasing contaminants into marine environment

7. Deploy and operate dewatering equipment

Discussion Questions

1. How does dewatering a large vessel differ from dewatering a small vessel?
2. At what point should you begin dewatering operations?
3. What tasks might land-based fire fighters perform regarding vessel stability?
4. How does the addition of water impact stability?
5. How does the removal of water impact stability?
6. What do you do with contaminated run off?

Application

1. IFSTA Skill Sheet 10-2: Deploy and Operate Dewatering Equipment

Instructor Notes

1. Ships and large vessels are required to have salvage and overhaul contracts in place. This topic assumes fire fighters are working in smaller vessels where they will participate in dewatering.

CTS Guide Reference: CTS 5-3

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer courses and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details
The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources
The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit
Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics
Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective
A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives
The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master to complete the TLO.

Discussion Questions
The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application
The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes
The Instructor Notes segment documents suggestions and resources to enhance an instructor's ability to teach a specific topic.

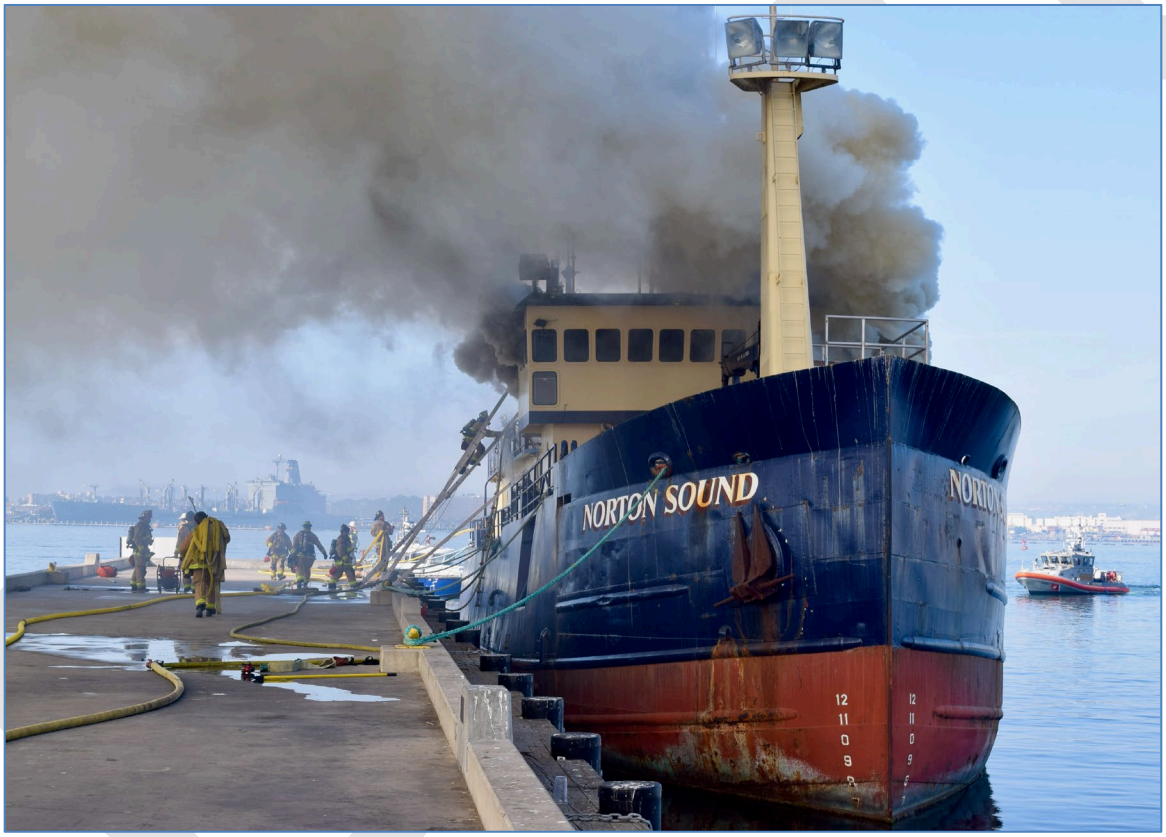
CTS Guide Reference
The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet
The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.

Marine Fire Fighting for Land-Based Fire Fighters

(NFPA 1005: Marine Fire Fighting for Land-Based Fire Fighters)

Certification Task Book (2019)



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Overview

Authority

This certification task book includes the certification training standards set forth in the Marine Fire Fighting for Land-Based Fire Fighters Certification Training Standards Guide (2019) which is based on:

- NFPA 1005: Professional Qualifications Standard for Marine Fire Fighting for Land-Based Fire Fighters (2019).

Published: Month Year

Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460

Cover photo courtesy of Steven Lozano, Deputy Fire Chief, San Diego Fire-Rescue Department.

Purpose

The State Fire Training certification task book is a performance-based document that identifies the minimum requirements necessary to perform the duties of that certification. Completion of a certification task book verifies that the candidate has the required experience, holds the required position, and has demonstrated the job performance requirements to obtain that certification.

Assumptions

Except for the Fire Fighter and Emergency Vehicle Technician (EVT) certifications, a candidate may begin the task book initiation process upon completion of all required education components (courses).

Each job performance requirement (JPR) shall be evaluated after the candidate's fire chief initiates the task book.

An evaluator may verify satisfactory execution of a job performance requirement (JPR) through the following methods:

- First-hand observation
- Review of documentation that verifies prior satisfactory execution

State Fire Training task books do not count towards the NWCG task book limit. There is no limit to the number of State Fire Training task books a candidate may pursue at one time if the candidate meets the initiation requirements of each.

It is the candidate's responsibility to routinely check the State Fire Training website for updates to an initiated task book. All State Fire Training issued updates to an initiated task book are required for task book completion.

A candidate must complete a task book within five years its initiation date. Otherwise, a candidate must initiate a new task book using the certification's current published version.

Roles and Responsibilities

Candidate

The candidate is the individual pursuing certification.

Initiation

The candidate shall:

1. Complete all Initiation Requirements.
   - Please print or type.
2. Obtain their fire chief's signature as approval to open the task book.
   - A candidate may not obtain evaluation signatures prior to the fire chief's initiation approval date.

Completion

The candidate shall:

1. Complete all Job Performance Requirements.
   - Ensure that an evaluator initials, signs, and dates each task to verify completion.
2. Complete all Completion Requirements.
3. Sign and date the candidate verification statement under Review and Approval with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the fire chief verification section.
5. Create and retain a physical or high-resolution digital copy of the completed task book

Submission

The candidate shall:

1. Submit a copy (physical or digital) of the completed task book and any supporting documentation to State Fire Training.
   - See Submission and Review below.

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

Evaluator

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement (JPR).

An evaluator may verify satisfactory execution through the following methods:

- First-hand observation
- Review of documentation that verifies prior satisfactory execution

A qualified evaluator is designated by the candidate's fire chief* and holds an equivalent or higher-level certification. If no such evaluator is present, the fire chief shall designate an individual with more experience than the candidate and a demonstrated ability to execute the job performance requirements.

A task book evaluator may be, but is not required to be, a registered skills evaluator who oversees a State Fire Training certification exam.

A certification task book may have more than one evaluator.

All evaluators shall:

1. Complete a block on the Signature Verification page with a handwritten signature.
2. Review and understand the candidate's certification task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation or review.
    - Do not evaluate any job performance requirement (JPR) until after the candidate's fire chief initiates the task book.
    - Sign all appropriate lines in the certification task book with a handwritten signature or approved digital signature (e.g., DocuSign or Adobe Sign) to record demonstrated performance of tasks.

* For certification task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's certification task book.

A fire chief may identify an authorized designee already on file with State Fire Training to fulfill any task book responsibilities assigned to the fire chief. (See *State Fire Training Procedures Manual*, 4.2.2: Authorized Signatories.)

Initiation

The fire chief shall:

1. Review and understand the candidate's certification task book requirements and responsibilities.

2. Verify that the candidate has met all Initiation Requirements prior to initiating the candidate's task book.
3. Open the candidate's task book by signing the Fire Chief Approval verification statement with a handwritten (not stamped) signature.
4. Designate qualified evaluators.

Completion

The fire chief shall:

1. Confirm that the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.
   - Ensure that all Job Performance Requirements were evaluated after the initiation date.
2. Confirm that the candidate meets the Completion Requirements.
3. Sign and date the Fire Chief verification statement under Review and Approval with a handwritten signature.
   - If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Submission and Review

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

To submit a completed task book, please send the following items to the address below:

- A copy of the completed task book (candidate may retain the original)
- All supporting documentation
- Payment

State Fire Training
Attn: Certification
PO Box 944246
Sacramento, CA 94244-2460

State Fire Training reviews all submitted task books.

- If the task book is complete, State Fire Training will authorize the task book and retain a digital copy of the authorized task book in the candidate's State Fire Training file.
- If the task book is incomplete, State Fire Training will return the task book with a notification indicating what needs to be completed prior to resubmission.

Completion of this certification task book is one step in the certification process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required for certification.

Initiation Requirements

The following requirements must be completed prior to initiating this task book.

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Prerequisites

The candidate has completed the following prerequisites.

- OSFM Fire Fighter 2 certification

Education

The candidate has completed the following course(s).

- Marine Fire Fighting for Land-Based Fire Fighters (SFT)

Fire Chief Approval

Candidate's Fire Chief (please print): _____

I, the undersigned, am the person authorized to verify the candidate's task book initiation requirements and to initiate State Fire Training task books. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements to open the task book documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____

Signature Verification

The following individuals have the authority to verify portions of this certification task book using the signature recorded below.

Please print except for the Signature line where a handwritten signature is required.
Add additional signature pages as needed.

Name: ____________________ **Name:** ____________________
Job Title: ____________________ Job Title: ____________________
Organization: ____________________ Organization: ____________________
Signature: ____________________ Signature: ____________________

Name: ____________________ **Name:** ____________________
Job Title: ____________________ Job Title: ____________________
Organization: ____________________ Organization: ____________________
Signature: ____________________ Signature: ____________________

Name: ____________________ **Name:** ____________________
Job Title: ____________________ Job Title: ____________________
Organization: ____________________ Organization: ____________________
Signature: ____________________ Signature: ____________________

Name: ____________________ **Name:** ____________________
Job Title: ____________________ Job Title: ____________________
Organization: ____________________ Organization: ____________________
Signature: ____________________ Signature: ____________________

Name: ____________________ **Name:** ____________________
Job Title: ____________________ Job Title: ____________________
Organization: ____________________ Organization: ____________________
Signature: ____________________ Signature: ____________________

Job Performance Requirements

The candidate must complete each job performance requirement (JPR) in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

When California requirements exceed or require revision to the NFPA standard, the corresponding Office of the State Fire Marshal-approved (OSFM) additions or revisions appear in *italics*.

All JPRs must be completed within a California fire agency or State Fire Training Accredited Regional Training Program (ARTP).

For JPRs that are not part of a candidate's regular work assignment or are a rare event, the evaluator may develop a scenario or interview that supports the required task and evaluate the candidate to the stated standard.

Each JPR shall be evaluated after the candidate's fire chief initiates the task book.

General Requirements

1. Identify marine vessel types and potential products transported, given general information on the vessel types in the local response jurisdiction, awareness level information on products transported by marine vessels, AHJ policies and procedures, and overall scene safety considerations at marine incidents, so that the scene of the incident and the hazards are recognized. (NFPA 4.1.1) (CTS 1-1)

   Evaluator Signature: _____ Date Verified: _____

2. Define common marine vessel construction and terminology, given vessel construction terminology, marine vessel terminology and general structural hazards associated with marine vessels, so that Land-Based Fire Fighters have a working knowledge of general terms when communicating with marine vessel personnel. (NFPA 4.1.2) (CTS 1-2)

   Evaluator Signature: _____ Date Verified: _____

3. Board a marine vessel, given a vessel, gangway, approved PPE, water survival techniques, approved hand tools and suppression equipment, and AHJ policies and procedures, so that the Land-Based Fire Fighters are transferred to the vessel in a safe manner. (NFPA 4.1.3) (CTS 1-3)

   Evaluator Signature: _____ Date Verified: _____

4. Retrieve a vessel fire control plan and other specified documents from a cold zone on the vessel, given a vessel, an assignment, a vessel fire control plan and other documents, and any necessary equipment, so that the vessel fire control plan and documents are located and brought to the Incident Commander within the time specified by the AHJ. (NFPA 4.1.4) (CTS 1-4)

   Evaluator Signature: _____ Date Verified: _____

Access

5. Identify a specified location on a vessel, given a vessel fire control plan and an assignment, so that the assignment is completed and reported. (NFPA 4.2.1) (CTS 2-1)

   Evaluator Signature: _____ Date Verified: _____

6. Identify onboard vessel fixed fire suppression systems as a member of a team, given an incident, an assignment, standard operating procedures, and communications equipment, so that the system is activated or shut down when information is requested by the Incident Commander. (NFPA 4.2.2) (CTS 2-2)

   Evaluator Signature: _____ Date Verified: _____

Response

7. Establish connections for the water supply at an incident, given international shore connections, so that an uninterrupted supply of water is established and all hoses are connected and positioned according to procedures and in coordination with the ship's crew. (NFPA 4.3.1) (CTS 3-1)

   Evaluator Signature: _____ Date Verified: _____

8. Protect an exposure on a vessel as a member of a team, given an assignment, an exposure, a water supply source, approved PPE, fire hose, nozzles, and equipment, so that the exposure is protected. (NFPA 4.3.2) (CTS 3-2)

   Evaluator Signature: _____ Date Verified: _____

9. Access a fire compartment as a member of a team, given a vessel, an incident, and an assignment, so that vessel integrity is maintained, doors and hatches are opened, tools are used, barriers are removed, and the opening is made ready for entry. (NFPA 4.3.3) (CTS 3-3)

   Evaluator Signature: _____ Date Verified: _____

10. Collect and report vessel stability information, given a vessel, an incident, an assignment, measuring devices, and standard operating procedures, so that any current or potential hazards to stability are recognized and reported according to procedures. (NFPA 4.3.4) (CTS 3-4)

Evaluator Signature: _____ Date Verified: _____

Communications

11. Transmit and receive messages via marine facility and vessel communications equipment, given marine facility and vessel communications equipment and standard operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ. (NFPA 4.4.1) (CTS 4-1)

Evaluator Signature: _____ Date Verified: _____

12. Locate a marine facility or vessel representative, given a marine facility or vessel and an assignment, so that a line of communication is established between the fire department and the facility or vessel representatives. (NFPA 4.4.2) (CTS 4-2)

Evaluator Signature: _____ Date Verified: _____

13. Transmit and receive messages to vessel personnel and other agencies responding to an incident, given an incident, a list of the other agencies responding to the incident, communications equipment, and standard operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ. (NFPA 4.4.3) (CTS 4-3)

Evaluator Signature: _____ Date Verified: _____

14. Control access to a vessel, given a vessel, an incident, an accountability system, an incident management system, and response personnel, so that all emergency responders boarding the vessel are noted and accounted for. (NFPA 4.4.4) (CTS 4-4)

Evaluator Signature: _____ Date Verified: _____

15. Evacuate a vessel or exposure, given an occupied vessel or exposure, an incident, an accountability system, an incident management system, and response personnel, so that all personnel are removed from the hazard area to an area of refuge. (NFPA 4.4.5) (CTS 4-5)

Evaluator Signature: _____ Date Verified: _____

Fire Control

16. Ventilate smoke from a vessel as a member of a team, given a vessel, an incident, an assignment, approved PPE, ventilation equipment, and standard operating procedures, so that equipment is positioned for ventilation, vessel integrity is maintained, a specified ventilation opening is created and left unobstructed, and ventilation barriers are removed. (NFPA 4.5.1) (CTS 5-1)

    Evaluator Signature: _____ Date Verified: _____

17. Monitor fire conditions on a vessel as a member of a team, given a vessel, an assignment, an incident, approved PPE, a hose or safety line, a thermal imaging camera, and communications equipment so that vessel integrity is maintained and changes to fire conditions are reported to the Incident Commander. (NFPA 4.5.2) (CTS 5-2)

    Evaluator Signature: _____ Date Verified: _____

18. Remove water from a vessel as a member of a team, given a vessel containing water, an assignment, dewatering equipment, and approved PPE, so that hazards are identified, water is removed, and vessel stability is maintained. (NFPA 4.5.3) (CTS 5-3)

    Evaluator Signature: _____ Date Verified: _____

19. Attack a fire on a vessel as a member of a team, given a vessel, an incident, an assignment, an attack line a secondary line, approved PPE, and tools and equipment, so that vessel integrity is maintained, attack line is deployed, access is gained to the fire compartment, effective water application practices are used, and fire is extinguished and overhauled. (NFPA 4.5.4) (CTS 5-4)

    Evaluator Signature: _____ Date Verified: _____

20. Conduct a search and rescue operation for a missing person on a vessel as a member of a team, given a vessel, an incident, an assignment, a vessel fire control plan or other documents, a person, approved PPE, forcible entry tools, and other equipment, so that areas where the person could be located are searched, the person is located and removed, and vessel integrity is maintained. (NFPA 4.5.5) (CTS 5-5)

    Evaluator Signature: _____ Date Verified: _____

21. Assist in deploying extinguishing agents other than water, given a vessel, an incident, an assignment, approved PPE, select extinguishing agents, and agent application equipment, so that the need is identified and communicated to the Incident Commander and agent is applied. (NFPA 4.5.6) (CTS 5-6)

    Evaluator Signature: _____ Date Verified: _____

Completion Requirements

The following requirements must be completed prior to submitting this task book.

Experience

The candidate meets the following experience requirements.

- A minimum of one year full-time paid or two years' volunteer or part-time paid suppression experience as a fire fighter performing suppression duties in a recognized California fire agency

Agency	Experience	Start Date	End Date

Position

State Fire Training confirms that there is no position requirement for this job function certification.

Supporting Documentation

State Fire Training confirms that there are no supporting documentation requirements for this job function certification.

Updates

The candidate has completed and enclosed all updates to this certification task book released by State Fire Training since its initial publication.

Number of enclosed updates: _____

Completion Timeframe

The candidate has completed all requirements documented in this certification task book within five years of its initiation date.

Initiation Date (see Fire Chief signature under **Initiation Requirements**): _____

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection or revocation.

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief (please print): _____

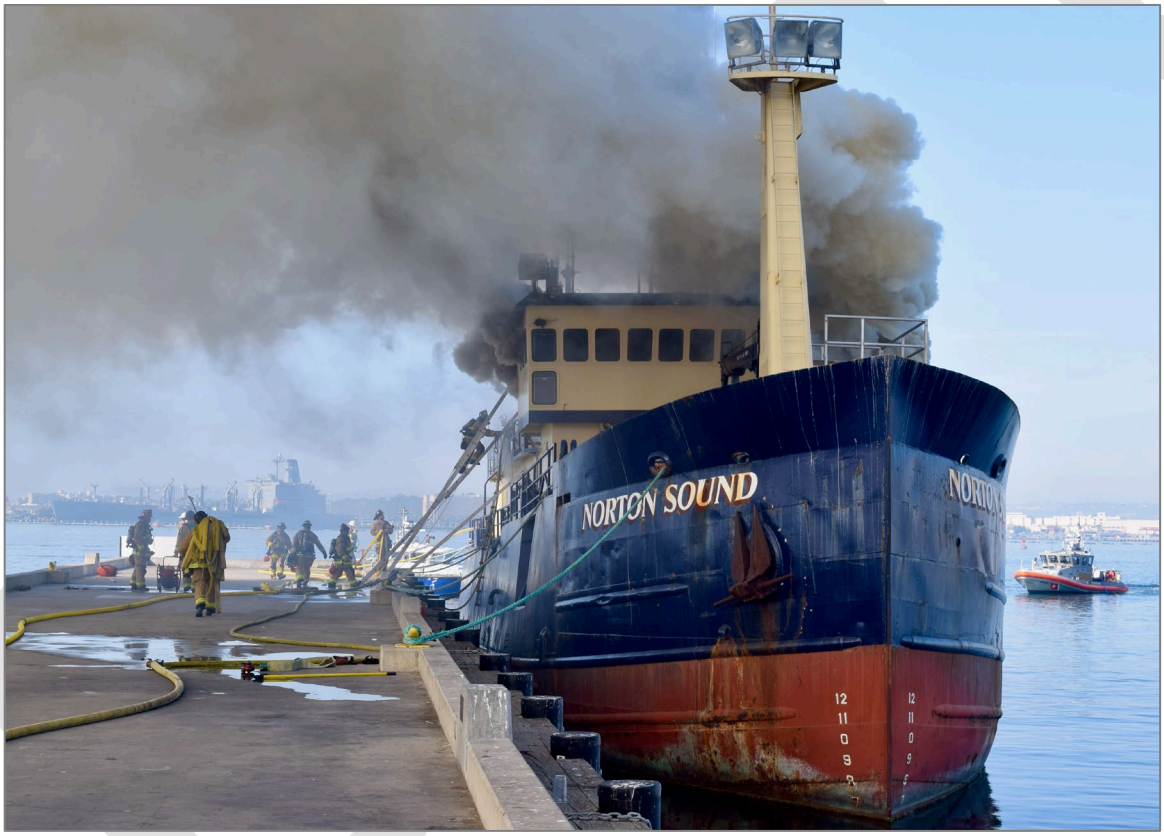
I, the undersigned, am the person authorized to verify the candidate's qualifications for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____

Marine Fire Fighting for Land-Based Fire Fighters

(NFPA 1005: Marine Fire Fighting for Land-Based Fire Fighters)

Instructor Task Book (2019)



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Overview

Authority

This instructor task book includes the training standards set forth in:

- NFPA 1005: Professional Qualifications Standard for Marine Fire Fighting for Land-Based Fire Fighters (2019)

Published: Month Year

Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460

Cover photo courtesy of Steven Lozano, Deputy Fire Chief, San Diego Fire-Rescue Department.

Purpose

The State Fire Training instructor task book is a performance-based document. It lists the minimum requirements a candidate must meet to teach a specific State Fire Training course or course series.

Assumptions

Except for Fire Fighter and Emergency Vehicle Technician (EVT) certifications, a candidate may begin the task book initiation process upon completion of all required education components (courses).

Each job performance requirement (JPR) shall be evaluated after the candidate initiates the task book.

State Fire Training task books do not count towards the NWCG task book limit. There is no limit to the number of State Fire Training task books a candidate may pursue at one time if the candidate meets the initiation requirements for each.

It is the candidate's responsibility to routinely check the State Fire Training website for updates to an initiated task book. All State Fire Training issued updates to an initiated task book are required for task book completion.

A candidate must complete their task book within three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Roles and Responsibilities

Candidate

The candidate is the individual pursuing instructor registration.

Initiation

The candidate shall:

1. Complete the Initiation Requirements section.
   - Please print.
2. Complete a block on the Signature Verification page with a handwritten signature.

Completion

The candidate shall:

1. Complete all Job Performance Requirements.
   - Ensure that an evaluator initials, signs, and dates each task to verify completion.
2. Complete the Completion Requirements section.
3. Sign and date the Candidate verification section on the Review and Approval page with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the Fire Chief verification section on the Review and Approval page.
5. Create and retain a physical or high-resolution digital copy of the completed task book.

Submission

The candidate shall:

1. Submit a copy (physical or digital) of the completed task book and any supporting documentation to State Fire Training.
   - See Submission and Review below.

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

Evaluator

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement (JPR).

A qualified evaluator is a Registered Marine Fire Fighting for Land-Based Fire Fighters Instructor designated by the candidate's fire chief (or authorized designee). If no such evaluator is present within the organization, the fire chief (or authorized designee) shall designate an individual with more experience than the candidate and a demonstrated ability to execute the job performance requirements. For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

An instructor task book may have more than one evaluator.

All evaluators shall:

1. Complete a block on the Signature Verification page with a handwritten signature.
2. Review and understand the candidate's instructor task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation.
    - Do not evaluate any job performance requirement (JPR) until after the candidate initiates the task book.
    - Sign all appropriate lines in the instructor task book with a handwritten signature or approved digital signature (e.g., DocuSign or Adobe Sign; a scanned copy of a signature is not acceptable) to record demonstrated performance of tasks.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's instructor task book.

A fire chief may identify an authorized designee already on file with State Fire Training to fulfill any task book responsibilities assigned to the fire chief. (See *State Fire Training Procedures Manual*, 4.2.2: Authorized Signatories)

Initiation

The fire chief shall:

1. Review and understand the candidate's instructor task book requirements and responsibilities.
2. Complete a block on the Signature Verification page with a handwritten signature.
3. Designate qualified evaluators.

Completion

The fire chief shall:

1. Confirm that the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.

- Ensure that all job performance requirements were evaluated after the initiation date.

2. Confirm that the candidate meets the Completion Requirements.
3. Sign and date the Fire Chief verification statement under Review and Approval with a handwritten signature.
   - If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Submission and Review

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

To submit a completed task book, please send the following items to the address below:

1. A copy of the completed task book (candidate may retain the original)
2. All supporting documentation
3. Payment

State Fire Training
Attn: Instructor Registration
PO Box 944246
Sacramento, CA 94244-2460

State Fire Training reviews all submitted task books.

- If the task book is complete, State Fire Training will authorize the task book and retain a digital copy of the authorized task book in the candidate's career file.
- If the task book is incomplete, State Fire Training will return the task book with a notification indicating what needs to be completed prior to resubmission.

Completion of this instructor task book is one step in the instructor registration process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required to teach Marine Fire Fighting for Land-Based Fire Fighters.

Initiation Requirements

The following requirements must be completed prior to initiating this task book.

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Initiation Date: _____

Prerequisites

The candidate meets the following prerequisites.

1. OSFM Fire Fighter 2
2. OSFM Instructor 1, Training Instructor I, or Fire Instructor I certification

Include documentation to verify prerequisite requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Education

The candidate has completed the following courses.

1. Marine Fire Fighting for Land-Based Fire Fighters (SFT)
2. Confined Space Rescue: Awareness (SFT, IAFF, or CSTI)

Include documentation to verify education requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Fire Chief Approval

State Fire Training confirms that a fire chief's approval is not required to initiate this task book.

Signature Verification

The following individuals have the authority to verify portions of this instructor task book using the signature recorded below.

Please print except for the Signature line where a handwritten signature is required.
Add additional signature pages as needed.

Name: ____________________
Job Title: ____________________
Organization: ____________________
Signature: ____________________

Name: ____________________
Job Title: ____________________
Organization: ____________________
Signature: ____________________

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Job Performance Requirements

Job Performance Requirements

The candidate must complete each job performance requirement (JPR) in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

When California requirements exceed or require revision to the NFPA standard, the corresponding Office of the State Fire Marshal approved (OSFM) additions or revisions appear in italics.

All JPRs must be completed within a California fire agency or State Fire Training Accredited Regional Training Programs (ARTP).

Each JPR shall be evaluated after the candidate initiates the task book.

Each task must be performed twice.

- The two instances must occur during two different courses.
- The same evaluator cannot sign off on the same task twice.

Examples of correct and incorrect evaluation:

Correct: Task completed during two separate courses and evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ

Incorrect: Task completed twice during one course but evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ

Incorrect: Task completed during two separate courses but evaluated by the same individual.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS

Marine Fire Fighting for Land-Based Fire Fighters Instructor

Course Administration and Orientation

1. Complete course administration activities.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Confirm prop set up and safety						
b. Arrange access to port and vessel						
c. Confirm facilities set up and safety						
d. Complete and submit course scheduling request						
e. Order student textbooks (if applicable)						
f. Confirm equipment (based on number of students)						
g. Complete instructor assignments						
h. Organize skill stations (location, equipment, timing, complexity)						
i. Complete class rosters						
j. Confirm facilities for off-site instruction						
k. Confirm travel to off-site facilities						
l. Develop summative exam (recommend using chapter tests associated with course textbook)						

2. Identify facility and classroom requirements and course objectives, events, requirements, assignments, activities, skills exercises, resources, evaluation methods, and participation requirements.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Identify facility requirements						
b. Identify classroom requirements						
c. Review course syllabus						

Awareness

3. Understand the maritime domain.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe risks unique to marine fire fighting						
b. Describe environmental concerns when responding to a marine incident						
c. Identify port services and systems that may impact operational decision making						
d. Identify port facilities and resources common to the AHJ						
e. Describe port equipment that may impact operational decision making						
f. Identify marina facilities and resources common to the AHJ						
g. Describe marina equipment that may impact operational decision making						

4. Understand organizational roles, structures, and resources.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe the role of port authorities during a marine incident						
b. Describe the organizational structure of a commercial vessel as it relates to fire fighting						
c. Describe the organizational structure of a military vessel as it relates to fire fighting						
d. Describe the role of land-based fire fighters at a marine incident						
e. Identify governmental organizations that may be involved in a marine incident						
f. Describe legal considerations for land-based fire fighters at a marine incident						
g. Identify AHJ policies and procedures associated with marine incident response						
h. Identify resources that may be available during a marine incident						

5. Identify vessel types and potential products transported.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Identify characteristics of generalized marine vessel types						
b. Identify awareness-level hazardous product information						
c. Identify general hazard classes of product and structural fire-fighting PPE compatibilities						

6. Define common marine vessel construction and terminology.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe marine vessel terminology						
b. Describe general marine vessel construction						
c. Identify arrangement and hazards of vessel spaces						
d. Describe common vessel markings						
e. Identify vessel compartment access and egress points and methods						
f. Identify the major systems necessary on a large vessel						
g. Describe challenges associated with smaller vessels						
7. Describe vessel safety and hazards.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe safety measures to take at a marine incident						
b. Identify hazards unique to a marine incident						
c. Describe personal safety practices to take at a marine incident						
d. Describe vessel monitoring procedures						
8. Identify fire detection, signaling, and suppression systems.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify fire detection and signaling systems						

b. Identify types of fire-suppression systems found on vessels						
c. Describe hazards associated with operating suppression systems and agents						
d. Describe appropriate times to activate fixed suppression systems on vessels						
e. Identify land-based fire-suppression components found at ports and marinas						
9. Retrieve a vessel fire control plan and other specified documents.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify the purpose of the fire control plan during emergency response						
b. Identify other important documents						
c. Describe location(s) on the vessel where the vessel fire control plan and other documents are stored						
d. Identify location of the command post						
10. Identify a specified location on a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe terminology and symbols used on a vessel fire control plan						
b. Identify contents of a vessel fire control plan						
c. Describe how to interpret and use a vessel fire control plan						

11. Collect and report vessel stability information.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Identify basic vessel stability concepts						
b. Describe the effect of tides, wakes/waves, and currents on vessel stability						
c. Describe vessel draft marking systems and how assess and monitor vessel stability						
d. Describe vessel stability as it relates to fire fighting						
e. Describe procedures for reporting information						

Operations

12. Size up a marine incident.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Identify size up considerations						
b. Identify steps to take after size up						

13. Locate a marine facility or vessel representative.	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Identify locations on a vessel where the ship's master, mate, engineer, or ship's agent can be located						
b. Identify marine frequencies monitored by the vessel master						
c. Identify locations where facility representatives are normally located						

d. Identify methods for contacting representatives after normal working hours						
14. Control access to a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe the accountability systems used by the AHJ						
b. Identify personnel who are authorized to operate a marine incident						
c. Identify methods for controlling access to a vessel						
15. Board a marine vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe effect of vessel movement due to tide, wakes, currents, or other factors						
b. Describe effect of water depth						
c. Describe gangway uses and hazards						
d. Identify key components of gangway safety						
e. Describe water survival techniques						
16. Transmit and receive messages.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify marine communications terminology and procedures						
b. Identify proper frequencies to use						
c. Describe types, capabilities, and limitations of communications systems						

d. Identify other agencies that respond to marine incidents						
e. Describe methods for overcoming language barriers						
17. Evacuate a vessel or exposure.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe vessel evaluation and accountability procedures used by the AHJ						
b. Describe how to evacuate a vessel or exposure						
18. Establish water supply connections.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify reliable water sources						
b. Identify an international shore connection						
19. Monitor fire conditions on a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe fire behavior on vessels						
b. Describe how to operate a thermal imaging camera						
c. Describe how to monitor fire conditions on a vessel						
d. Describe safety procedures for operating in or near fire compartments on a vessel						
20. Assist in deploying extinguishing agents.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify appropriate extinguishing agents						

b. Describe effects of various extinguishing agents						
c. Describe hazards associated with various extinguishing agents, including onboard systems						
d. Identify sources of bulk extinguishing agents						
e. Identify role of land-based fire fighter in assisting with deploying extinguishing agents						
21. Protect an exposure on a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify potential fire boundaries on a vessel						
b. Describe how to set fire boundaries on a vessel						
c. Identify potential exposures around the vessel exterior						
22. Access a fire compartment.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify when to access a fire compartment						
b. Describe desired entry methods for various tactical operations						
c. Describe how to access a fire compartment						
23. Attack a fire on a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify types of fuels (things burning) found on a vessel						
b. Describe factors to consider when placing attack lines						
c. Describe how to develop a water supply to the vessel						

d. Describe strategies and tactics to advance hose from vessel edge to the warm zone						
e. Describe strategies and tactics to advance hose line to hot zone						
f. Describe hazards associated with advancing hose line to a fire on a vessel						
g. Identify types and application of attack lines used on vessels						
h. Describe effective application of fire streams						
24. Conduct a search and rescue operation on a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify psychological effects of operating in vision-obscured conditions						
b. Identify likely locations of passengers, crew members, shipyard workers, and contractors						
c. Describe methods to determine if the area is tenable						
d. Describe primary and secondary search techniques						
e. Identify search and rescue considerations						
f. Describe location and use of emergency escape breathing devices (EEBD)						
g. Describe victim removal methods						
25. Ventilate smoke from a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Describe construction principles of a vessel that affect ventilation operations						

b. Describe principles, advantages, limitations, and effects of ventilation						
c. Describe safety considerations when venting a vessel						
d. Describe how to ventilate a vessel after extinguishment						
26. Remove water from a vessel.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Identify dewatering operations in large vessels						
b. Identify primary methods for dewatering a vessel						
c. Describe dewatering considerations						
d. Describe hazards associated with water collecting in various areas of a vessel						
e. Describe safety precautions to be taken when working in water						
f. Describe hazards associated with water removal in a vessel						

Application

27. Set up, demonstrate, and oversee skills stations/demonstrations.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. IFSTA Skill Sheet 4-1: Operate Communications at a Marine Incident						
b. IFSTA Skill Sheet 5-1: Control, Direct, and Move Passengers and Crew to Evacuate a Vessel or Exposure						
c. IFSTA Skill Sheet 5-2: Board a Marine Vessel						

d. IFSTA Skill Sheet 5-3: Control Access to a Vessel Using Accountability Tactical Worksheets						
e. IFSTA Skill Sheet 6-1: Locate and Identify Onboard Fire Suppression Systems						
f. IFSTA Skill Sheet 7-1: Locate and Retrieve a Fire Control Plan from a Vessel						
g. IFSTA Skill Sheet 8-1: Ventilate Smoke on a Vessel						
h. IFSTA Skill Sheet 8-2: Protect Exposures by Operating Handlines and Master Streams						
i. IFSTA Skill Sheet 8-3: Establish an International Shore Connection						
j. IFSTA Skill Sheet 8-4: Attack a fire on a Vessel Using Appropriate Extinguishing Agents Other than Water						
k. IFSTA Skill Sheet 8-5: Attack a fire on a Vessel Using Water						
l. IFSTA Skill Sheet 8-6: Determine Appropriate Extinguishing Agent for Onboard Cargo						
m. IFSTA Skill Sheet: 8-7 Locate and Remove a Missing Person on a Vessel						
n. IFSTA Skill Sheet 10-1: Collect and Report Vessel Stability Information						
o. IFSTA Skill Sheet 10-2: Deploy and Operate Dewatering Equipment						
28. Administer summative testing.	**1st Evaluation**			**2nd Evaluation**		
	Course Code	**Date**	**Initials**	**Course Code**	**Date**	**Initials**
a. Administer exam						
b. Score exam						

Completion Requirements

The following requirements must be completed prior to submitting this task book.

Experience

The candidate meets the following experience requirement.

- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience as a fire fighter performing suppression duties within a recognized fire agency in California

Agency	Experience	Start Date	End Date

Position

State Fire Training confirms that there are no position requirements for instructor registration.

Updates

The candidate has completed and enclosed all updates to this instructor task book released by State Fire Training since its initial publication.

Number of enclosed updates: _____

Completion Timeframe

The candidate has completed this task book within three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Initiation Date (see Initiation Date under Initiation Requirements): _____

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Marine Fire Fighting for Land-Based Fire Fighters. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection or revocation.

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief (please print): _____

I, the undersigned, am the person authorized to verify the candidate's qualifications to teach Marine Fire Fighting for Land-Based Fire Fighters. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection.

Signature: _____ Date: _____