DEPARTMENT OF FORESTRY AND FIRE PROTECTION
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Date: April 12, 2024

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:
Watercraft Rescue Technician (2021)

Recommended Actions:
First read of the updated Watercraft Rescue Technician curriculum.

Background Information:
SFT developed the Watercraft Rescue Technician curriculum in alignment with National Fire Protection Association (NFPA) 1006: Standard for Technical Rescue Personnel Professional Qualifications, 2021 edition.

This curriculum was developed to ensure an effective and coordinated response to rescuing individuals trapped or stranded by surface water, swiftwater, and floodwater using motorized, non-motorized, and personal rescue watercraft.

Analysis/Summary of Issue:

Retirement of River and Flood Rescue Boat Technician / Personal Watercraft Rescue Operations Curriculum
Effective December 31, 2024, SFT will retire FSTEP River and Flood Rescue Technician (2017) and FSTP Personal Watercraft Rescue Operations (1996). On January 1, 2025, SFT will remove these curricula from the SFT course catalog and they will no longer be available.

CTS Guide

SFT developed a CTS guide for Watercraft Rescue Technician to document how training standards align with NFPA 1006 (2021). The CTS guide includes awareness, operations, and technician-level job performance requirements.

- SFT added four standards unders OSFM authority to incorporate topics not included in NFPA, including:
    - 1-9: Describing Dynamic Hydrology and Identifying Travel Paths
    - 2-19: Managing a Water Rescue Incident
    - 2-20: Performing Motor Maintenance
    - 2-21: Trailering a Watercraft

Course Plans

- SFT developed three course plans using SFT's River and Flood Rescue Boat Technician and NFPA 1006 as a foundation
    - Motorized Watercraft Rescue Technician – which replaces River and Flood Rescue Boat Technician (2017)
    - Non-Motorized Watercraft Rescue Technician – which was separated out from River and Flood Rescue Boat Technician (2017) into its own course
    - Personal Watercraft Rescue Technician – which replaces Personal Watercraft Rescue Operations (1996)
- The following apply to all three courses
    - Removed two prerequisites:
        - ICS 200 or 200b Initial Attack Commander (ORG – online or in-person)
        - Low-Angle Rope Rescue Operational (SFT) or Rope Rescue Awareness/Operations (SFT)
    - Added two additional prerequisites:
        - California Safe Boaters Safety Course (CBT – CA Boating and Waterways)
        - Urban Search and Rescue Boat Operator (CBT – FEMA)
    - Added topics based on NFPA JPRs not reflected in 2017 curriculum
        - Topic 2-1: Selecting and Using Personal Protective Equipment
        - Topic 5-1: Sizing Up a Watercraft Rescue Incident
        - Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures
        - Topic 5-3: Identifying When to Contact Local and Federal Authorities
        - Topic 5-4: Recognizing the Need for Technical Rescue Resources
        - Topic 5-6: Supporting an Operations- or Technician-level Incident
        - Topic 5-7: Performing Ground Support Operations for Helicopter Activities
        - Topic 6-1: Establishing Watercraft Stability
    - Revised or absorbed topics into other areas
        - Evaluating Hazards, Finding Safety Zones, Travel Paths was split up absorbed into other topics
        - Identifying Rules and Regulations Governing Vessel Operation was absorbed into the new Interpreting Navigational Aids and Devices

        - Maneuvering and Docking was combined into the new Launching, Docking, and Recovering a Watercraft
        - Describing Safety Considerations and Rescuing a Crew Member was split up and absorbed into other topics
        - Operating in Dynamic Water was combined into Operating a Watercraft
- Motorized Watercraft Rescue Awareness/Operations (2021)
    - This course incorporates cognitive and psychomotor training for awareness, operations, and technician based on NFPA 1006 (2021).
    - Prerequisites:
        - Water Rescue Technician (2021) (SFT) **or** River and Flood Rescue Technician (2017) (SFT)
        - California Safe Boaters Safety Course (CBT – CA Boating and Waterways)
        - Urban Search and Rescue Boat Operator (CBT – FEMA)
    - Course length is 40 hours (13.5 lecture / 26.5 application).
    - Maximum class size set at 24.
    - Instructor-to-student ratio set at
        - 1:24 (lecture)
        - 1:8 (application)
    - All instructors counted toward student ratios, including application components, must be SFT Registered Motorized Watercraft Rescue Technician Instructors.
    - This course is not a prerequisite for any other Watercraft Rescue Technician course.
- Non-Motorized Watercraft Rescue Technician (2021)
    - This course incorporates cognitive and psychomotor training for awareness, operations, and technician based on NFPA 1006 (2021).
    - Prerequisites:
        - Water Rescue Technician (2021) (SFT) **or** River and Flood Rescue Technician (2017) (SFT)
        - California Safe Boaters Safety Course (CBT – CA Boating and Waterways)
        - Urban Search and Rescue Boat Operator (CBT – FEMA)
    - Course length is 40 hours (11.5 lecture / 28.5 application).
    - Maximum class size set at 24.
    - Instructor-to-student ratio set at
        - 1:24 (lecture)
        - 1:8 (application)
    - All instructors counted toward student ratios, including application components, must be SFT Registered Motorized Watercraft Rescue Technician Instructors.
    - This course is not a prerequisite for any other Watercraft Rescue Technician course.
- Personal Rescue Watercraft Rescue Technician (2021)
    - This course incorporates cognitive and psychomotor training for awareness, operations, and technician based on NFPA 1006 (2021).
    - Prerequisites:

        - Water Rescue Technician (2021) (SFT) **or** River and Flood Rescue Technician (2017) (SFT)
        - California Safe Boaters Safety Course (CBT – CA Boating and Waterways)
        - Urban Search and Rescue Boat Operator (CBT – FEMA)
    - Course length increased from 16 to 32 hours (11 lecture / 21 application) to incorporate high-risk, high-hazard activities that weren't accounted for in previous curriculum and align with NFPA 1006.
    - Maximum class size set at 24.
    - Instructor-to-student ratio set at
        - 1:24 (lecture)
        - 1:8 (application)
    - All instructors counted toward student ratios, including application components, must be SFT Registered Motorized Watercraft Rescue Technician Instructors.
    - This course is not a prerequisite for any other Watercraft Rescue Technician course.

Instructor Task Book

- SFT developed the following instructor task books to promote instructor quality and consistency:
    - Motorized Watercraft Rescue Technician (2021) Instructor Task Book
    - Non-Motorized Watercraft Rescue Technician (2021) Instructor Task Book
    - Personal Watercraft Rescue Technician (2021) Instructor Task Book

Training Record

- SFT developed the following training records for students to use as verification of skills practiced and completed during the course:
    - Motorized Watercraft Rescue Technician Training Record
    - Non-Motorized Watercraft Rescue Technician Training Record
    - Personal Watercraft Rescue Technician Training Record

Existing Registered Instructors and Cadre Members

Existing Registered Instructors and Watercraft Rescue Technician cadre members must meet the following requirements to teach the 2021 curriculum:

<u>Motorized Watercraft Rescue Technician</u>

- Be an SFT Registered Instructor
- Be a Registered Instructor for River and Flood Rescue Boat Technician (2017)
- Complete the following courses:
    - California Safe Boaters Safety (CBT – CA Boating and Waterways)
    - Urban Search and Rescue Boat Operator (CBT – FEMA)
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Submit a webform verifying all requirements

<u>Non-Motorized Watercraft Rescue Technician</u>

- Meet the requirements for Motorized Watercraft Rescue Technician (above)

- Complete the SFT Non-Motorized Rescue Technician Roll Out course*
- Submit a webform verifying all requirements

Personal Rescue Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Be a Registered Instructor for Personal Watercraft Rescue Operations (1996)
- Complete the following courses:
    - California Safe Boaters Safety (CBT – CA Boating and Waterways)
    - Urban Search and Rescue Boat Operator (CBT – FEMA)
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Submit a webform verifying all requirements

Existing Registered Instructors and Watercraft Rescue Technician cadre members must complete these requirements by June 30, 2025. Anyone who misses this deadline will be required to meet the New Instructor Registration requirements (below).

* Cadre members are not required to complete the SFT Non-Motorized Rescue Technician Roll Out course.

In Process Instructor Candidates – River and Flood Rescue Boat Technician (2017)
Candidates actively pursuing River and Flood Rescue Boat Technician (2017) instructor registration must submit all documentation postmarked on or before June 30, 2025. SFT will return any 2017 task book postmarked on or after July 1, 2025, and require candidates to follow the New Instructor Registration requirements.

In process instructor candidates may teach two River and Flood Rescue Boat Technician (2017) courses **or** one River and Flood Rescue Technician (2017) **and** one Motorized Watercraft Rescue Technician (2021) course to meet their task book requirements. If an in-process instructor chooses to teach two Motorized Watercraft Rescue Technician (2021) courses, they are required to adhere to the New Instructor Registration requirements.

In Process Instructor Candidates – Personal Watercraft Rescue Operations (1996)
Candidates actively pursuing Personal Watercraft Rescue Operations (1996) instructor registration must submit all documentation postmarked on or before June 30, 2025. Beginning July 1, 2025, SFT will require candidates to follow the New Instructor Registration requirements.

New Instructor Registration
New instructors who wish to teach Watercraft Rescue Technician (2021) courses must meet the following requirements:

Motorized Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Completed one of the following course options:
    - SFT Motorized Watercraft Rescue Technician (2021) **or**
    - River and Flood Rescue Boat Technician (2017) **and** California Safe Boaters Safety Course (CBT – CA Boating and Waterways) **and** Urban Search and Rescue Boat Operator (CBT – FEMA)

- Complete the Motorized Watercraft Rescue Technician (2021) Instructor Task Book
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Motorized Watercraft Rescue Technician training
- Submit an SFT Instructor Registration Application
- Pay the registration fee

Non-Motorized Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Completed the SFT Non-Motorized Watercraft Rescue Technician (2021) course
- Complete the Non-Motorized Watercraft Rescue Technician (2021) Instructor Task Book
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Non-Motorized Watercraft Rescue Technician training
- Submit an SFT Instructor Registration Application
- Pay the registration fee

Personal Rescue Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Completed the SFT Personal Rescue Watercraft Rescue Technician (2021) course
- Complete the Personal Rescue Watercraft Rescue Technician (2021) Instructor Task Book
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Personal Rescue Watercraft Rescue Technician training
- Submit an SFT Instructor Registration Application
- Pay the registration fee

Watercraft Rescue Technician (2021) Implementation Plan

Issued: Month ##, 2024

OVERVIEW

This document is intended to provide information for all State Fire Training (SFT) stakeholders on the Watercraft Rescue Technician (2021) curriculum requirements. Stakeholders are encouraged to study this information carefully and seek clarification from SFT if questions arise.

The Watercraft Rescue Technician (2021) curriculum is presented as a Fire Service Training and Education Program (FSTEP) series. SFT developed a new curriculum training standard (CTS) guide, three course plans (motorized watercraft, non-motorized watercraft, and personal rescue watercraft), three instructor task books, and three student training records based on the current National Fire Protection Association (NFPA) Standard, NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021).

IMPLEMENTATION

Candidates entering the SFT system should enroll in the 2021 Watercraft Rescue courses and comply with the 2021 Watercraft Rescue Technician requirements.

New Curriculum	Hours
Motorized Watercraft Rescue Technician (2021)	**40 hours**
Non-Motorized Watercraft Rescue Technician (2021)	**40 hours**
Personal Rescue Watercraft Rescue Technician (2021)	**32 hours**

Watercraft Rescue Technician (2021) Curriculum……. September 1, 2024

Retirement of River and Flood Rescue Boat Technician / Personal Watercraft Rescue Operations Curriculum…….. December 31, 2024

Effective December 31, 2024, SFT will retire:

- FSTEP River and Flood Rescue Boat Technician (2017)
- FSTEP Personal Watercraft Rescue Operations (1996)

On January 1, 2025, SFT will remove these curricula from the SFT course catalog and they will no longer be available.

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INSTRUCTOR REQUIREMENTS

Instructor Registration…….. September 1, 2024
Instructors for any Watercraft Rescue Technician (2021) curriculum must meet the SFT requirements for Registered Instructor. Instructors must have appropriate education and practical experience relating to the specific course content.

Existing Registered Instructors and Cadre Members
Existing Registered Instructors and Watercraft Rescue Technician cadre members must meet the following requirements to teach the 2021 curriculum:

Motorized Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Be a Registered Instructor for River and Flood Rescue Boat Technician (2017)
- Complete the following courses:
  - California Safe Boaters Safety (CBT – CA Boating and Waterways)
  - Urban Search and Rescue Boat Operator (CBT – FEMA)
- Submit a webform verifying all requirements

Non-Motorized Watercraft Rescue Technician

- Meet the requirements for Motorized Watercraft Rescue Technician (above)
- Complete the SFT Non-Motorized Rescue Technician Roll Out course*
- Submit a webform verifying all requirements

Personal Rescue Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Be a Registered Instructor for Personal Watercraft Rescue Operations (1996)
- Complete the following courses:
  - California Safe Boaters Safety (CBT – CA Boating and Waterways)
  - Urban Search and Rescue Boat Operator (CBT – FEMA)
- Submit a webform verifying all requirements

Existing Registered Instructors and Watercraft Rescue Technician cadre members must complete these requirements by June 30, 2025. Anyone who misses this deadline will be required to meet the New Instructor Registration requirements (below).

* Cadre members are not required to complete the SFT Non-Motorized Rescue Technician Roll Out course.

In Process Instructor Candidates – River and Flood Rescue Boat Technician (2017)
Candidates actively pursuing River and Flood Rescue Boat Technician (2017) instructor registration must submit all documentation postmarked on or before June 30, 2025. SFT will return any 2017 task book postmarked on or after July 1, 2025, and require candidates to follow the New Instructor Registration requirements.

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In process instructor candidates may teach two River and Flood Rescue Boat Technician (2017) courses **or** one River and Flood Rescue Technician (2017) **and** one Motorized Watercraft Rescue Technician (2021) course to meet their task book requirements. If an in-process instructor chooses to teach two Motorized Watercraft Rescue Technician (2021) courses, they are required to adhere to the New Instructor Registration requirements.

In Process Instructor Candidates – Personal Watercraft Rescue Operations (1996)
Candidates actively pursuing Personal Watercraft Rescue Operations (1996) instructor registration must submit all documentation postmarked on or before June 30, 2025. Beginning July 1, 2025, SFT will require candidates to follow the New Instructor Registration requirements.

New Instructor Registration
New instructors who wish to teach Watercraft Rescue Technician (2021) courses must meet the following requirements:

<u>Motorized Watercraft Rescue Technician</u>

- Be an SFT Registered Instructor
- Completed one of the following course options:
    - SFT Motorized Watercraft Rescue Technician (2021) **or**
    - River and Flood Rescue Boat Technician (2017) **and** California Safe Boaters Safety Course (CBT – CA Boating and Waterways) **and** Urban Search and Rescue Boat Operator (CBT – FEMA)
- Complete the Motorized Watercraft Rescue Technician (2021) Instructor Task Book
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Motorized Watercraft Rescue Technician training
- Submit an SFT Instructor Registration Application
- Pay the registration fee

<u>Non-Motorized Watercraft Rescue Technician</u>

- Be an SFT Registered Instructor
- Complete the SFT Non-Motorized Watercraft Rescue Technician (2021) course
- Complete the Non-Motorized Watercraft Rescue Technician (2021) Instructor Task Book
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Non-Motorized Watercraft Rescue Technician training
- Submit an SFT Instructor Registration Application
- Pay the registration fee

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Personal Rescue Watercraft Rescue Technician

- Be an SFT Registered Instructor
- Complete the SFT Personal Rescue Watercraft Rescue Technician (2021) course
- Complete the Personal Rescue Watercraft Rescue Technician (2021) Instructor Task Book
- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Personal Rescue Watercraft Rescue Technician training
- Submit an SFT Instructor Registration Application
- Pay the registration fee

POTENTIAL AGENCY IMPACTS

Fire agencies desiring to use the Water Rescue (2021) curriculum as a requirement for their recruitment/promotion activities need to review the Watercraft Rescue (2021) 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 courses and certification 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 Watercraft Rescue (2021) curriculum and discuss potential impacts with their advisory committees.

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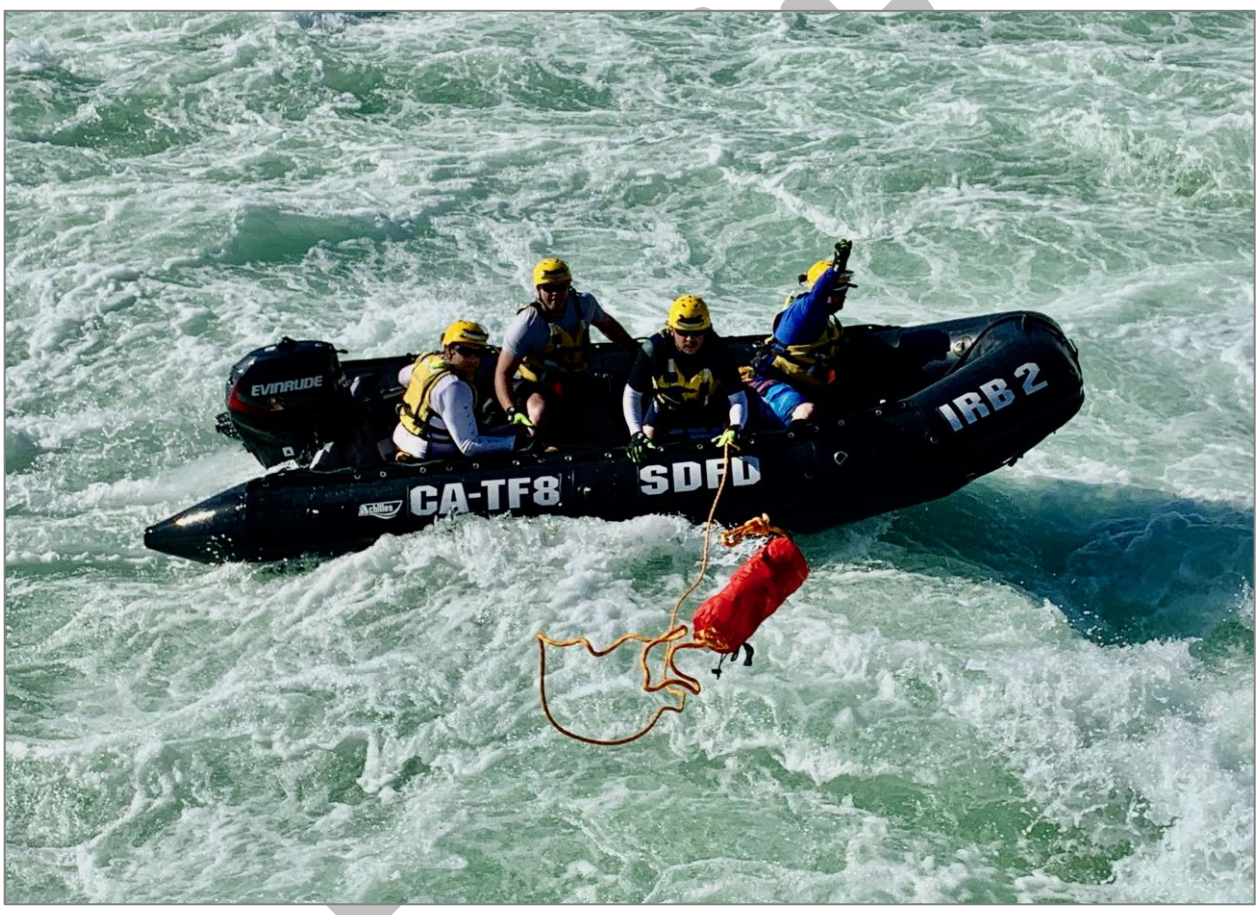
Watercraft Rescue Technician

(NFPA 1006: Watercraft Rescue Awareness/Operations/Technician)

Curriculum Training Standards Guide (2021)



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

Watercraft Rescue Technician

Curriculum Training Standards Guide (2021)

Publication Date: Month Year

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Watercraft Rescue Technician (2021) curriculum:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

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 Aide Barbat, Battalion Chief, San Diego Fire-Rescue Department

Published by State Fire Training.

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How to Read a CTS Guide

Overview

A curriculum 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 curriculum's NFPA standard and identifies where each curriculum training standard is taught (course plan), tested (skill sheets), and validated (task book).

Individuals aspiring to meet State Fire Training's curriculum 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 curriculum 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 shaded gray.

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.

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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).

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Watercraft Rescue Technician

Section 1: Awareness

1-1: Initiating a Discipline-Specific Search

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.1.1

Job Performance Requirement

Initiate a discipline-specific search, give hazard-specific PPE, equipment pertinent to the search mission, an incident location, and victim investigative information, so that search parameters are established, the victim profile is established, the access and egress of all people either involved in the search or already within the search area are questioned and the information is updated and relayed to command; the personnel assignments match their expertise, all victims are located as quickly as possible, applicable technical rescue concerns are managed, risks to searchers are minimized, and all searchers are accounted for.

Requisite Knowledge

1. Describe local policies and procedures
2. Describe how to operate in the site-specific environment

Requisite Skills

1. Enter, maneuver in, and exit the search environment
2. Provide for and perform self-escape and self-rescue

Content Modification

Block	Modification	Justification

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Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-5	Motorized Watercraft Rescue Technician (2021) • Skill 23, 24, 25, 26, 27, 28	Motorized Watercraft Rescue Technician (2021) • JPR 19, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-5	Non-Motorized Watercraft Rescue Technician (2021) • Skill 21, 22, 23, 24, 25, 26	Non-Motorized Watercraft Rescue Technician (2021) • JPR 17, 28
PRWC Rescue Technician (2021) • Topic 5-5	PRWC Rescue Technician (2021) • Skill 22, 23, 24, 25, 26, 27	PRWC Rescue Technician (2021) • JPR 19, 30

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1-2: Performing Ground Support Operations for Helicopter Activities

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.1.2

Job Performance Requirement

Perform ground support operations for helicopter activities, given a rescue scenario/incident, helicopter, operational plans, PPE, requisite equipment, and available specialized resources, so that rescue personnel are aware of the operational characteristics of the aircraft and demonstrate operational proficiency in establishing and securing landing zones and communicating with aircraft personnel until the assignment is complete.

Requisite Knowledge

1. Describe ground support operations relating to helicopter use and deployment
2. Describe operation plans for helicopter service activities
3. Describe type-specific PPE
4. Describe aircraft familiarization and hazard areas specific to helicopters
5. Describe scene control and landing zone requirements
6. Describe aircraft safety systems
7. Describe communication protocols

Requisite Skills

1. Provide ground support operations
2. Review standard operating procedures for helicopter operations
3. Use PPE
4. Establish and control landing zones
5. Communicate with aircrews

Content Modification

Block	Modification	Justification

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-7	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 21
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-7	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 19
PRWC Rescue Technician (2021) • Topic 5-7	N/A	PRWC Rescue Technician (2021) • JPR 21

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1-3: Selecting Hazard-Specific PPE

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.1.3

Job Performance Requirement

Select hazard-specific PPE, given PPE, including personal flotation devices (PFDs), helmets, and exposure garments that are consistent with the needs of the incident and type of watercraft, so that the wearer is protected from the effects of accidental immersion, exposure to the elements, and injury from unanticipated movement of the watercraft.

Requisite Knowledge

1. Describe hazards present on and near the water and abroad watercraft used by the AHJ including those presented by weather, current, water conditions, and the capacities

Requisite Skills

1. Locate, identify, and don PPE and flotation devices

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 2-1	Motorized Watercraft Rescue Technician (2021) • Skill 1, 2	Motorized Watercraft Rescue Technician (2021) • JPR 2, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 2-1	Non-Motorized Watercraft Rescue Technician (2021) • Skill 1, 2	Non-Motorized Watercraft Rescue Technician (2021) • JPR 2, 28
PRWC Rescue Technician (2021) • Topic 2-1	PRWC Rescue Technician (2021) • Skill 1, 2	PRWC Rescue Technician (2021) • JPR 2, 30

Draft

1-4: Maintaining Watercraft Stability

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.1.4

Job Performance Requirement

Maintain watercraft stability, given a selected watercraft used by the AHJ, so that the stability of the craft is not compromised, the possibility of a fall is minimized, and the rescuer is protected from harm.

Requisite Knowledge

1. Describe elements that affect the stability of watercraft, including mass, center of gravity, weight distribution, impact loads, current, sail area, and wind and water conditions

Requisite Skills

1. Board and exit a watercraft in a manner that prevents injury and minimizes the impact on the stability of the watercraft

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-1	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 23
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-1	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 21
PRWC Rescue Technician (2021) • Topic 6-1	N/A	PRWC Rescue Technician (2021) • JPR 23

Draft

1-5: Sizing Up a Watercraft Rescue Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.1.5

Job Performance Requirement

Sizing up a watercraft rescue incident, given background information and applicable reference materials, so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameters are identified, and information required to develop an initial incident action plan is obtained.

Requisite Knowledge

1. Identify types of reference materials and their uses
2. Describe availability and capability of the resources
3. Describe elements of an incident action plan and related information
4. Describe relationship of the size-up to the incident management system
5. Describe information gathering techniques and how that information is used in the size-up process
6. Describe basic search criteria for watercraft rescue incidents

Requisite Skills

1. Read technical rescue reference materials
2. Gather information
3. Use interview techniques
4. Relay information
5. Use information-gathering sources

Content Modification

Block	Modification	Justification

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-1	Motorized Watercraft Rescue Technician (2021) • Skill 21	Motorized Watercraft Rescue Technician (2021) • JPR 15, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-1	Non-Motorized Watercraft Rescue Technician (2021) • Skill 19	Non-Motorized Watercraft Rescue Technician (2021) • JPR 13, 28
PRWC Rescue Technician (2021) • Topic 5-1	PRWC Rescue Technician (2021) • Skill 20	PRWC Rescue Technician (2021) • JPR 15, 30

Draft

1-6: Recognizing Incident Hazards and Initiating Isolation Procedures

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.1.6

Job Performance Requirement

Recognize incident hazards and initiate isolation procedures, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, 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 taken into account.

Requisite Knowledge

1. Describe rescue capabilities and limitations
2. Describe types and nature of incident hazards
3. Describe equipment types and their use
4. Describe isolation terminology, methods, equipment, and implementation
5. Describe operational requirement concerns
6. Describe common types of rescuer and victim risks
7. Describe risk/benefit analysis methods and practices
8. Describe hazard recognition, isolation methods, and terminology
9. Describe methods for controlling access to the scene
10. Describe types of technical references

Requisite Skills

1. Identify resource capabilities and limitations
2. Identify incident hazards
3. Assess potential hazards to rescuers and bystanders
4. Place scene control barriers
5. Operate control and mitigation equipment

Content Modification

Block	Modification	Justification

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-2 • Topic 5-1 (RK7)	Motorized Watercraft Rescue Technician (2021) • Skill 22	Motorized Watercraft Rescue Technician (2021) • JPR 16, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-2 • Topic 5-1 (RK7)	Non-Motorized Watercraft Rescue Technician (2021) • Skill 20	Non-Motorized Watercraft Rescue Technician (2021) • JPR 14, 28
PRWC Rescue Technician (2021) • Topic 5-2 • Topic 5-1 (RK7)	PRWC Rescue Technician (2021) • Skill 21	PRWC Rescue Technician (2021) • JPR 16, 30

Draft

1-7: Recognizing the Need for Technical Rescue Resources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.1.7

Job Performance Requirement

Recognize the need for technical rescue resources at an operations- or technician-level incident, given AHJ guidelines, so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Requisite Knowledge

1. Describe operational protocols
2. Describe specific planning forms
3. Describe types of incidents common to the AHJ
4. Describe hazards
5. Describe incident support operations and resources
6. Describe safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of incidents
3. Identify and evaluate various types of hazards within the AHJ
4. Request support and resources
5. Determine the required safety measures

Content Modification

Block	Modification	Justification

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-4 • Topic 5-2 (RK4)	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 18
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-4 • Topic 5-2 (RK4)	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 16
PRWC Rescue Technician (2021) • Topic 5-4 • Topic 5-2 (RK4)	N/A	PRWC Rescue Technician (2021) • JPR 18

Draft

1-8: Supporting an Operations- or Technician-Level Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.1.8

Job Performance Requirement

Support an operations- or technician-level incident, given an incident, an assignment, and incident action plan, and resources from the tool cache, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Requisite Knowledge

1. Describe AHJ operational protocols
2. Describe hazard recognition
3. Describe incident management
4. Describe PPE selection
5. Describe resource selection and use
6. Describe scene support requirements

Requisite Skills

1. Apply operational protocols
2. Function within an incident management system
3. Follow and implement an incident action plan
4. Report the task progress status to a supervisor or incident command

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies do not have specific tower rescue tool kits; they assemble tools as needed from their general tool cache.

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-6 • Topic 5-2 (RK2) • Topic 2-3 (RK3) • Topic 2-1 (RK4)	Motorized Watercraft Rescue Technician (2021) • Skill 29	Motorized Watercraft Rescue Technician (2021) • JPR 20, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-6 • Topic 5-2 (RK2) • Topic 2-3 (RK3) • Topic 2-1 (RK4)	Non-Motorized Watercraft Rescue Technician (2021) • Skill 27	Non-Motorized Watercraft Rescue Technician (2021) • JPR 18, 28
PRWC Rescue Technician (2021) • Topic 5-6 • Topic 5-2 (RK2) • Topic 2-3 (RK3) • Topic 2-1 (RK4)	PRWC Rescue Technician (2021) • Skill 28	PRWC Rescue Technician (2021) • JPR 20, 30

Draft

1-9: Describing Dynamic Hydrology and Identifying Travel Paths

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Describe dynamic hydrology as it relates to rivers, channels, and floods, given a dynamic water environment, so that hydrology impacts are avoided or mitigated during water rescue operations.

Requisite Knowledge

1. Describe the forces of dynamic water
2. Describe how to calculate current speed
3. Describe how to calculate water volume (cubic feet of water per second) in a river/channel
4. Describe river orientation and where to place personnel
5. Describe features created by moving water and how they impact water rescue operations
6. Identify areas and features that are safe zones in dynamic water environments
7. Identify river classifications
8. Describe effects of hydrodynamics on watercraft, rescuers, and victims
9. Describe criteria for selecting victim retrieval locations based on water environment and conditions
10. Describe techniques used to navigate dynamic water and identify travel paths and hazards

Requisite Skills

1. None

Content Modification

Block	Modification	Justification
CTS	Added a new standard	Cadre wanted to ensure that all participants had a basic and consistent understanding of basic hydrology and travel paths.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 2-2	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 3
Non-Motorized Watercraft Rescue Technician (2021) • Topic 2-2	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 3
PRWC Rescue Technician (2021) • Topic 2-2	N/A	PRWC Rescue Technician (2021) • JPR 3

Draft

Section 2: Operations

2-1: Identifying Types of Watercraft

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.1

Job Performance Requirement

Identify the types of watercraft, given a list of watercraft used by the organization, so that their limitations, capabilities, load ratings, performance criteria, and considerations for their deployment and recovery in the intended environment are identified.

Requisite Knowledge

1. Identify types of watercraft used by the organization and the qualities and attributes of each craft that affect how it is utilized in the intended environment
2. Describe inherent conditions of the intended environment including wind, current, and water conditions that affect vessel selection and use
3. Describe mission scope and tactical objectives that affect watercraft selection

Requisite Skills

1. Identify watercraft characteristics such as draft, sail area, methods of propulsion, size, weight, method of deployment, and configuration that affect its selection for use in a specific environment for a specific mission

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-1	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 9
Non-Motorized Watercraft Rescue Technician (2021) • Topic 4-1	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 9
PRWC Rescue Technician (2021) • Topic 4-1	N/A	PRWC Rescue Technician (2021) • JPR 9

Draft

2-2: Identifying the Configuration of Watercraft

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.2

Job Performance Requirement

Identify the configuration of watercraft, given a watercraft available to the agency, so that the location of access and egress points, propulsion system components, steering controls, communication equipment, emergency equipment, through hull and deck fittings, portals, and fittings necessary for water- and weathertight integrity are located.

Requisite Knowledge

1. Describe location of equipment
2. Describe watercraft components
3. Describe configuration of watercraft

Requisite Skills

1. Identify fittings, portals, and other equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-2	Motorized Watercraft Rescue Technician (2021) • Skill 11, 12	Motorized Watercraft Rescue Technician (2021) • JPR 10, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 4-2	Non-Motorized Watercraft Rescue Technician (2021) • Skill 11, 12	Non-Motorized Watercraft Rescue Technician (2021) • JPR 10, 28
PRWC Rescue Technician (2021) • Topic 4-2	PRWC Rescue Technician (2021) • Skill 11	PRWC Rescue Technician (2021) • JPR 10, 30

Draft

2-3: Communicating Between Watercraft and Rescuers

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.3

Job Performance Requirement

Use the available methods of communicating between the watercraft and other rescuers in the water, on the shore, in other watercraft, and in aircraft as applicable, given communication tools, so that routine mission-related information and emergency messages are communicated to the intended recipient.

Requisite Knowledge

1. Describe methods of communication available to rescuer and their limitations given specific weather conditions, visibility, and distances from the intended recipient

Requisite Skills

1. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 3-1	Motorized Watercraft Rescue Technician (2021) • Skill 5, 6, 7, 8	Motorized Watercraft Rescue Technician (2021) • JPR 6, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 3-1	Non-Motorized Watercraft Rescue Technician (2021) • Skill 5, 6, 7, 8	Non-Motorized Watercraft Rescue Technician (2021) • JPR 6, 28
PRWC Rescue Technician (2021) • Topic 3-1	PRWC Rescue Technician (2021) • Skill 5, 6, 7, 8	PRWC Rescue Technician (2021) • JPR 6, 30

Draft

2-4: Identifying When to Notify Local and Federal Authorities

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.4

Job Performance Requirement

Identify conditions that require the notification of local and federal authorities, given conditions that require their involvement, including vessels in distress, hazards to navigation, release of hazardous or toxic substances, and other conditions that affect the health and safety of those in and around navigable waters, so that the proper agency is notified and relevant information is communicated.

Requisite Knowledge

1. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies
2. Describe the methods of notification
3. Describe required other actions

Requisite Skills

1. Identify specific conditions that require notification of outside agencies
2. Perform methods for their notification

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-3	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 17
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-3	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 15
PRWC Rescue Technician (2021) • Topic 5-3	N/A	PRWC Rescue Technician (2021) • JPR 17

Draft

2-5: Interpreting Navigational Aids

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.5

Job Performance Requirement

Interpret navigational aids, given marine lights, structures and markings on land, other vessels, or on the water, so that nautical landmarks and other vessels are identified, intended course is selected, and collisions are avoided.

Requisite Knowledge

1. Describe appearance and color of visual aids and navigation markers and their meanings

Requisite Skills

1. Interpret markers, lights, and signals to determine a course that will avoid other vessels

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 3-2	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 7
Non-Motorized Watercraft Rescue Technician (2021) • Topic 3-2	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 7
PRWC Rescue Technician (2021) • Topic 3-2	N/A	PRWC Rescue Technician (2021) • JPR 7

Draft

2-6: Performing Self-Rescue and Survival Swimming Skills

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.6
2. Office of the State Fire Marshal

Job Performance Requirement

Perform self-rescue and survival swimming skills, given a course designated by the AHJ that demonstrates the capabilities necessary to operate in the anticipated rescue environment, water rescue PPE, and swim aids as required, so that flotation is maintained, body heat is conserved, and egress is accomplished.

Requisite Knowledge

1. Describe effects of hypothermia and cold-water immersion
2. Describe survival skills

Requisite Skills

1. Float and move through the water to reach a point of egress or await rescue while conserving body heat

Content Modification

Block	Modification	Justification
JPR	Added “given a course designated by the AHJ that demonstrates the capabilities necessary to operate in the anticipated rescue environment, water rescue PPE, and swim aids as required”.	NFPA did not provide a given. This mirrors the given in 17.3.1 (NFPA 1006) which is a prerequisite for Watercraft Rescue training.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 2-4	Motorized Watercraft Rescue Technician (2021) • Skill 4	Motorized Watercraft Rescue Technician (2021) • JPR 5, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 2-4	Non-Motorized Watercraft Rescue Technician (2021) • Skill 4	Non-Motorized Watercraft Rescue Technician (2021) • JPR 5, 28
PRWC Rescue Technician (2021) • Topic 2-4	PRWC Rescue Technician (2021) • Skill 4	PRWC Rescue Technician (2021) • JPR 5, 30

Draft

2-7: Using Hazard-Specific PPE

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.7

Job Performance Requirement

Use hazard-specific PPE, given a watercraft rescue incident/scenario, so that the PPE is used in accordance with AHJ policies relative to the specific incident/scenario, PPE emergency escape procedures are followed, and distress signals are communicated.

Requisite Knowledge

1. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices
2. Describe distress signals
3. Describe emergency escape procedures
4. Describe preoperational checklists for the PPE

Requisite Skills

1. Don and doff PPE and personal flotation devices, including water rescue helmets and water insulating garments
2. Communicate distress signals
3. Follow emergency escape procedures for the PPE
4. Use preoperational checklists for the PPE

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 2-1	Motorized Watercraft Rescue Technician (2021) • Skill 1, 2	Motorized Watercraft Rescue Technician (2021) • JPR 2, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 2-1	Non-Motorized Watercraft Rescue Technician (2021) • Skill 1, 2	Non-Motorized Watercraft Rescue Technician (2021) • JPR 2, 28
PRWC Rescue Technician (2021) • Topic 2-1	PRWC Rescue Technician (2021) • Skill 1, 2	PRWC Rescue Technician (2021) • JPR 2, 30

Draft

2-8: Navigating a Watercraft as a Helmsman

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.8

Job Performance Requirement

Navigate a watercraft as a helmsman, given a watercraft, navigation tools, and a plotted course, so that the course is followed, obstacles and other vessels are avoided, wind and currents accounted for, awareness of position is maintained, and the destination is reached.

Requisite Knowledge

1. Identify operation of the controls relevant to the watercraft and how they affect speed and direction of the vessel
2. Describe how the associated navigational tools, such as compass and GPS devices, function and are interpreted
3. Describe marking on charts or plotters and their meanings
4. Describe the effects of local water, wind, and weather conditions on the direction and speed of the watercraft

Requisite Skills

1. Operate the controls of the watercraft
2. Use the navigational tools and indicators on the watercraft
3. Select a heading and speed for the vessel for the existing conditions so that it follows its intended course

Content Modification

Block	Modification	Justification

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-3 • Topic 3-2 (RK2, RK3, RS2)	Motorized Watercraft Rescue Technician (2021) • Skill 33, 34, 35, 36, 37, 38, 39	Motorized Watercraft Rescue Technician (2021) • JPR 25, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-3 • Topic 3-2 (RK2, RK3, RS2)	Non-Motorized Watercraft Rescue Technician (2021) • Skill 30, 31, 32, 33, 34	Non-Motorized Watercraft Rescue Technician (2021) • JPR 23, 28
PRWC Rescue Technician (2021) • Topic 6-3 • Topic 3-2 (RK2, RK3, RS2)	PRWC Rescue Technician (2021) • Skill 37, 38, 39, 40, 41	PRWC Rescue Technician (2021) • JPR 25, 30

Draft

2-9: Performing Docking or Watercraft Recovery Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.9

Job Performance Requirement

Perform docking or watercraft recovery operations, given a watercraft and an operator, so that communication is maintained with the operator, current and wind are account for, mooring lines and fenders are rigged, the dock or slip and watercraft are protected from impacts, and the vessel is positioned properly at the slip and secured from unintended movement.

Requisite Knowledge

1. Describe methods for securing a watercraft and rigging fenders to prevent damage and minimize undesired movement of the watercraft
2. Describe means of maneuvering a watercraft using lines or other external systems to position the watercraft as desired
3. Describe how wind, weather, and water conditions affect watercraft movement as it approaches the slip and after being secured
4. Describe considerations for specialized tools or conveyances used to recover watercraft such as trailers, jet docks, and davits

Requisite Skills

1. Rig lines and tie knots, bends, and hitches related to mooring
2. Secure and maneuver vessels into or at a mooring location or conveyance
3. Predict direction and speed of approach to a moorage conveyance based on the boat operators' actions
4. Identify the effects of wind, weather, and wave actions

Content Modification

Block	Modification	Justification
RS4	Added "Identify".	NFPA did not provide a verb.

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Motorized Watercraft Rescue Technician (2021) • Skill 31, 32	Motorized Watercraft Rescue Technician (2021) • JPR 24, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Non-Motorized Watercraft Rescue Technician (2021) • Skill 28, 29	Non-Motorized Watercraft Rescue Technician (2021) • JPR 22, 28
PRWC Rescue Technician (2021) • Topic 6-2	PRWC Rescue Technician (2021) • Skill 30, 31, 32, 33, 34, 35, 36	PRWC Rescue Technician (2021) • JPR 24, 30

Draft

2-10: Launching a Watercraft from a Conveyance

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.10

Job Performance Requirement

Launch a watercraft from a pier, dock, slip, trailer, or other conveyance, given a watercraft and an operator, so that communication is maintained with the operator, current and wind are accounted for, mooring lines are managed, and equipment is secured against unintended movement.

Requisite Knowledge

1. Describe methods for launching or deploying a watercraft and rigging, and securing equipment to prevent damage and minimize undesired movement of the watercraft
2. Describe means of maneuvering a watercraft using lines or other external systems to position the watercraft as desired
3. Describe how wind, weather, and water conditions affect watercraft movement as it leaves the slip and after being deployed
4. Describe considerations for specialized tools or conveyances used to deploy watercraft such as trailers, jet docks, and davits

Requisite Skills

1. Rig lines and tie knots, bends, and hitches related to mooring and maneuvering vessels into or at a moorage location or conveyance
2. Predict direction and speed of vessel departing from a moorage conveyance based on the boat operators' actions
3. Identify the effects of wind, weather, and wave action

Content Modification

Block	Modification	Justification
RK3	Added "Identify".	NFPA did not provide a verb.

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Motorized Watercraft Rescue Technician (2021) • Skill 30	Motorized Watercraft Rescue Technician (2021) • JPR 24, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Non-Motorized Watercraft Rescue Technician (2021) • Skill 28	Non-Motorized Watercraft Rescue Technician (2021) • JPR 22, 28
PRWC Rescue Technician (2021) • Topic 6-2	PRWC Rescue Technician (2021) • Skill 29	PRWC Rescue Technician (2021) • JPR 24, 30

Draft

2-11: Performing Anchoring Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.11

Job Performance Requirement

Perform anchoring operations, given a watercraft, an operator, and anchoring equipment, so that the anchor is deployed to prevent vessel movement; and anchor swing, weather, and current and tide change are accounted for.

Requisite Knowledge

1. Identify techniques for setting anchor
2. Describe requirements for anchor size, line length for the vessel, and weather conditions
3. Describe the effects of vessel movement while at anchor

Requisite Skills

1. Set an anchor to minimize the potential for drag
2. Pay out anchor line to ensure proper scope is achieved for weather and tide changes

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-4	Motorized Watercraft Rescue Technician (2021) • Skill 44	Motorized Watercraft Rescue Technician (2021) • JPR 26, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-4	Non-Motorized Watercraft Rescue Technician (2021) • Skill 37	Non-Motorized Watercraft Rescue Technician (2021) • JPR 24, 28
PRWC Rescue Technician (2021) • Topic 6-4	N/A	PRWC Rescue Technician (2021) • JPR 26

Draft

2-12: Performing Procedures for a Crew Overboard Event

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.12
2. Office of the State Fire Marshal

Job Performance Requirement

Perform procedures for a crew overboard (COB) event, given a watercraft available to the agency, an operator, and watercraft crewmember(s), so that the incident is communicated to the operator, visual location of the subject is maintained, the location and marked, and recovery of the subject is accomplished.

Requisite Knowledge

1. Describe vessel procedures for man overboard
2. Describe methods of communication of a COB event to operator
3. Describe crew tactics for marking location to assist with returning to location of event
4. Describe effects of immersion and hypothermia

Requisite Skills

1. Deploy a surface marker or utilize other methods for marking the location of the COB event
2. Deploy flotation aid to the member
3. Perform operations specific to maneuvering the vessel and repairing to recover the subject
4. Perform recovery operations

Content Modification

Block	Modification	Justification
JPR	Added “given a motorized watercraft available to the agency, an operator, and watercraft crewmember(s)”.	NFPA did not provide a given. This mirrors the given in other NFPA 1006 chapter 22 paragraphs.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-6	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 28
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-6	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 26
PRWC Rescue Technician (2021) • Topic 6-6	N/A	PRWC Rescue Technician (2021) • JPR 28

Draft

2-13: Performing Procedures for Launching and Recovering In-Water Rescuers

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.13

Job Performance Requirement

Perform procedures for launching and recovery of in-water rescuers, given a watercraft available to the agency, in-water rescuers, and a watercraft operator, so that the watercraft is not broached, control of the watercraft is maintained so that the rescuers are deployed and recovered at the designated location and are protected from injury.

Requisite Knowledge

1. Describe watercraft specific procedures for deploying and recovering rescuers, including methods for avoiding contact with propulsion elements of the watercraft and uncontrolled falls or potential for entanglement on entry or exit.

Requisite Skills

1. Rig or configure elements of the watercraft required for launching or recovery of rescuers
2. Manage the operation of propulsion systems and other mechanical elements of the watercraft
3. Coordinate vessel movement and location so the rescuers are deployed and recovered at the desired location

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Motorized Watercraft Rescue Technician (2021) • Skill 40, 41, 45, 46, 47, 49, 50	Motorized Watercraft Rescue Technician (2021) • JPR 27, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Non-Motorized Watercraft Rescue Technician (2021) • Skill 35, 36, 38, 39, 40, 42, 43	Non-Motorized Watercraft Rescue Technician (2021) • JPR 25, 28
PRWC Rescue Technician (2021) • Topic 6-5	PRWC Rescue Technician (2021) • Skill 46, 48, 49, 50	PRWC Rescue Technician (2021) • JPR 27, 30

Draft

2-14: Performing a Watercraft-Based Rescue of an Incapacitated Water Bound Victim

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.14

Job Performance Requirement

Perform a watercraft-based rescue of an incapacitated water bound victim, given a watercraft that is available to the team, a water rescue tool cache, a means of securement, and water rescue PPE, so that the watercraft is not broached; control of the watercraft is maintained; risks to the victim and rescuers are minimized; and the victim is removed from the hazards.

Requisite Knowledge

1. Describe watercraft-specific procedures for recovering victims, including methods for avoiding contact with propulsion elements of the watercraft and uncontrolled falls or potential for entanglement on recovery

Requisite Skills

1. Rig or configure elements of the watercraft required for recovery of a victim
2. Manage the operation of propulsion systems and other mechanical elements of the watercraft
3. Coordinate vessel movement and location so the victim is recovered at the desired location

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies do not have specific tower rescue tool kits; they assemble tools as needed from their general tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Motorized Watercraft Rescue Technician (2021) • Skill 48	Motorized Watercraft Rescue Technician (2021) • JPR 27, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Non-Motorized Watercraft Rescue Technician (2021) • Skill 41	Non-Motorized Watercraft Rescue Technician (2021) • JPR 26, 28
PRWC Rescue Technician (2021) • Topic 6-5	PRWC Rescue Technician (2021) • Skill 47	PRWC Rescue Technician (2021) • JPR 27, 30

Draft

2-15: Performing Procedures to Take Another Watercraft Under Tow

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.15

Job Performance Requirement

Perform procedures to take another watercraft under tow so that the relative size of both watercraft are considered; neither vessel is broached; wind, weather, and water conditions are accounted for; lines are connected between the vessels; maneuverability and control are maintained; and the watercraft is protected from damage.

Requisite Knowledge

1. Describe watercraft-specific procedures for taking a vehicle under tow, including rigging methods, anchor locations, methods for chafe, and impact protection
2. Describe watercraft handling dynamics while towing
3. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both vessels
4. Describe limitations on size and weight of vessel being towed

Requisite Skills

1. Rig lines
2. Identify impact and chafe protection
3. Control movement and direction of watercraft under tow
4. Monitor position and condition of vessel under tow
5. Communicate with watercraft operator to maneuver the watercraft

Content Modification

Block	Modification	Justification
RS2	Added “Identify”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-7	Motorized Watercraft Rescue Technician (2021) • Skill 51	Motorized Watercraft Rescue Technician (2021) • JPR 29, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-7	Non-Motorized Watercraft Rescue Technician (2021) • Skill 44	Non-Motorized Watercraft Rescue Technician (2021) • JPR 27, 28
PRWC Rescue Technician (2021) • Topic 6-7	N/A	PRWC Rescue Technician (2021) • JPR 29, 30

Draft

2-16: Performing Emergency Procedures for a Watercraft

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.16

Job Performance Requirement

Perform emergency procedures for a watercraft, given a watercraft available to the agency and emergency equipment, so that help is summoned, emergency actions are taken, and risks to the occupants of the vessel are minimized.

Requisite Knowledge

1. Describe location of emergency equipment such as signaling devices, fire extinguishers, distress beacons, life rafts, PFDs, exposure suits, and other related equipment and how to operate and deploy them

Requisite Skills

1. Deploy and activate life safety and emergency equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-2	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 10
Non-Motorized Watercraft Rescue Technician (2021) • Topic 4-2	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 10
PRWC Rescue Technician (2021) • Topic 4-2	N/A	PRWC Rescue Technician (2021) • JPR 10

Draft

2-17: Conducting Dewatering Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.2.17

Job Performance Requirement

Conduct dewatering operations, given a watercraft available to the jurisdiction and dewatering equipment so that undesired water is reduced or eliminated in the watercraft, vessel stability is maintained, and damage to the watercraft is prevented.

Requisite Knowledge

1. Describe watercraft-specific dewatering plan
2. Describe operation of onboard dewatering equipment
3. Describe effects of excessive water on stability and seaworthiness of the watercraft

Requisite Skills

1. Operate onboard dewatering equipment to remove water from the vessel

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-3	Motorized Watercraft Rescue Technician (2021) • Skill 42, 43	Motorized Watercraft Rescue Technician (2021) • JPR 25, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-3	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 23
PRWC Rescue Technician (2021) • Topic 6-3	PRWC Rescue Technician (2021) • Skill 45	PRWC Rescue Technician (2021) • JPR 25, 30

Draft

2-18: Terminating an Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.2.18

Job Performance Requirement

Terminate an incident, given PPE specific to the incident, isolation barriers, and tool cache, so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for, scene documentation is performed, and scene control is transferred to a responsible party; potential or existing hazards are communicated to the responsible party; debriefing and post-incident analysis and critique are considered; and command is terminated.

Requisite Knowledge

1. Describe PPE characteristics
2. Describe hazard and risk identification
3. Describe isolation techniques
4. Describe statutory requirements identifying responsible parties
5. Describe accountability system use
6. Describe reporting methods
7. Describe post-incident analysis techniques

Requisite Skills

1. Select and use hazard-specific PPE
2. Decontaminate PPE
3. Use barrier protection techniques
4. Collect data
5. Identify record-keeping/reporting protocols
6. Conduct post-incident analysis activities

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies do not have specific tower rescue tool kits; they assemble tools as needed from their general tool cache.
RS5	Added “Identify”.	NFPA did not provide a verb.
RS6	Added “Conduct”.	NFPA did not provide a verb.

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 5-8	Motorized Watercraft Rescue Technician (2021) • Skill 52	Motorized Watercraft Rescue Technician (2021) • JPR 22, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 5-8	Non-Motorized Watercraft Rescue Technician (2021) • Skill 45	Non-Motorized Watercraft Rescue Technician (2021) • JPR 20, 28
PRWC Rescue Technician (2021) • Topic 5-8	PRWC Rescue Technician (2021) • Skill 51	PRWC Rescue Technician (2021) • JPR 22, 30

Draft

2-19: Managing a Water Rescue Incident

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Manage a water rescue incident, given water rescue scenarios and AHJ policies, procedures, and standards, so that the incident is manages in accordance with local, state, and federal standards, policies, and procedures.

Requisite Knowledge

1. Describe water rescue scope of practice and standards
2. Describe policies/procedures for rescue team activation
3. Describe legal considerations and practices
4. Describe the discipline-specific components of the Incident Command System
5. Describe rescue priorities
6. Describe how to recognize the need for technical rescue resources

Requisite Skills

1. Manage a rescue incident from initiation through demobilization and termination

Content Modification

Block	Modification	Justification
CTS	Added new standard.	Participants need a macro-level understanding of how to manage the full cycle of a rescue operation.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 2-3	Motorized Watercraft Rescue Technician (2021) • Skill 3	Motorized Watercraft Rescue Technician (2021) • JPR 4, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 2-3	Non-Motorized Watercraft Rescue Technician (2021) • Skill 3	Non-Motorized Watercraft Rescue Technician (2021) • JPR 4, 28
PRWC Rescue Technician (2021) • Topic 2-3	PRWC Rescue Technician (2021) • Skill 3	PRWC Rescue Technician (2021) • JPR 4, 30

Draft

2-20: Performing Motor Maintenance

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Perform motor maintenance, given a motorized river and flood rescue vessel, so that motor maintenance ensures operational readiness.

Requisite Knowledge

1. Describe how water conditions impact motors
2. Identify equipment needed to perform motor maintenance
3. Describe maintenance requirements for general use
4. Describe how to service an outboard motor
5. Identify equipment needed to dewater an outboard motor
6. Describe how to dewater an outboard motor

Requisite Skills

1. Perform pre- and post-op motor maintenance
2. Dewater a motor

Content Modification

Block	Modification	Justification
CTS	Added new standard.	NFPA does not cover motor maintenance but it is a critical component of maintaining a motorized rescue watercraft.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-3	Motorized Watercraft Rescue Technician (2021) • Skill 13, 14	Motorized Watercraft Rescue Technician (2021) • JPR 11, 30
PRWC Rescue Technician (2021) • Topic 4-3	PRWC Rescue Technician (2021) • Skill 12, 13	PRWC Rescue Technician (2021) • JPR 11, 30

Draft

2-21: Trailering a Watercraft

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Trailer a watercraft, given a watercraft, tow vehicle, and trailer, so that the watercraft is secure an ready for transport.

Requisite Knowledge

1. Identify trailer components
2. Describe safety considerations associated with trailering operations
3. Describe how to back up a trailered watercraft
4. Describe trailer positioning
5. Describe considerations for unimproved launches

Requisite Skills

1. Conduct a pre-trip trailer inspection
2. Load and secure a watercraft on a trailer
3. Launch a watercraft from a trailer
4. Recover a watercraft onto a trailer

Content Modification

Block	Modification	Justification
CTS	Added new standard.	NFPA does not include standards for trailer operations but that is how many watercraft are transported in California.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-4	Motorized Watercraft Rescue Technician (2021) • Skill 15, 16, 17, 18	Motorized Watercraft Rescue Technician (2021) • JPR 12, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 4-3	Non-Motorized Watercraft Rescue Technician (2021) • Skill 13, 14, 15, 16	Non-Motorized Watercraft Rescue Technician (2021) • JPR 11, 28
PRWC Rescue Technician (2021) • Topic 4-4	PRWC Rescue Technician (2021) • Skill 14, 15, 16, 17	PRWC Rescue Technician (2021) • JPR 12, 30

Draft

Section 3: Technician

3-1: Preparing a Watercraft to Get Underway

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.3.1

Job Performance Requirement

Prepare a watercraft to get underway, given a watercraft available to the agency, so that preoperational checks are performed, systems are energized, propulsion systems are started, functional checks are conducted, and the watercraft is ready to be deployed.

Requisite Knowledge

1. Describe watercraft system operational procedures and readiness checks

Requisite Skills

1. Check proper fluid levels, charges, connections, and lubrication of systems and connections

Content Modification

Block	Modification	Justification
JPR	Added “are”.	NFPA was missing a word.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-5	Motorized Watercraft Rescue Technician (2021) • Skill 19, 20	Motorized Watercraft Rescue Technician (2021) • JPR 13, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 4-4	Non-Motorized Watercraft Rescue Technician (2021) • Skill 17, 18	Non-Motorized Watercraft Rescue Technician (2021) • JPR 12, 28
PRWC Rescue Technician (2021) • Topic 4-5	PRWC Rescue Technician (2021) • Skill 18, 19	PRWC Rescue Technician (2021) • JPR 13, 30

Draft

3-2: Operating a Watercraft to Perform Typical Tasks

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.3.2

Job Performance Requirement

Operate a watercraft to perform tasks typical of the mission defined by the AHJ in conditions representative of the waters and weather common to the jurisdiction, given a watercraft available to the agency, so that the objectives are achieved, the occupants and crew are protected from harm, and damage to the watercraft is prevented.

Requisite Knowledge

1. Describe vessel-specific policies and procedures for operating the watercraft
2. Describe capabilities and limitations of the watercraft
3. Describe common wind, weather, and water conditions for the jurisdiction

Requisite Skills

1. Operate the controls of the watercraft
2. Maneuver to achieve the objective while preventing damage to the watercraft or other vessels

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-3	Motorized Watercraft Rescue Technician (2021) • Skill 33, 34, 35, 36, 37, 38, 39	Motorized Watercraft Rescue Technician (2021) • JPR 25, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-3	Non-Motorized Watercraft Rescue Technician (2021) • Skill 30, 31, 32, 33, 34	Non-Motorized Watercraft Rescue Technician (2021) • JPR 23, 28
PRWC Rescue Technician (2021) • Topic 6-3	PRWC Rescue Technician (2021) • Skill 38, 39, 40, 41, 42, 43, 44	PRWC Rescue Technician (2021) • JPR 25, 30

Draft

3-3: Plotting a Course

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.3.3

Job Performance Requirement

Plot a course, given navigational tools and charts so that heading, speed, and course are determined and wind, weather, current, and water conditions are taken into account.

Requisite Knowledge

1. Describe how to operate conventional and electronic navigation tools used by the agency

Requisite Skills

1. Determine location, heading, and speed to achieve the desired outcome

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 3-3	Motorized Watercraft Rescue Technician (2021) • Skill 9, 10	Motorized Watercraft Rescue Technician (2021) • JPR 8, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 3-3	Non-Motorized Watercraft Rescue Technician (2021) • Skill 9, 10	Non-Motorized Watercraft Rescue Technician (2021) • JPR 8, 28
PRWC Rescue Technician (2021) • Topic 3-3	33, 34, 35, 36, 37, 38, 39 (2021) • Skill 9, 10	PRWC Rescue Technician (2021) • JPR 8, 30

Draft

3-4: Operating a Watercraft While Performing Docking or Watercraft Recovery Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.3.4

Job Performance Requirement

Operate the watercraft while performing docking or watercraft recovery operations, given a watercraft and watercraft crewmember(s), so that communication is maintained with the crew, current and wind are accounted for, and the vessel is positioned properly at the slip and secured from unintended movement.

Requisite Knowledge

1. Describe methods for maneuvering or approaching moorage
2. Describe how wind, weather, and water conditions affect watercraft movement as it approaches the slip and after being secured
3. Describe considerations for specialized tools or conveyances used to recover watercraft such as trailers, jet docks, and davits

Requisite Skills

1. Control and maneuver vessel into or at a moorage location or conveyance
2. Predict direction and speed of approach to a moorage conveyance based on the boat operator actions
3. Identify the effect of wind, weather, and wave actions

Content Modification

Block	Modification	Justification
RS3	Added “Identify”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Motorized Watercraft Rescue Technician (2021) • Skill 31, 32	Motorized Watercraft Rescue Technician (2021) • JPR 24, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Non-Motorized Watercraft Rescue Technician (2021) • Skill 28, 29	Non-Motorized Watercraft Rescue Technician (2021) • 22, 28
PRWC Rescue Technician (2021) • Topic 6-2	PRWC Rescue Technician (2021) • Skill 30, 31, 32, 33, 34, 35, 36	PRWC Rescue Technician (2021) • JPR 24, 30

Draft

3-5: Operating a Watercraft While Launching or Deploying from a Conveyance

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.3.5

Job Performance Requirement

Operate a watercraft as it is launched or deployed from a pier, dock, slip, trailer, or other conveyance, given a watercraft and watercraft crewmember(s), so that communication is maintained with the crew, current and wind are accounted for, and damage to the watercraft is prevented.

Requisite Knowledge

1. Describe methods or maneuvering and operating the watercraft while launching or deploying watercraft so it is positioned as desired
2. Describe how wind, weather, and water conditions affect watercraft movement as it leaves the slip and after being deployed
3. Describe considerations for specialized tools or conveyances used to deploy watercraft such as trailers, jet docks, and davits

Requisite Skills

1. Maneuver while departing the moorage location
2. Predict direction and speed of departure from a moorage or conveyance based on conditions
3. Identify characteristics of the watercraft
4. Identify the effect of wind, weather, and wave action

Content Modification

Block	Modification	Justification
RS3	Added “Identify”.	NFPA did not provide a verb.
RS4	Added “Identify”.	NFPA did not provide a verb.

Draft

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Motorized Watercraft Rescue Technician (2021) • Skill 30, 31	Motorized Watercraft Rescue Technician (2021) • JPR 24, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-2	Non-Motorized Watercraft Rescue Technician (2021) • Skill 28, 29	Non-Motorized Watercraft Rescue Technician (2021) • JPR 22, 28
PRWC Rescue Technician (2021) • Topic 6-2	PRWC Rescue Technician (2021) • Skill 29	PRWC Rescue Technician (2021) • JPR 24, 30

Draft

3-6: Operating a Watercraft to Conduct Anchoring Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.3.6

Job Performance Requirement

Operate a watercraft to conduct anchoring operations, given a watercraft, watercraft crewmember(s), and anchoring equipment, so that the anchor is deployed to prevent vessel movements; an anchor swing, weather, current, and tide change are accounted for.

Requisite Knowledge

1. Describe techniques for setting anchor
2. Describe requirements for anchor size, line length for the vessel, and weather conditions
3. Describe the impact of vessel movement while at anchor

Requisite Skills

1. Set an anchor to minimize the potential for drag
2. Pay out anchor line to ensure proper scope is achieved for weather and tide changes

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-4	Motorized Watercraft Rescue Technician (2021) • Skill 44	Motorized Watercraft Rescue Technician (2021) • JPR 26, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-4	Non-Motorized Watercraft Rescue Technician (2021) • Skill 37	Non-Motorized Watercraft Rescue Technician (2021) • JPR 24, 28
PRWC Rescue Technician (2021) • Topic 6-4	N/A	PRWC Rescue Technician (2021) • JPR 26, 30

Draft

3-7: Operating a Watercraft in Response to a Crew Overboard Event

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.3.7

Job Performance Requirement

Operate a watercraft in response to a crew overboard (COB) event, given a watercraft available to the agency and watercraft crewmember(s), so that the incident is communicated to the operator, visual location of the subject is maintained, the location is marked, and recovery of the subject is accomplished.

Requisite Knowledge

1. Describe vessel procedures for man overboard
2. Describe methods of communication of COB event to the crew
3. Describe tactics for noting COB locations to assist with returning to location of event
4. Describe methods for quickly maneuvering the watercraft back to the COB location

Requisite Skills

1. Note location of COB event using traditional or electronic methods
2. Maneuver the vessel to return to the COB location
3. Approach the target area to recover the subject

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-6	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 28
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-6	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 26
PRWC Rescue Technician (2021) • Topic 6-6	N/A	PRWC Rescue Technician (2021) • JPR 28

Draft

3-8: Operating a Watercraft to Deploy and Recover In-Water Rescuers

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.3.8

Job Performance Requirement

Operate a watercraft to deploy and recover in-water rescuers, given a watercraft available to the agency, in-water rescuers, and watercraft crewmember(s), so that the watercraft is not broached, control of the watercraft is maintained so that the rescuers are deployed and recovered at the designated location and are protected from injury.

Requisite Knowledge

1. Describe watercraft specific procedures for deploying and recovering rescuers, including methods for avoiding contact with propulsion elements of the watercraft and uncontrolled falls or potential for entanglement on entry or exit.

Requisite Skills

1. Maneuver and control a watercraft
2. Manage the operation of propulsion systems and other mechanical elements of the watercraft
3. Coordinate vessel movement and location so the rescuers are deployed and recovered at the desired location

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Motorized Watercraft Rescue Technician (2021) • Skill 40, 41, 45, 46, 47, 49, 50	Motorized Watercraft Rescue Technician (2021) • JPR 27, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Non-Motorized Watercraft Rescue Technician (2021) • Skill 35, 36, 38, 39, 40, 42, 43	Non-Motorized Watercraft Rescue Technician (2021) • JPR 25, 28
PRWC Rescue Technician (2021) • Topic 6-5	PRWC Rescue Technician (2021) • Skill 46, 48, 49, 50	PRWC Rescue Technician (2021) • JPR 27, 30

Draft

3-9: Operating a Watercraft to Rescue an Incapacitated Water Bound Victim

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.3.9

Job Performance Requirement

Operate a watercraft to perform a rescue of an incapacitated water bound victim, given a watercraft that is available to the team, a water rescue tool cache, watercraft crew member(s), a means of securement, and water rescue PPE, so that the watercraft is not broached; control of the watercraft is maintained; risks to the victim and rescuers are minimized; and the victim is removed from the hazard.

Requisite Knowledge

1. Describe watercraft-specific procedures for recovering victims, including methods for approach, avoiding contact with propulsion elements of the watercraft
2. Describe communication methods with the crew

Requisite Skills

1. Maneuver watercraft while approaching water-bound victim
2. Manage the operation of propulsion systems and other mechanical elements of the watercraft
3. Coordinate vessel movement and location so the victim is recovered at the desired location

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies do not have specific tower rescue tool kits; they assemble tools as needed from their general tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Motorized Watercraft Rescue Technician (2021) • Skill 48	Motorized Watercraft Rescue Technician (2021) • JPR 27, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-5	Non-Motorized Watercraft Rescue Technician (2021) • Skill 41	Non-Motorized Watercraft Rescue Technician (2021) • JPR 25, 28
PRWC Rescue Technician (2021) • Topic 6-5	PRWC Rescue Technician (2021) • Skill 47	PRWC Rescue Technician (2021) • JPR 27, 30

Draft

3-10: Operating a Watercraft with Another Watercraft Under Tow

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 22.3.10

Job Performance Requirement

Operate a watercraft with another watercraft under tow, given a watercraft available to the agency and watercraft crewmember(s), so that the relative size of both watercraft are considered; neither vessel is broached; wind, weather, and water conditions are accounted for; lines are connected between the vessels; maneuverability and control are maintained; and the watercraft is protected from damage.

Requisite Knowledge

1. Describe watercraft-specific procedures for taking a vehicle under tow
2. Describe watercraft handling dynamics while towing
3. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both vessels
4. Describe limitations on size and weight of vessel being towed

Requisite Skills

1. Control movement and direction of the watercraft and the watercraft under tow
2. Monitor position and condition of vessel under tow
3. Communicate with watercraft operator to maneuver the watercraft

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 6-7	Motorized Watercraft Rescue Technician (2021) • Skill 51	Motorized Watercraft Rescue Technician (2021) • JPR 29, 30
Non-Motorized Watercraft Rescue Technician (2021) • Topic 6-7	Non-Motorized Watercraft Rescue Technician (2021) • Skill 44	Non-Motorized Watercraft Rescue Technician (2021) • JPR 27, 28
PRWC Rescue Technician (2021) • Topic 6-7	N/A	PRWC Rescue Technician (2021) • JPR 29, 30

Draft

3-11: Operating Ancillary Navigation and Electronic Systems

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.3.11

Job Performance Requirement

Operate ancillary navigation and electronic systems, given a watercraft available to the agency, so that the objective is achieved and the desired information is obtained.

Requisite Knowledge

1. Describe watercraft and agency-specific procedures for the use of radar, plotters, and visual aids

Requisite Skills

1. Operate equipment specific to the watercraft and the agency such as radar, plotters, and forward-looking infrared radar (FLIR).

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 3-2	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 7
Non-Motorized Watercraft Rescue Technician (2021) • Topic 3-2	N/A	Non-Motorized Watercraft Rescue Technician (2021) • JPR 7
PRWC Rescue Technician (2021) • Topic 3-2	N/A	PRWC Rescue Technician (2021) • JPR 7

Draft

3-12: Shutting Down a Watercraft

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 22.3.12

Job Performance Requirement

Shut down a watercraft, given a watercraft available to the agency, so that post-shutdown checks are conducted, and the craft is secured and protected from damage and tampering.

Requisite Knowledge

1. Describe agency-specific procedures for watercraft operations
2. Describe shutdown procedures for propulsion and ancillary systems
3. Describe methods of securing craft from unwanted movement, theft, and vandalism
4. Describe connecting and ensuring shore systems are operational

Requisite Skills

1. Tie knots, bends, and hitches required to moor or secure craft for long-term storage
2. Use conveyances such as trailers, davits, or jet docks that the agency might use for storing or securing the craft
3. Activate or operate systems that control or maintain the environment inside the craft, such as climate control and bilge monitoring systems
4. Connect and verify operation of shore support systems such as AC power

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Motorized Watercraft Rescue Technician (2021) • Topic 4-6	N/A	Motorized Watercraft Rescue Technician (2021) • JPR 14
Non-Motorized Watercraft Rescue Technician (2021) • Topic 4-4	Non-Motorized Watercraft Rescue Technician (2021) • Skill 17, 18	Non-Motorized Watercraft Rescue Technician (2021) • JPR 12, 28
PRWC Rescue Technician (2021) • Topic 4-6	N/A	PRWC Rescue Technician (2021) • JPR 14

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Motorized Watercraft Rescue Technician (2021)

Course Plan

Course Details

Description: This course provides the knowledge and skills to prepare an emergency responder to conduct rescue operations using a motorized watercraft in a safe and effective manner in accordance with AHJ policies and procedures. Topics include PPE; hydrology; incident management; self-rescue and survival swimming skills; communication; navigation; assembling and configuring watercraft; maintenance; trailering; hazard mitigation; launching, docking, operating, anchoring, and recovering watercraft; victim search and rescue; crew overboard events; and towing. This course incorporates awareness, operations, and technician training based on NFPA 1006 (2021).

Designed For: Public safety members with river and flood rescue responsibilities.

Prerequisites: Water Rescue Technician (2021) (SFT) **or** River and Flood Rescue Technician (2017) (SFT)

California Safe Boaters Safety Course (CBT – CA Boating and Waterways)

Urban Search and Rescue Boat Operator (CBT – FEMA)

Standard: Attend and participate in all course sections

Successful completion of all skills identified on the Training Record

Hours: 40 hours

(13.5 lecture / 26.5 application)

Max Class Size: 24

Instructor Level: SFT Registered Motorized Watercraft Rescue Technician Instructor

Instructor/Student Ratio: 1:24 (lecture)

1:8 (application)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Registered Motorized Watercraft Rescue Technician Instructors.

SFT recommends that students complete the requirements of their AHJ's swim test prior to course participation.

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SFT Designation: FSTEP

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Required Resources

Instructor Resources

To teach this course, instructors need:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (current edition)
- NFPA 2500: Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services (current edition)
- FIRECOPE ICS 162 Technical Search and Rescue Incident Operational System Description
- ICS 420-1 – Field Operations Guide (FEMA, current edition)
- Emergency Response Guidebook (DOT, current edition)
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

Recommended resources:

- *Water Rescue: Principles and Practice to NFPA 1006 and 1670: Surface, Swiftwater, Dive, Ice, Surf, and Flood* (Treinish, Steve; Jones & Bartlett; 3rd edition, 2021)
- *Swiftwater Rescue* (Slim Ray; CFS Press; expanded edition, 2013)
- *River Rescue: A Manual for Whitewater Safety* (Bechdel, Ray, & AtLee; CFS Press, 4th edition, 2009)
- *The Complete Whitewater Rafter* (Bennett, Jeff; International Marine/Ragged Mountain Press; 1st edition, 1996)

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/fire-service-training-and-education-program

- None

Student Resources

To participate in this course, students need:

- Any textbook required by the instructor
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

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

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    - Markers, erasers
    - Amplification devices
    - Projector and screen
    - Laptop or tablet with presentation or other viewing software
    - Internet access with appropriate broadband capabilities
- A Motorized Watercraft Rescue Technician training site with the NFPA 1006 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 curriculum
    - Minimum requirement is a waterway with Class 2 water features

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this Watercraft Rescue Technician course.

- The equipment listed below is the minimum for the delivery of this course.
- The student is responsible for providing their PPE and ensuring that all PPE meets AHJ and site requirements.
- For all tools and equipment, ensure that you have the power source, operating supplies (blades, fuel, etc.), cleaning supplies, and appropriate PPE.

The following equipment is required to deliver this course:

Quantity Per 4-student Boat Team	Equipment
1	Inflatable rescue boat (IRB) (one boat per four students maximum)
1	Outboard motor with prop guards for IRB (25hp minimum to 40hp maximum 40hp with fuel cells and fuel lines)
4	Paddles
1	Tow bridle (bow)
1	Tow bridle (stern)
Determined by AHJ	Flip lines
2	Throw bags
1	Waterproof hand light
1	VHF portable marine radio
1 of each color	Navigation lights (red, green, white – snap light or battery)
Determined by scenario	Straps to secure equipment to boats
Determined by scenario	Equipment bags to secure equipment to boats
Per Course	**Cache List**
1	Backboard (floating – recommended)
1	BLS/First-Aid kit (per AHJ)
1	Jon boat

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1	Outboard motor for Jon boat (15hp minimum to 30 hp maximum)
8	Buoys (minimum – with adequate line and anchors for water depth)
Per Course	**Optional**
Determined by scenario	IRB (in case of damage during class)
Determined by scenario	Outboard motor (in case of damage during class)
Determined by scenario	Water rescue manikins
Determined by scenario	Compasses
Determined by scenario	GPS units
Determined by scenario	Rescue tubes/cans

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 Watercraft Rescue Technician class.

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Motorized Watercraft Rescue Technician (2021) Instructor.

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Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Unit 1 Totals	**0.5**	**0.0**	**0.5**
Unit 2: Water Rescue Review			
Topic 2-1: Selecting and Using Personal Protective Equipment	0.25	0.50	
Topic 2-2: Describing Dynamic Hydrology and Identifying Travel Paths	0.50	0.0	
Topic 2-3: Managing a Water Rescue Incident	0.50	2.5	
Topic 2-4: Performing Self-Rescue and Survival Swimming Skills	0.50	1.25	
Unit 2 Totals	**1.75**	**4.25**	**6.0**
Unit 3: Communications and Navigation			
Topic 3-1: Communicating Between Watercraft and Rescuers	0.25	0.25	
Topic 3-2: Interpreting Navigational Aids and Devices	0.25	0.0	
Topic 3-3: Plotting a Course	0.25	0.75	
Unit 3 Totals	**0.75**	**1.0**	**1.75**
Unit 4: Watercraft Components and Terminology			
Topic 4-1: Identifying Types of Watercraft	0.50	0.25	
Topic 4-2: Assembling and Configuring Watercraft	0.75	1.0	
Topic 4-3: Performing Motor Maintenance	1.0	2.0	
Topic 4-4: Trailering a Watercraft	0.25	1.0	
Topic 4-5: Conducting Watercraft Pre- and Post-Operational Checks	1.0	2.0	
Topic 4-6: Shutting Down a Watercraft	1.0	0.0	
Unit 4 Totals	**4.5**	**6.25**	**10.75**
Unit 5: Initial Incident Actions			
Topic 5-1: Sizing Up a Watercraft Rescue Incident	0.50	0.50	
Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures	0.25	0.50	
Topic 5-3: Identifying When to Contact Local and Federal Authorities	0.25	0.0	
Topic 5-4: Recognizing the Need for Technical Rescue Resources	0.25	0.0	
Topic 5-5: Initiating a Discipline-Specific Search	0.50	2.0	

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Segment	Lecture	Application	Unit Total
Topic 5-6: Supporting an Operations- or Technician-level Incident	0.25	1.0	
Topic 5-7: Performing Ground Support Operations for Helicopter Activities	0.25	0.0	
Topic 5-8: Terminating an Incident	0.25	0.50	
Unit 5 Totals	**2.5**	**4.5**	**7.0**
Unit 6: Motorized Watercraft Operations			
Topic 6-1: Establishing Motorized Watercraft Stability	0.50	0.0	
Topic 6-2: Launching, Docking, and Recovering a Motorized Watercraft	0.50	2.0	
Topic 6-3: Operating a Motorized Watercraft	1.0	4.5	
Topic 6-4: Anchoring a Motorized Watercraft	0.50	0.50	
Topic 6-5: Performing Motorized Watercraft-Based Victim Rescue	0.50	2.5	
Topic 6-6: Operating at a Crew Overboard Event	0.25	0.0	
Topic 6-7: Towing a Rescue Watercraft	0.25	1.0	
Unit 6 Totals	**3.5**	**10.5**	**14.0**
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	0.0	0.0
Course Totals	**13.5**	**26.5**	**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 identified in the Course Details section.

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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.

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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.

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Unit 2: Water Rescue Review

Topic 2-1: Selecting and Using Personal Protective Equipment

Terminal Learning Objective

Select and use hazard-specific PPE, given a watercraft rescue incident/scenario, PPE, including personal flotation devices (PFDs), helmets, and exposure garments that are consistent with the needs of the incident and type of watercraft, so that PPE is used in accordance with AHJ policies relative to the specific incident/scenario; the wearer is protected from the effects of accidental immersion, exposure to the elements, and injury from unanticipated movement of the watercraft; PPE emergency escape procedures are followed; and distress signals are communicated.

Enabling Learning Objectives

1. Describe hazards present on and near water and aboard watercraft used by AHJ (including those presented by weather, current, water conditions) and their capacities
2. Describe types and uses of and selection criteria for PPE
   - Personal flotation device (PFD)
     - Type III (USCG)
     - Type V (USCG)
   - Dry suit/wetsuit
   - Thermal protection
   - Helmet
   - Gloves
   - Close-toed footwear
   - Whistle (pealess)
   - Knife
   - Headlamp
   - Strobe light
3. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices
4. Identify manufacturer's recommendations for PPE
5. Describe pre-operational checklists for PPE
6. Describe how to don and doff PPE
   - AHJ protocols for equipment positioning
7. Describe distress signals
8. Describe personal escape techniques
   - Applications
   - Capabilities
   - Equipment and procedures for signaling distress
9. Describe how to care for and maintain PPE
10. Inspect PPE
11. Use pre-operation checklists

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12. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment
13. Locate, identify, don, and doff PPE (including water rescue helmets and water insulating garments)
14. Communicate distress signals
15. Use emergency escape procedures

Discussion Questions

1. What types of PPE are appropriate for different water environments?
2. How do you care for and maintain PPE?
3. What is the most important piece of PPE for motorized watercraft rescue operations?

Application

1. Inspect PPE
2. Locate, identify, don, and doff PPE

Instructor Notes

1. ELO 1 is covered in much more detail in Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures. The goal here is to tie PPE use to hazards that rescuers may encounter.

CTS Guide: CTS 1-3, CTS 2-7

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Topic 2-2: Describing Dynamic Hydrology and Identifying Travel Paths

Terminal Learning Objective

At the end of this topic a student, given a dynamic water environment, will be able to describe dynamic hydrology as it relates to rivers, channels, and floods so that hydrology impacts are avoided or mitigated during water rescue operations.

Enabling Learning Objectives

1. Describe the forces of dynamic water
2. Describe how to calculate current speed
3. Describe how to calculate water volume (cubic feet of water per second) in a river/channel
4. Describe river orientation and where to place personnel
    - Upstream
    - Downstream
    - River right
    - River left
5. Describe features created by moving water and how they impact water rescue operations
    - Laminar flow
    - Helical flow
    - Eddies
    - Eddy lines
    - Strainers/sieves
        - Natural
        - Manmade
    - Pillows
    - Hole/hydraulic
        - Smiling (closed)
        - Frowning (open)
    - Standing waves (haystacks)
    - Aerated water
    - Current vectors
    - Manmade features
        - Low-head dams
        - Drainage culverts
            - Trapezoid
            - Rectangle
        - Hydroelectric facilities
6. Identify areas and features that are safe zones in dynamic water environments
7. Identify river classifications
    - Class 1 through 6
    - Change based on conditions
8. Describe effects of hydrodynamic forces on watercraft, rescuers, and victims

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9. Describe criteria for selecting victim retrieval locations based on water environment and conditions
10. Describe techniques used to navigate dynamic water and identify travel paths and hazards

Discussion Questions

1. How does cubic feet per second (cfs) impact water hydrology?
2. How do water speed and volume impact watercraft rescue operations?
3. Where are safe zones typically found in dynamic water?

Application

1. Determined by instructor

Instructor Notes

1. For any topic taught in a classroom, supplement with images and videos as visual aids.

CTS Guide Reference: CTS 1-9

Draft

Topic 2-3: Managing a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given water rescue scenarios and AHJ policies, procedures, and standards, will be able to manage a water rescue incident in accordance with local, state, and federal standards, policies, and procedures.

Enabling Learning Objectives

1. Describe water rescue scope of practice and standards
    - NFPA 1006 (current edition)
        - Surface water
        - Swiftwater
        - Floodwater
    - NFPA 2500 (current edition)
    - FIRESCOPE 162, Chapter 12 (current edition)
    - AHJ policies, procedures, and standards
2. Describe policies/procedures for rescue team activation
    - Local
    - State
    - Federal
3. Describe legal considerations and practices
    - Training and certification requirements
    - Negligence
    - Abandonment
4. Describe the discipline-specific components of the Incident Command System
    - Upstream spotter
    - Downstream safety
    - Rigging team (if needed)
    - Rescue team lead
    - Rescuer/rescue team
    - Receiving team
5. Describe rescue priorities
    - Low risk to high risk
        - Talk
        - Reach
        - Throw
        - Boat (row)
        - Swim (go)
        - Tethered swimmer (tow)
        - Helicopter (helo)
    - Rescue vs. recovery
    - Incident within an incident
    - Safety priorities
        - Rescuer (self)

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    - Rescue team
    - Victim(s)
6. Describe how to recognize the need for technical rescue resources
    - Identify need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Questions

1. What type of waterways are present in your AHJ?
2. What type of water rescue incidents are common to your AHJ?
3. What are your legal responsibilities regarding water rescue?
4. What are some key water rescue ICS positions?

Application

1. Manage a simulated rescue incident from initiation through demobilization and termination

Instructor Notes

1. Refer students to the course's training action plan (TAP) throughout the course.
2. Refer to FIRSCOPE ICS 162.

CTS Guide Reference: CTS 2-19

Draft

Topic 2-4: Performing Self-Rescue and Survival Swimming Skills

Terminal Learning Objective

At the end of this topic a student, given a variety of water environments, will be able to perform self-rescue and survival swimming skills so that flotation is maintained, body heat is conserved, and egress is accomplished.

Enabling Learning Objectives

1. Describe effects of hypothermia and cold-water immersion
2. Describe crew and passenger accountability
3. Describe survival scenarios and skills
    - Crew overboard
    - Dewatering emergency
    - Contact with watercraft propulsion elements
    - Uncontrolled falls
    - Entanglement
    - Hypothermia
    - Individual day and night emergency signaling requirements
4. Assess hydrology and hazards of environment prior to entering water
5. Identify travel paths and hazards
6. Float and move through water to reach a point of egress or await rescue while conserving body heat

Discussion Questions

1. What safety concerns must be identified prior to getting in the water?
2. How can currents help or hinder a swimmer's efforts?

Application

1. Perform self-rescue and survival swimming skills

Instructor Notes

1. Familiarize yourself with the environment and its hazards before putting students in the water.

CTS Guide Reference: CTS 2-6

Draft

Unit 3: Communications and Navigation

Topic 3-1: Communicating Between Watercraft and Rescuers

Terminal Learning Objective

At the end of this topic a student, given communication tools and equipment, will be able to communicate between the watercraft and other rescuers in the water, on the shore, in other watercraft, and in aircraft so that routine mission-related information and emergency messages are communicated to the intended recipient.

Enabling Learning Objectives

1. Describe methods of communication available to rescuer
    - Hand signals
    - Whistle commands
    - Flares
    - Emergency position-indicating radio beacon (EPIRB)
    - Personnel-locating beacon (PLB)
    - Radios
        - Marine band
            - Channel 16
        - AHJ-specific
2. Describe equipment limitations based on weather conditions, visibility, and distance from intended recipient
3. Describe communication procedures specific to USCG
    - Pan-pan
    - Sécurité
    - Mayday
4. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information

Discussion Questions

1. What type of radios do you use during watercraft rescue?
2. What common radio frequencies do you use in your AHJ?
3. What are the differences between pan-pan, sécurité, and mayday?

Application

1. Communicate using verbal commands
2. Communicate using hand signals
3. Communicate using whistle blasts
4. Communicate using radios

Instructor Notes

1. None

CTS Guide Reference: CTS 2-3

Draft

Topic 3-2: Interpreting Navigational Aids and Devices

Terminal Learning Objective

At the end of this topic a student, given marine lights, structures, and markings on land, other vessels, or on the water, will be able to interpret navigational aids and devices so that nautical landmarks and other vessels are identified, intended course is selected, and collisions are avoided.

Enabling Learning Objectives

1. Describe navigation rules and regulations that govern vessel operation in navigable waters
    - Applicable regions and waterways
    - Governing bodies
        - USCG
        - CA Department of Boating and Waterways
            - California Harbors and Navigation Code
    - Enforcement agencies
2. Describe how to use physical and app-based navigation devices
    - Compass
    - Chart plotters
    - GPS
    - Nav lights
    - Radar
    - Forward-looking infrared radar (FLIR)
3. Identify types of visual aids and navigation markers
    - Buoys
    - Signs
    - Markers
4. Describe how to interpret visual aids and navigation markers
    - Shapes, numbers, and colors
    - Location
    - Meaning
5. Describe how to use navigational aids to:
    - Maneuver into and out of protected channels
    - Identify hazards
6. Describe how to determine right of way for various types of vessels
    - Navigation rules and regulations that govern vessel operation in navigable waters
7. Describe how directional aids assist in navigation and determining right of way
8. Interpret markers, lights, and signals to determine a course that will avoid other vessels

Discussion Questions

1. What devices does your AHJ use for watercraft navigation?
2. What are common navigation markers in your service area?
3. How is right of way on navigable waterways determined in the United States?
4. How do you determine right of way for various types of vessels?

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Application

1. Determined by instructor

Instructor Notes

1. If using a GPS, ensure all students are using the same format and datum.

CTS Guide Reference: CTS 2-5, CTS 3-11

Draft

Topic 3-3: Plotting a Course

Terminal Learning Objective

At the end of this topic a student, given navigational tools and charts, will be able to plot a course so that that heading, speed, and course are determined and wind, weather, current, and water conditions are taken into account.

Enabling Learning Objectives

1. Describe how to operate conventional and electronic navigation tools used by the agency
2. Describe how to plot a course
   - Identify start and end points
   - Identify obstacles
   - Identify heading and distance
3. Determine location, heading, and speed to achieve the desired outcome

Discussion Question

1. Determined by instructor

Application

1. Plot a course
2. Select heading and speed to follow an intended course

Instructor Notes

1. None

CTS Guide Reference: CTS 3-3

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Unit 4: Watercraft Components and Terminology

Topic 4-1: Identifying Types of Watercraft

Terminal Learning Objective

At the end of this topic a student, given a list of watercraft used by the organization, will be able to identify types of watercraft so that their limitations, capabilities, load ratings, performance criteria, and considerations for their deployment and recovery in the intended environment are identified.

Enabling Learning Objectives

1. Identify types of watercraft used by organization
   - Motorized
   - Non-motorized
   - Personal rescue watercraft
2. Identify hull design and watercraft components
   - Bow, stern, port, and starboard
   - Gunwale tubes and valves, as applicable
   - Transom
   - Drain plugs or scuppers
   - Hydrodynamics
3. Identify propulsion (motor) components
   - Kill switch with lanyard
   - Motor latches
   - Fuel lines
   - Fuel tanks
   - Prop guards
   - Warning systems
4. Describe factors that help determine watercraft selection and use
   - Capacity plate
     - Max allowable weight on vessel (people, motor, and gear)
     - Max allowable persons on vessel
     - Max allowable horsepower
   - Qualities and attributes of each craft
     - Draft
     - Size
     - Weight
     - Deployment method
   - Intended environment
     - Wind
     - Current
     - Weather conditions
   - Capabilities and limitations
   - Mission scope and tactical objectives

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5. Describe common types of rescue watercraft
    - Inflatable rescue boat (IRB) (motorized)
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, drain plug, scuppers, etc.)
        - Attachments (flip lines, painter/bow line, drift sock, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Rigid boat (motorized)
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, etc.)
        - Attachments (painter/bow line, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Raft (non-motorized)
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, thwarts, etc.)
        - Attachments (oar frame, flip lines, painter/bow line, drift sock, etc.)
        - Maintenance and repair
        - Operational safety
    - Personal rescue watercraft (PWRC)
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, motor, etc.)
        - Attachments (tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
6. Identify watercraft characteristics that affect its selection for use in a specific environment for a specific mission
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- Sail area
- Propulsion methods
- Size
- Weight
- Deployment method
- Configuration

Discussion Questions

1. What type of rescue watercraft are available in your AHJ?
2. How would you determine which boat to use for a rescue?
3. What are the differences between motorized inflatable rescue boats and jon boats?

Application

1. Given scenarios (videos or images), have students determine which type of watercraft to use and why.

Instructor Notes

1. Cover all three watercraft types (motorized, non-motorized, PRWC) at a high level. Cover the type specific to the course in detail.

CTS Guide Reference: CTS 2-1

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Topic 4-2: Assembling and Configuring Watercraft

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to configure a watercraft so that the location of access and egress points, propulsion system components, steering controls, communication equipment, emergency equipment, through hull and deck fittings, portals, and fittings necessary for water- and weathertight integrity are located.

Enabling Learning Objectives

1. Describe how to assemble a watercraft
    - IRB/MIRB
        - Inflation
            - Manual
            - Mechanical
            - PSI
            - Pressure relief valves
            - Interconnecting valves
            - Environmental impact on inflation
        - Flooring
        - Motor mount
            - Transom brackets
            - Transom bolts
        - Fuel system (tank and lines)
        - Accessories (batteries, gear, etc.)
    - Jon boat
        - Motor mount
        - Fuel system
        - Accessories
    - Personal rescue watercraft
        - Accessories
2. Describe watercraft equipment and components and where to place it in the vessel
    - Paddles
    - Towing bridles
    - Compass
    - Righting line
    - Bow or painter line
    - Handheld lights
    - Anchor
    - Patch kit
    - Wheel kits
    - Rigging
3. Describe rescue equipment to carry on watercraft
    - Throw bag
    - Rescue tube or can

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- Portable radio
- GPS
- Spare personal flotation devices (PFDs) for victims
- Knife
- First Aid/EMS
    - Waterproof container
    - Space blanket
- Helmets

4. Describe location of emergency equipment and how to operate and deploy it
    - Signaling devices
    - Fire extinguishers
    - Distress beacons
    - Life rafts
    - PFDs
    - Exposure suits
5. Describe how to configure a watercraft
6. Identify fittings, portals, and other equipment

Discussion Questions

1. What are the differences between boat equipment and rescue equipment?
2. What rescue equipment do boats in your AHJ carry?
3. What steps do you take to keep your equipment dry?
4. What are the pros and cons of fuel tank placement?

Application

1. Assemble an inflatable rescue boat (IRB)
2. Configure a motorized watercraft to meet a mission objective

Instructor Notes

1. Refer to FIRESCOPE ICS 162.
2. Cover all three watercraft types (motorized, non-motorized, PRWC) at a high level. Cover the type specific to the course in detail.

CTS Guide Reference: CTS 2-2, CTS 2-16

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Topic 4-3: Performing Motor Maintenance

Terminal Learning Objective

At the end of this topic a student, given a motorized river and flood rescue boat, will perform motor maintenance to ensure operational readiness.

Enabling Learning Objectives

1. Describe how water conditions impact motors
   - Salt
   - pH level
   - Turbidity
   - Harmful organisms
2. Identify equipment needed to perform motor maintenance
   - Tools
   - Reference materials
   - Fluids and replacement parts
   - Diagnostics equipment
3. Describe maintenance requirements for general use
   - New motor break in
   - Pre- and post-operation
   - Monthly
   - Annual
4. Describe how to service an outboard motor
   - Inspect fuel line and connectors
   - Check oil level
   - Spark plug inspection and indexing
   - Inspect propeller, castle nut, and pin
   - Inspect propeller guard (as applicable)
   - Use impeller intake flush device
   - Use bypass flush connection
   - Use fuel additives and nonethanol fuel diagnostics equipment
5. Identify equipment needed to dewater an outboard motor
   - Tools
   - Diagnostic equipment
   - Replacement parts
6. Describe how to dewater an outboard motor
   - Remove spark plugs noting index
   - Run diagnostics
   - Extract water per manufacturer specifications
   - Apply water-displacing lubricant to spark plug cylinders
   - Apply anti-seize to spark plugs
   - Reassemble
   - Restart

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Discussion Questions

1. What are your AHJ's motor maintenance requirements?
2. What are the manufacturer's motor maintenance requirements for your motors?

Application

1. Perform pre- and post-op motor maintenance
2. Dewater a motor

Instructor Notes

1. All maintenance must comply with manufacture recommendations.

CTS Guide Reference: CTS 2-20

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Topic 4-4: Trailering a Watercraft

Terminal Learning Objective

At the end of the topic a student, given a watercraft, tow vehicle, and trailer, will be able to trailer a watercraft so that watercraft is secure and ready for transport.

Enabling Learning Objectives

1. Identify trailers components
   - Hitch types and sizes
   - Electrical connection
   - Tires, wheels, and hubs
   - Winch
   - Bunks and rollers
   - Tie downs
2. Describe safety considerations associated with trailering operations
   - Pre-trip inspection and set up
     - Connect and secure trailer and lights
     - Check tires, wheels, and hubs
     - Check bunks and rollers
     - Check winch
     - Secure watercraft and all equipment
   - Backers
   - Transit
   - Travel speed
3. Describe how to back up a trailered watercraft
4. Describe trailer positioning
   - Launch
   - Recovery
   - Boat ramp etiquette
5. Describe considerations for unimproved launches
6. Conduct a pre-trip trailer inspection
7. Load and secure a watercraft on a trailer
8. Launch a watercraft from a trailer
9. Recover a watercraft onto a trailer

Discussion Questions

1. What are your AHJ's trailering policies?
2. What risks are involved with watercraft trailering and launching?

Application

1. Conduct a pre-trip trailer inspection
2. Load and secure a motorized watercraft on a trailer
3. Launch a motorized watercraft from a trailer
4. Recover a motorized watercraft onto a trailer

Instructor Notes

1. None

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CTS Guide Reference: CTS 2-21

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Topic 4-5: Conducting Watercraft Pre- and Post-Operational Checks

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to conduct watercraft pre- and post-operational checks so that operational checks are performed, systems are energized, propulsion systems are started, functional checks are conducted, and the watercraft is ready to be deployed or returned to ready state.

Enabling Learning Objectives

1. Describe watercraft system operational procedures and readiness checks
    - Look for damage, leaks, broken or missing parts
    - Complete prior to and after operating the watercraft
2. Identify components to inspect
    - Watercraft structure
        - Proper inflation
        - Valves
        - Seams
        - Drain plugs and scuppers
        - Attachment points
    - Electrical systems
        - Ignition
        - Navigation systems
        - Lights
            - Navigational
            - Accessory
        - Auxiliary
    - Motor
        - Motor lanyard
        - Transom bolts
        - Oil level
        - Oil leaks
        - Hose connections
        - Fasteners
        - Fuel leaks
        - Lower end
            - Bell housing
            - Skeg
            - Gear case oil leaks
            - Intake grate (free of debris)
        - Prop and prop guard
            - Castle nut, cotter pin
        - Tiller arm and shifter
            - Kill switch lanyard
        - Motor lock mechanism
        - Fuel level

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    - Fuel line/connections
  - Accessories
    - Rigging
    - Equipment
3. Check proper fluid levels, charges, connections, and lubrication of systems and connections

Discussion Questions

1. What are your agency's preventative maintenance service schedules?

Application

1. Conduct a pre-operation check
2. Conduct a post-operation check

Instructor Notes

1. Students will perform pre- and post-operational checks each day. Evaluation for the Training Record can occur during those daily routines.
2. Ensure that proper cooling systems are in place for all motor operations (in and out of water).

CTS Guide Reference: CTS 3-1

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Topic 4-6: Shutting Down a Watercraft

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to shut down a watercraft so that post-shutdown checks are conducted, and the craft is secured and protected from damage and tampering.

Enabling Learning Objectives

1. Describe AHJ procedures for watercraft shutdown operations
2. Describe how to shut down a watercraft
    - Shut down propulsion and ancillary systems
    - Secure watercraft from unwanted movement, theft, and vandalism
        - Tie knots, bends, and hitches required to moor or secure craft for long-term storage
    - Connect and verify operation of shore support systems (AC power, etc.)
    - Activate or operate systems that control or maintain watercraft environment (climate control, bilge monitoring systems, etc.)
    - Use conveyances such as trailers, davits, or jet docks for storing or securing watercraft

Discussion Question

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 3-12

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Unit 5: Initial Incident Actions

Topic 5-1: Sizing Up a Watercraft Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, background information and applicable reference materials, will be able to size up a watercraft rescue incident so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameters are identified, and information required to develop an initial incident action plan is obtained.

Enabling Learning Objectives

1. Describe how to conduct a size up
    - Determine scope of the rescue
    - Define operational mode
    - Determine resource availability, capability, and response times
    - Determine types of rescues
    - Identify number of victims
    - Establish place last seen (PLS) and time last seen (TLS) of all the victims
    - Evaluate environmental conditions that influence victim location
    - Identify and interview witnesses and reporting parties
    - Assess resource needs
    - Identify primary search parameters
    - Identify factors influencing access and egress routes
    - Identify water volume and velocity and technical features of search area
    - Obtain information required to develop an initial incident action plan
2. Describe types of reference materials and their uses
3. Describe how to conduct a risk/benefit assessment
4. Describe information-gathering techniques and how that information is used in the size-up process
5. Describe elements of an incident action plan and related information
6. Describe how size up relates to the incident management system
7. Describe basic search criteria for watercraft rescue incidents
8. Read technical rescue reference materials
9. Gather information
10. Evaluate site conditions
11. Relay information
12. Use interview techniques
13. Manage witnesses
14. Use information-gathering sources

Discussion Questions

1. Determined by instructor

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Application

1. Size up a motorized watercraft rescue incident

Instructor Notes

1. ELO 7 is covered in more detail in Topic 5-5: Initiating a Discipline-Specific Search. Cover content at an introductory level here.

CTS Guide Reference: CTS 1-5

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Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Terminal Learning Objective

At the end of this topic a student, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, will be able to recognize incident hazards and initiate isolation procedures 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 taken into account.

Enabling Learning Objectives

1. Describe hazards created by or associated with watercraft rescue, including risks to rescuers and victims
    - Water depth
    - Positive, neutral, and negative load hazards
    - Slips, falls, entrapment
    - Propulsion hazards (motors, propellors, paddles, etc.)
    - Ripping, wrapping, and flipping the watercraft
    - Non-locking carabiners
    - Rigging hazards
    - Environmental hazards
    - Chemical hazards
    - Biological hazards
    - Animals and insects
2. Describe resource capabilities and limitations
3. Describe equipment types and their use
4. Describe types of mitigation and isolation equipment and their use
    - Propellor guards
    - Kill switch
    - Proper PPE
    - First aid kit
    - Lighting
5. Describe operational requirement concerns
6. Describe types of technical references (apps)
7. Describe methods for controlling access to the scene
8. Initiate mitigation and isolation procedures
    - Identify incident hazards
    - Identify resource capabilities and limitations
    - Assess potential hazards to rescuers and bystanders
    - Place scene control barriers
    - Operate control and mitigation equipment

Discussion Questions

1. When assessing a waterway, what are the most dangerous hazards?
2. What hazards are associated with working on and around watercraft?

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Application

1. Conduct an incident hazard assessment and isolate hazards

Instructor Notes

1. None

CTS Guide Reference: CTS 1-6

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Topic 5-3: Identifying When to Contact Local and Federal Authorities

Terminal Learning Objective

At the end of this topic a student, given conditions that require their involvement, will be able to identify conditions that require the notification of local and federal authorities so that the proper agency is notified and relevant information is communicated.

Enabling Learning Objectives

1. Identify conditions that require notification of local and federal authorities
    - Conditions that require their involvement
    - Vessels in distress
    - Hazards to navigation
    - Release of hazardous or toxic substances
    - Changes to water flow
    - Dead victim
    - Conditions that affect health and safety of those in and around navigable waters
2. Identify organizations or authorities to contact
    - US Coast Guard
    - Law enforcement
    - Fish and Wildlife
    - Water control agencies
    - Utilities
    - Other
3. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies
4. Describe methods of notification
5. Describe required other actions
6. Perform methods of notification

Discussion Question

1. Under what circumstances would you need to communicate with local, state, or federal agencies or authorities?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-4

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Topic 5-4: Recognizing the Need for Technical Rescue Resources

Terminal Learning Objective

At the end of this topic a student, given AHJ guidelines, will be able to recognize the need for technical rescue resources at an operations- or technician-level incident so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Enabling Learning Objectives

1. Describe types of incidents common to the AHJ
2. Describe how to recognize the need for technical rescue resources
    - Identify need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Identify and evaluate various types of hazards within the AHJ
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Question

1. What technical rescue resources does your AHJ use for watercraft rescue?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-7

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Topic 5-5: Initiating a Discipline-Specific Search

Terminal Learning Objective

At the end of this topic a student, give hazard-specific PPE, equipment pertinent to the search mission, an incident location, and victim investigative information, will be able to initiate a discipline-specific search so that search parameters are established, the victim profile is established, the access and egress of all people either involved in the search or already within the search area are questioned and the information is updated and relayed to command; the personnel assignments match their expertise, all victims are located as quickly as possible, applicable technical rescue concerns are managed, risks to searchers are minimized, and all searchers are accounted for.

Enabling Learning Objectives

1. Describe AHJ policies and procedures
2. Identify required resources for performing a search
    - Day vs. night
3. Describe how data collection and map applications can assist with victim searches
4. Describe search fundamentals
    - Location, Access, Stabilize, Transport (LAST)
    - Place Last Seen (PLS)
    - Time Last Seen (TLS)
    - Probability of Detection (POD)
5. Describe witness management
6. Identify different tools used for searches
7. Describe general water search categories
    - Aquatic Wide Area Search
    - River Search
    - Flood Basin Search
8. Describe search types
    - Reconnaissance
    - Hasty (rapid)
    - Primary
    - Secondary
        - Low
        - High
9. Describe how to operate in the site-specific environment
10. Describe how to transfer victims to responders
    - On shore
    - On a vessel
    - On a high-profile vehicle
11. Perform reconnaissance, hasty (rapid), primary, and secondary searches
12. Communicate actions to a shore-based incident commander
13. Coordinate multivessel rescue activities
14. Enter, maneuver in, and exit the search environment
15. Provide for and perform self-escape and self-rescue

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Discussion Questions

1. What are the differences between types of searches?
2. What elements are required for an effective preplan?
3. What are specific safety considerations during incidents with multiple responding vessels?
4. What are specific safety considerations during night searches?
5. What are the most effective methods of communication between vessels?

Application

1. Perform reconnaissance, hasty (rapid), primary, and secondary searches
2. Perform a night search
3. Communicate search actions to a shore-based incident commander
4. Coordinate multivessel rescue activities
5. Enter, maneuver in, and exit the search environment
6. Provide for and perform self-escape and self-rescue

Instructor Notes

1. ELO 8: The search types are delineated in FIRESCOPE ICS 162.
2. Encourage students to use data collection and/or map applications during search drills.
3. At least one search during this class must be conducted at night.

CTS Guide Reference: CTS 2-1

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Topic 5-6: Supporting an Operations- or Technician-level Incident

Terminal Learning Objective

At the end of this topic a student, given an incident, an assignment, an incident action plan, and resources from the tool cache, will be able to support an operations- or technician-level incident, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Enabling Learning Objectives

1. Describe AHJ operational protocols
2. Describe resource selection and use
3. Describe scene support requirements
4. Describe support procedures
    - Search patterns
    - Equipment setup
    - Communications
    - Upstream or downstream safety spotter
    - Personnel accountability
    - Tend to an in-water rescuer
    - Scene control and access
    - Liaison with victim, family, bystanders, agency, etc.
5. Identify how to avoid becoming a hazard or victim
6. Execute basic support skills

Discussion Question

1. How can you support an operations- or technician-level incident?
2. In what ways can a rescuer become a hazard or victim?'

Application

1. Support an operations- or technician-level incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-8

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Topic 5-7: Performing Ground Support Operations for Helicopter Activities

Terminal Learning Objective

At the end of this topic a student, given a rescue scenario/incident, helicopter, operational plans, PPE, requisite equipment, and available specialized resources, will be able to perform ground support operations for helicopter activities so that rescue personnel are aware of the operational characteristics of the aircraft and demonstrate operational proficiency in establishing and securing landing zones and communicating with aircraft personnel until the assignment is complete.

Enabling Learning Objectives

1. Describe ground support operations relating to helicopter use and deployment
2. Describe operation plans for helicopter service activities
3. Describe type-specific PPE
4. Describe aircraft familiarization and hazard areas specific to helicopters
    - Aircraft personnel who provide instruction/authority
    - Proper way to approach and leave the area
    - Proper way to enter and exit aircraft
    - Working near/under rotor wash
    - Landing zone requirements
    - Crash survival principals
    - Ancillary aircraft rescue equipment
5. Describe scene control and landing zone requirements
6. Describe aircraft safety systems
7. Describe communication protocols
8. Provide ground support operations
9. Review standard operating procedures for helicopter operations
10. Use PPE
11. Establish and control landing zones
12. Communicate with aircrews

Discussion Question

1. What hazards are associated with working around watercraft and helicopters?

Application

1. Determined by instructor

Instructor Notes

1. SFT strongly recommends working with aircraft during the course when possible.

CTS Guide Reference: CTS 1-2

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Topic 5-8: Terminating an Incident

Terminal Learning Objective

At the end of this topic a student, given PPE specific to the incident, isolation barriers, and a tool cache, will be able to terminate an incident so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for; scene documentation is performed; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are conducted; and command is terminated.

Enabling Learning Objectives

1. Describe PPE characteristics
   - PPE requirements change in IDLH vs non-IDLH
   - Decontamination requirements
2. Identify hazard and risk identification
   - Reevaluate mitigated and ongoing hazards
   - Resources in transition
   - Complacency
   - Normalized deviance
   - Fatigue
3. Describe equipment/vessel removal procedures
   - When to leave in place
   - Systematic breakdown and removal
4. Describe isolation techniques
5. Identify statutory requirements
   - Determined by AHJ
6. Identify responsible parties
7. Describe accountability system use
   - PAR – personnel accountability report
8. Describe documentation and reporting methods
   - Determined by AHJ
9. Describe post-incident analysis techniques
   - Determined by AHJ
   - Critical incident stress debriefing
10. Select and use hazard-specific PPE
11. Decontaminate PPE
12. Use barrier protection techniques
13. Implement data collection and record-keeping/reporting protocols
14. Conduct post-incident analysis activities

Discussion Question

1. What hazards and risks can arise during incident termination?
2. Who are some examples of responsible parties that may assume responsibility for the scene when the incident terminates?

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3. What critical incident stress management resources are available to you?

Application

1. Terminate an incident

Instructor Notes

1. None

CTS Guide Reference: CTS 2-18

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Unit 6: Motorized Watercraft Operations

Topic 6-1: Establishing Motorized Watercraft Stability

Terminal Learning Objective

At the end of this topic a student, given a motorized watercraft used by the AHJ, will be able to maintain watercraft stability so that the stability of the craft is not compromised, the possibility of a fall is minimized, and the rescuer is protected from harm.

Enabling Learning Objectives

1. Describe elements that affect motorized watercraft stability
   - Mass
   - Center of gravity
   - Inflation and profile
   - Weight distribution
   - Impact loads
   - Current
   - Wind and water conditions
2. Describe how to board a motorized watercraft
3. Describe how to exit a motorized watercraft
4. Board and exit a motorized watercraft in a manner that prevents injury and minimizes impact on watercraft stability

Discussion Question

1. How does weight distribution affect stability for different types of motorized watercraft?
2. How do weather and water conditions impact motorized watercraft inflation and stability?

Application

1. Determined by instructor

Instructor Notes

1. Students will board and exit motorized watercraft as part of the course, but this is not a testable skill on the Training Record.

CTS Guide Reference: CTS 1-4

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Topic 6-2: Launching, Docking, and Recovering a Motorized Watercraft

Terminal Learning Objective

At the end of this topic a student, given a motorized watercraft, an operator, and watercraft crewmember(s), will be able to launch, dock, and recover a motorized watercraft from a pier, dock, slip, trailer, or other conveyance so that communication is maintained between operator and crew, current and wind are accounted for, mooring lines are rigged and managed, equipment is secured, damage to the dock, slips, and watercraft is prevented, and watercraft is positioned properly at the slip and secured from unintended movement.

Enabling Learning Objectives

1. Describe considerations for specialized tools or conveyances used to launch and recover motorized watercraft
   - Trailers
   - Jet docks
   - Davits
2. Describe how environmental conditions affect motorized watercraft movement
   - Environmental conditions
     - Wind
     - Weather
     - Water
     - Tide
     - Attitude
       - Positive (against dominant force)
       - Negative (with dominant force)
   - Watercraft location
     - Leaving the dock/slip
     - After deployment
     - Approaching the dock/slip
     - After being secured
3. Describe how motorized watercraft type impacts launch operations
   - Rigid
   - Inflatable
4. Describe how to launch a motorized watercraft as a bowman
   - Prevent damage and minimize undesired movement of watercraft
     - Rig lines (launch)
     - Rig fenders (dock)
     - Tie knots, bends, and hitches
     - Secure equipment
   - Predict direction and speed of vessel based on watercraft operators' actions
   - Position bow in positive attitude for launch and docking
   - Maneuver and position watercraft using lines or other external systems
5. Describe how launch a motorized watercraft as an operator
   - Maneuver and position watercraft
   - Predict direction and speed of departure based on conditions

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Discussion Questions

1. How do environmental conditions influence motorized watercraft launches?
2. What are the benefits of launching motorized watercraft in positive attitude?

Application

1. Launch a motorized watercraft in dynamic water
2. Dock a motorized watercraft in dynamic water
3. Recover a motorized watercraft from dynamic water

Instructor Notes

1. Students should practice launching, docking, and recovering in static water before launching, docking, and recovering in dynamic water for evaluation.

CTS Guide Reference: CTS 2-9, CTS 2-10, CTS 3-4, CTS 3-5

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Topic 6-3: Operating a Motorized Watercraft

Terminal Learning Objective

At the end of this topic a student, given a motorized watercraft, navigation tools, and a plotted course, will be able to operate a motorized watercraft so that the course is followed, obstacles and other vessels are avoided, wind and currents accounted for, awareness of position is maintained, and the destination is reached.

Enabling Learning Objectives

1. Describe crew positions
   - Operator
   - Bowman
   - Rescue swimmer(s)
2. Describe how to paddle and/or maneuver a motorized watercraft
3. Describe paddle commands and signals
   - Forward paddle
   - Back paddle
   - Left turn
   - Right turn
   - Stop
   - High side
   - Bump/brace
   - Pry stroke
   - Draw stroke
   - J stroke
4. Describe how to operate and manipulate a mechanized propulsion system
   - Shifter
     - Forward
     - Reverse
     - Neutral
   - Throttle
     - Speed control
     - Idle/start position
   - Start up
     - Lanyard
     - Battery switch
     - Water depth
     - Shifter in neutral
     - Throttle in idle/start position
     - Communication (“Clear”)
     - Coolant system (stream)
   - Tiller/steering
     - Range
     - Adjustments

Draft

- Motor trim
  - Manual
  - Hydraulic
- Motor locks
  - Up
  - Down

5. Describe basic motorized watercraft handling techniques
   - Orientation
     - Pitch
     - Camber
   - Posture
     - Planing
     - Plowing
     - Trolling
   - Control
     - Hovering
     - Backing
     - Ferrying
     - Pinning
   - Turns
     - Wide
     - J
     - Peel
     - Around objects
   - Approach
     - Stationary object
     - Person
   - Crew transfer while underway
6. Describe vessel-specific policies and procedures for operating a motorized watercraft
7. Describe effects of local water, wind, and weather conditions on motorized watercraft direction and speed
8. Describe how to mitigate safety issues and potential motorized watercraft-related emergencies
   - Slip and fall
   - Person(s) overboard
   - Structural failure (puncture, leak, etc.)
   - Loss of power
   - Flip
   - Collision
   - Wrap (around an object)
9. Describe how to enter a motorized watercraft from water
   - Self-rescue
   - Crew assist

Draft

10. Describe how to conduct dewatering operations
    - Purpose
        - Reduce or eliminate undesired water
        - Maintain vessel stability
        - Prevent watercraft damage
    - Watercraft-specific dewatering plan
    - Tools and equipment
        - Scuppers
        - Drains
        - Hand bilge pump
11. Right a flipped motorized watercraft
12. Paddle and/or maneuver a motorized watercraft
13. Use paddle commands and signals
14. Manipulate, start, and operate a motor
15. Perform motor-up operations
16. Approach a stationary object
17. Select heading and speed to follow an intended course
18. Operate onboard dewatering equipment

Discussion Questions

1. What are some methods for avoiding contact with the motorized watercraft's propulsion elements?
2. What are considerations for shallow-water operations?
3. What are considerations when in close proximity to other vessels, docks, piers, and bridges while avoiding associated hazards?
4. What would be an operational situation requiring the transfer of members or victims?

Application

1. Paddle and/or maneuver a motorized watercraft
2. Use paddle commands and signals
3. Manipulate, start, and operate a motor
4. Perform motor-up operations
5. Perform basic motorized watercraft handling techniques (wide turns, J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)
6. Unwrap a motorized watercraft from an obstacle (at least as a simulation)
7. Right a flipped IRB
8. Enter motorized watercraft from the water (self-rescue)
9. Enter motorized watercraft from the water (crew assist)
10. Dewater/drain a motorized watercraft
11. Paddle to a safe location after power loss

Instructor Notes

1. Students should practice operating in static water before operating in dynamic water for evaluation.

CTS Guide Reference: CTS 2-8, CTS 2-17, CTS 3-2

Draft

Topic 6-4: Anchoring a Motorized Watercraft

Terminal Learning Objective

At the end of this topic a student, given a motorized watercraft, an operator, watercraft crewmember(s), and anchoring equipment, will be able to anchor a motorized watercraft so that the anchor is deployed to prevent vessel movement; and anchor swing, weather, current and tide change are accounted for.

Enabling Learning Objectives

1. Identify techniques for setting anchor
   - Shore-based
   - Water-based
2. Describe requirements for anchor size, line length for the vessel, and weather conditions
3. Describe the effects of watercraft movement while at anchor
   - Dominant force
   - Changing water conditions
4. Set an anchor to minimize the potential for drag
5. Pay out anchor line to ensure proper scope is achieved for weather and tide changes

Discussion Question

1. What is your AHJ's anchor policy?
2. What complications can arise from setting an anchor in dynamic water?
3. What type of shore-based anchor does your AHJ use?

Application

1. Tie-off a motorized watercraft to a shore-based conveyance or object

Instructor Notes

1. None

CTS Guide Reference: CTS 2-11, CTS 3-6

Draft

Topic 6-5: Performing Motorized Watercraft-Based Victim Rescue

Terminal Learning Objective

At the end of this topic a student, given a motorized watercraft available to the agency, in-water rescuers, a watercraft operator, watercraft crewmember(s), a water rescue tool cache, a means of securement, and water rescue PPE, will be able to deploy and recover rescuers to perform motorized watercraft-based victim rescue so that rescuers are deployed and recovered at the designated location, the watercraft is not broached (flipped), control of the watercraft is maintained, risks to victim and rescuers are minimized; and rescuers and victim are removed from the hazard and protected from injury.

Enabling Learning Objectives

1. Describe how motorized watercraft type impacts rescuer deployment and victim rescue
   - Rigid
   - Inflatable
2. Describe how to rig or configure motorized watercraft components and equipment
   - Search equipment
   - Rescue equipment
   - Transport equipment
   - Body recovery equipment
3. Describe how conditions affect rescuer deployment and victim rescue operations
   - Hazards
   - Water conditions
   - Watercraft posture and attitude
4. Describe communication processes
   - Crew to crew
   - Crew to victim
     - Maintain visibility between operator and victim (to avoid injury)
     - Give clear direction to the victim about next steps
5. Describe safety consideration during motorized watercraft entry or exit
   - Contact with watercraft propulsion elements
   - Uncontrolled falls
   - Entanglement
6. Describe how to rescue a victim from dynamic water using a motorized watercraft
   - Coordinate watercraft movement and location (operator and bowman)
   - Maneuver and control watercraft (operator)
   - Capture and control victim on operator side (operator and bowman)
     - Apply flotation
   - “Tiller away” from victim and execute 360-degree peel turn (operator)
   - Pull victim into watercraft (bowman)
   - Complete peel turn in positive attitude (operator)
7. Describe how to rescue a victim from a fixed object using a motorized watercraft
   - Coordinate watercraft movement and location (operator and bowman)
   - Maneuver and control watercraft (operator and bowman)

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- Direct victim into watercraft (bowman/rescue swimmer)
- Maneuver and control watercraft away from object (operator)

8. Describe how to rescue a victim using a throw bag from a motorized watercraft
   - Coordinate watercraft movement and location (operator and bowman)
   - Maneuver and control watercraft (operator and bowman)
   - Set up throw bag and position in watercraft (rescue swimmer)
   - Communicate with in-water person:
     - Victim (rescue swimmer)
     - Rescue swimmer (bowman)
   - Deploy throw bags:
     - To solo victim (rescue swimmer)
     - To rescue swimmer (bowman)
   - Retrieve victim and/or rescuer swimmer with throw bags (rescue swimmer or bowman)
     - Rope management
     - Communications
   - Capture and control victim on operator side (operator and bowman)
     - Apply flotation
   - "Tiller away" from victim and execute 360-degree peel turn (operator)
   - Pull victim and/or rescuer into watercraft (bowman)
   - Complete peel turn in positive attitude (operator)
9. Describe how to deploy a rescue swimmer from a motorized watercraft
   - Coordinate watercraft movement and location (operator and bowman)
   - Maneuver and control watercraft (operator and bowman)
   - Deploy rescue swimmer (rescue swimmer)
     - Free swim
       - Peel turn 180-degrees and maneuver down river (operator)
       - J turn (operator)
       - Set up to recover rescue swimmer and victim (operator)
     - Tethered swim
       - Hover in place and then back down (operator)
       - Manage line (operator and bowman)
       - Retrieve victim and/or rescuer swimmer with tether (rescue swimmer or bowman)
   - Capture and control victim on operator side (operator and bowman)
     - Apply flotation
   - "Tiller away" from victim and execute 360-degree peel turn (operator)
   - Pull victim and/or rescuer into watercraft (bowman)
   - Complete peel turn in positive attitude (operator)
10. Describe on-board victim care considerations
    - Apply flotation (if victim does not have already)
    - Limit care to immediate life threatening injuries
    - Manually immobilize victim (avoid strapping to backboard or stokes basket)

Draft

11. Describe how a retrieve a victim into a motorized watercraft
    - Victim with safety equipment
    - Victim without safety equipment
    - Parbuckling

Discussion Question

1. Why is it important to establish communications between the operator, crew, and rescuers? How can you maintain that communication during the operation?
2. Should you deploy rescuers into a positive or negative attitude?
3. What complications can arise when deploying rope/throw bags from a motorized watercraft?

Application

1. Rescue a victim from dynamic water using a motorized watercraft
2. Rescue a victim from a fixed object using a motorized watercraft
3. Rescue a victim using a throw bag from a motorized watercraft
4. Retrieve a non-responsive victim using a motorized watercraft
5. Deploy and recover a free-swimming rescue swimmer from a motorized watercraft
6. Deploy and recover a tethered swimmer from a motorized watercraft

Instructor Notes

1. Students should practice deploying rescuers and rescuing victims in static water before deploying rescuers and rescuing victims in dynamic water for evaluation.

CTS Guide Reference: CTS 2-13, CTS 2-14, CTS 3-8, CTS 3-9

Draft

Topic 6-6: Operating at a Crew Overboard Event

Terminal Learning Objective

At the end of this topic a student, given a motorized watercraft available to the agency, an operator, and watercraft crewmember(s), will be able to operate at a crew overboard (COB/MOB) event so that the incident is communicated to the operator, visual location of the subject is maintained, the location and marked, and recovery of the subject is accomplished.

Enabling Learning Objectives

1. Describe motorized watercraft procedures for crew/man overboard
2. Describe effects of immersion and hypothermia
3. Describe communication methods for a COB event between operator and crew
4. Describe tactics for noting COB locations to assist with returning to event location
    - Object in water (surface marker)
    - Mark a waypoint
    - Landmark references
5. Describe how to support a COB event as a bowman
    - Deploy aid to the member
    - Note location of COB event
    - Perform operations specific to maneuvering watercraft and preparing to recover crewmember
    - Recover crewmember
6. Describe how to operate a motorized watercraft during a COB event
    - Maneuver watercraft back to COB location
    - Approach target area to recover crewmember

Discussion Question

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. Any skill associated with this topic is already embedded in Topic 6-5: Performing Motorized Watercraft-Based Victim Rescue.

CTS Guide Reference: CTS 2-12, CTS 3-7

Draft

Topic 6-7: Towing a Rescue Watercraft

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, an operator, and watercraft crewmember(s), will be able to tow a rescue watercraft so that the relative size of both watercraft is considered; neither watercraft is broached (flipped); wind, weather, and water conditions are accounted for; lines are connected between the vessels; maneuverability and control are maintained; and both watercraft are protected from damage.

Enabling Learning Objectives

1. Describe safety considerations for towing watercraft
   - Environmental conditions (wind, water, current, weather)
   - Size of towing watercraft versus size of watercraft to be towed
   - Towing equipment available
   - Connection points
2. Describe watercraft-specific procedures for taking another watercraft under tow
   - Rigging methods
   - Connection points
   - Chafe and impact protection
3. Describe towing methods
   - Stern tow
   - Side tow
4. Describe watercraft handling dynamics while towing
   - Control movement and direction of watercraft and watercraft under tow
   - Monitor position and condition of watercraft under tow
   - Communicate with watercraft operator to maneuver watercraft
   - Maintain situational awareness
5. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both watercraft
6. Demonstrate conducting a stern tow
7. Demonstrate conducting an alongside tow

Discussion Questions

1. What are some safety considerations for towing watercraft?
2. How are emergency and non-emergency towing different?
3. How do you configure a towing bridle?
4. What is shock loading and how do you prevent it?

Application

1. Conduct a stern tow from a motorized watercraft

Instructor Notes

1. None

CTS Guide Reference: CTS 2-15, CTS 3-10

Draft

Drill Ground Activities and Evolutions

Activities and Evolutions

The following components must be covered in the drill ground activities and/or evolutions but can be combined and completed in the order that best suits the props available and AHJ policies and procedures.

Drill ground activities must incorporate the following learning objectives:

- Size up a motorized watercraft rescue incident (Topic 5-1)
- Conduct an incident hazard assessment and isolate hazards (Topic 5-2)
- Support an operations- or technician-level incident (Topic 5-6)
- PPE
    - Inspect PPE (Topic 2-1)
    - Locate, identify, don, and doff PPE (Topic 2-1)
- Communication
    - Communicate using verbal commands (Topic 3-1)
    - Communicate using hand signals (Topic 3-1)
    - Communicate using whistle blasts (Topic 3-1)
    - Communicate using radios (Topic 3-1)
- Navigation
    - Plot a course (Topic 3-3)
    - Select heading and speed to follow an intended course (Topic 3-3)
- Terminate an incident (Topic 5-8)

Drill ground activities must address the following watercraft operations:

- Assembly and Configuration
    - Assemble an inflatable rescue boat (IRB) (Topic 4-2)
    - Configure a motorized watercraft to meet a mission objective (Topic 4-2)
- Maintenance and Readiness
    - Perform pre- and post-op motor maintenance (Topic 4-3) (motorized and PRWC)
    - Dewater a motor (Topic 4-3) (motorized and PRWC)
    - Conduct a pre-operation check (Topic 4-5)
    - Conduct a post-operation check (Topic 4-5)
- Trailering
    - Conduct a pre-trip trailer inspection (Topic 4-4)
    - Load and secure a motorized watercraft on a trailer (Topic 4-4)
    - Launch a motorized watercraft from a trailer (Topic 4-4)
    - Recover a motorized watercraft onto a trailer (Topic 4-4)
- Operating
    - Launch a motorized watercraft in dynamic water (Topic 6-2)
    - Dock a motorized watercraft in dynamic water (Topic 6-2)
    - Recover a motorized watercraft from dynamic water (Topic 6-2)
    - Paddle and/or maneuver a motorized watercraft (Topic 6-3)

Draft

- Use paddle commands and signals (Topic 6-3)
- Manipulate, start, and operate a motor (Topic 6-3)
- Perform motor-up operations (Topic 6-3)
- Perform basic motorized watercraft handling techniques (wide turns, J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway) (Topic 6-3)
- Unwrap a motorized watercraft from an obstacle (at least as a simulation) (Topic 6-3)
- Right a flipped IRB (Topic 6-3)
- Enter motorized watercraft from the water (self-rescue) (Topic 6-3)
- Enter motorized watercraft from the water (crew assist) (Topic 6-3)
- Dewater/drain a motorized watercraft (Topic 6-3)
- Paddle to a safe location after power loss (Topic 6-3)
- Tie-off a motorized watercraft to a shore-based conveyance or object (Topic 6-4)

Drill ground activities must incorporate the following rescue scenarios:

- Manage a simulated rescue incident from initiation through demobilization and termination (Topic 2-3)
- Search
  - Perform reconnaissance, hasty (rapid), primary, and secondary searches (Topic 5-5)
  - Perform a night search (Topic 5-5)
  - Communicate search actions to a shore-based incident commander (Topic 5-5)
  - Coordinate multivessel rescue activities (Topic 5-5)
  - Enter, maneuver in, and exit the search environment (Topic 5-5)
  - Provide for and perform self-escape and self-rescue (Topic 5-5)
- Rescue
  - Rescue a victim from dynamic water using a motorized watercraft (Topic 6-5)
  - Rescue a victim from a fixed object using a motorized watercraft (Topic 6-5)
  - Rescue a victim using a throw bag from a motorized watercraft (Topic 6-5)
  - Retrieve a non-responsive victim using a motorized watercraft (Topic 6-5)
  - Perform self-rescue and survival swimming skills (Topic 2-4)
  - Deploy and recover a free-swimming rescue swimmer from a motorized watercraft (Topic 6-5)
  - Deploy and recover a tethered swimmer from a motorized watercraft (Topic 6-5)
  - Conduct a stern tow from a motorized watercraft (Topic 6-7)

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Safety Notes

Student Safety
Before conducting any in-water training you, as the instructor, are responsible for ensuring the safety of everyone involved in the training exercise.

Never put students in a position where they must act as the sole rescuer of other students. Their presence in the class implies that their knowledge and skill levels are not sufficient to operate without direct supervision.

Always be in a position from which you can rescue students. Drills, simulations, or training areas where students cannot be rapidly rescued are not suitable and must be avoided.

Site Selection
The body of water used for training should be no more complex than a Class III and should provide a means for safe and effective rescue of both students and instructors.

An ideal training area offers a variety of water features that provide opportunities to have students complete all skills.

Water depth and consistency should be suitable to perform all required tasks.

The bank of the body of water should provide a safe means of ingress and egress.

Be cautious when training in small waterways and creeks. These bodies of water don't usually carry heavy water flows and are often strainer choked and full of debris. Do a complete and comprehensive survey before training in these bodies of water.

Scrutinize irrigation canals and manmade dams. These structures often have debris such as rebar and rip rap in them that are hazardous to swimmers. They can also have rapidly changing water levels.

Low head dams are extremely hazardous and should never be used for training purposes. They offer no way out, and rescue is difficult at best. Training in and around them is inviting disaster.

Site Assessment and Safety
Be thoroughly familiar with the training area to identify and mitigate all hazards.

- Arrive early at the training site to assess conditions.
- Scout the training area for strainers, sweepers, exposed rebar, or other debris that could snag a student.
- Assess the area for foot and body entrapment hazards such as underwater ledges and submerged debris and logs.

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- Anticipate projected water levels and know if the waterway is influenced by dam release or prone to sudden changes due to hydroelectric activities or precipitation.
- The area may have a rapid current and with wave trains.
- Avoid areas with large holes or other dangerous currents.
- Monitor the weather for potential impact on water flows.
- Pre-plan the “no go” zone location.

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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.

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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.

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Motorized Watercraft Rescue Technician (2021) Training Record

Name: _____

SFT ID Number: _____

Skill		Course Plan Topic	Evaluator Initials
1.	Inspect PPE	2-1	
2.	Locate, identify, don, and doff PPE	2-1	
3.	Manage a simulated rescue incident from initiation through demobilization and termination	2-3	
4.	Perform self-rescue and survival swimming skills	2-4	
5.	Communicate using verbal commands	3-1	
6.	Communicate using hand signals	3-1	
7.	Communicate using whistle blasts	3-1	
8.	Communicate using radios	3-1	
9.	Plot a course	3-3	
10.	Select heading and speed to follow an intended course	3-3	
11.	Assemble an inflatable rescue boat (IRB)	4-2	
12.	Configure a motorized watercraft to meet a mission objective	4-2	
13.	Perform pre- and post-op motor maintenance	4-3	
14.	Dewater a motor	4-3	
15.	Conduct a pre-trip trailer inspection	4-4	
16.	Load and secure a motorized watercraft on a trailer	4-4	
17.	Launch a motorized watercraft from a trailer	4-4	
18.	Recover a motorized watercraft onto a trailer	4-4	
19.	Conduct a pre-operation check	4-5	
20.	Conduct a post-operation check	4-5	
21.	Size up a motorized watercraft rescue incident	5-1	
22.	Conduct an incident hazard assessment and isolate hazards	5-2	

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23.	Perform reconnaissance, hasty (rapid), primary, and secondary searches	5-5	
24.	Perform a night search	5-5	
25.	Communicate search actions to a shore-based incident commander	5-5	
26.	Coordinate multivessel rescue activities	5-5	
27.	Enter, maneuver in, and exit the search environment	5-5	
28.	Provide for and perform self-escape and self-rescue	5-5	
29.	Support an operations- or technician-level incident	5-6	
30.	Launch a motorized watercraft in dynamic water	6-2	
31.	Dock a motorized watercraft in dynamic water	6-2	
32.	Recover a motorized watercraft from dynamic water	6-2	
33.	Paddle and/or maneuver a motorized watercraft	6-3	
34.	Use paddle commands and signals	6-3	
35.	Manipulate, start, and operate a motor	6-3	
36.	Perform motor-up operations	6-3	
37.	Perform basic motorized watercraft handling techniques (wide turns, J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)	6-3	
38.	Unwrap a motorized watercraft from an obstacle (at least as a simulation)	6-3	
39.	Right a flipped IRB	6-3	
40.	Enter motorized watercraft from the water (self-rescue)	6-3	
41.	Enter motorized watercraft from the water (crew assist)	6-3	
42.	Dewater/drain a motorized watercraft	6-3	
43.	Paddle to a safe location after power loss	6-3	
44.	Tie-off a motorized watercraft to a shore-based conveyance or object	6-4	
45.	Rescue a victim from dynamic water using a motorized watercraft	6-5	
46.	Rescue a victim from a fixed object using a motorized watercraft	6-5	
47.	Rescue a victim using a throw bag from a motorized watercraft	6-5	
48.	Retrieve a non-responsive victim using a motorized watercraft	6-5	

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49.	Deploy and recover a free-swimming rescue swimmer from a motorized watercraft	6-5	
50.	Deploy and recover a tethered swimmer from a motorized watercraft	6-5	
51.	Conduct a stern tow from a motorized watercraft	6-7	
52.	Terminate an incident	5-8	

A candidate has successfully completed the skill when they perform it to the corresponding Terminal Learning Objective standard found in State Fire Training's Motorized Watercraft Rescue Technician course.

SFT Course ID: _____

Course Delivery Date: _____

Instructor of Record: _____

Instructor SFT ID Number: _____

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Non-Motorized Watercraft Rescue Technician (2021)

Course Plan

Course Details

Description: This course provides the knowledge and skills to prepare an emergency responder to conduct rescue operations using a non-motorized watercraft in a safe and effective manner in accordance with AHJ policies and procedures. Topics include PPE; hydrology; incident management; self-rescue and survival swimming skills; communication; navigation; assembling and configuring watercraft; maintenance; trailering; hazard mitigation; launching, docking, operating, anchoring, and recovering watercraft; victim search and rescue; crew overboard events; and towing. This course incorporates awareness, operations, and technician training based on NFPA 1006 (2021).

Designed For: Public safety members with river and flood rescue responsibilities.

Prerequisites: Water Rescue Technician (2021) (SFT) **or** River and Flood Rescue Technician (2017) (SFT)

California Safe Boaters Safety Course (CBT – CA Boating and Waterways)

Urban Search and Rescue Boat Operator (CBT – FEMA)

Standard: Attend and participate in all course sections

Successful completion of all skills identified on the Training Record

Hours: 40 hours

(11.5 lecture / 28.5 application)

Max Class Size: 24

Instructor Level: SFT Registered Non-Motorized Watercraft Rescue Technician Instructor

Instructor/Student Ratio: 1:24 (lecture)

1:8 (application)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Registered Non-Motorized Watercraft Rescue Technician Instructors.

SFT recommends that students complete the requirements of their AHJ's swim test prior to course participation.

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SFT Designation: FSTEP

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Required Resources

Instructor Resources

To teach this course, instructors need:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (current edition)
- NFPA 2500: Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services (current edition)
- FIRECOPE ICS 162 Technical Search and Rescue Incident Operational System Description
- ICS 420-1 – Field Operations Guide (FEMA, current edition)
- Emergency Response Guidebook (DOT, current edition)
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

Recommended resources:

- *Water Rescue: Principles and Practice to NFPA 1006 and 1670: Surface, Swiftwater, Dive, Ice, Surf, and Flood* (Treinish, Steve; Jones & Bartlett; 3rd edition, 2021)
- *Swiftwater Rescue* (Slim Ray; CFS Press; expanded edition, 2013)
- *River Rescue: A Manual for Whitewater Safety* (Bechdel, Ray, & AtLee; CFS Press, 4th edition, 2009)
- *The Complete Whitewater Rafter* (Bennett, Jeff; International Marine/Ragged Mountain Press; 1st edition, 1996)

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/fire-service-training-and-education-program

- None

Student Resources

To participate in this course, students need:

- Any textbook required by the instructor
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

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

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    - Markers, erasers
    - Amplification devices
    - Projector and screen
    - Laptop or tablet with presentation or other viewing software
    - Internet access with appropriate broadband capabilities
- A Non-Motorized Watercraft Rescue Technician training site with the NFPA 1006 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 curriculum
    - Minimum requirement is a waterway with Class 2 water features

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this Watercraft Rescue Technician course.

- The equipment listed below is the minimum for the delivery of this course.
- The student is responsible for providing their PPE and ensuring that all PPE meets AHJ and site requirements.
- For all tools and equipment, ensure that you have the power source, operating supplies (blades, fuel, etc.), cleaning supplies, and appropriate PPE.

The following equipment is required to deliver this course:

Quantity Per 8-student Boat Team	Equipment
1	Self-bailing raft (12’ minimum, 14’ optimum)
9	Paddle (length determined by AHJ)
2	Paddles (guide)
Determined by AHJ	Righting (flip) lines
2	Throw bags
2	Tow bridles (bow)
2	Tow bridles (stern)
6	Compasses
2	GPS units
6	Waterproof hand lights
2	VHF portable marine radio
6	Rescue tubes/cans
2 of each color	Navigation lights (red, green, white – snap light or battery)
8	Buoys minimum (with enough line and anchors for water depth)
Determined by scenario	Straps to secure equipment to boats
Determined by scenario	Equipment bags to secure equipment to boats
1	BLS/First-Aid kit (per AHJ)

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Per Course	Cache List
1	Backboard (floating – recommended)
4	Pulleys
16	Carabiners (locking)
8	Prusik
Determined by scenario	Rope, static kernmantle, general use, with rope bag (length based on location and scenarios)
Per Course	**Optional**
Determined by scenario	Rowing frame platform with required accessories
Determined by scenario	Water rescue manikins

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 Watercraft Rescue Technician class.

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Non-Motorized Watercraft Rescue Technician (2021) Instructor.

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Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Unit 1 Totals	**0.5**	**0.0**	**0.5**
Unit 2: Water Rescue Review			
Topic 2-1: Selecting and Using Personal Protective Equipment	0.25	0.5	
Topic 2-2: Describing Dynamic Hydrology and Identifying Travel Paths	0.5	0.0	
Topic 2-3: Managing a Water Rescue Incident	0.5	3.5	
Topic 2-4: Performing Self-Rescue and Survival Swimming Skills	0.5	1.25	
Unit 2 Totals	**1.75**	**5.25**	**7.0**
Unit 3: Communications and Navigation			
Topic 3-1: Communicating Between Watercraft and Rescuers	0.25	0.25	
Topic 3-2: Interpreting Navigational Aids and Devices	0.25	0.0	
Topic 3-3: Plotting a Course	0.25	0.75	
Unit 3 Totals	**0.75**	**1.0**	**1.75**
Unit 4: Watercraft Components and Terminology			
Topic 4-1: Identifying Types of Watercraft	0.5	0.25	
Topic 4-2: Assembling and Configuring Watercraft	0.75	1.0	
Topic 4-3: Trailering a Watercraft	0.25	1.0	
Topic 4-4: Conducting Watercraft Pre- and Post-Operational Checks	1.0	3.0	
Unit 4 Totals	**2.5**	**5.25**	**7.75**
Unit 5: Initial Incident Actions			
Topic 5-1: Sizing Up a Watercraft Rescue Incident	0.5	0.5	
Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures	0.25	0.5	
Topic 5-3: Identifying When to Contact Local and Federal Authorities	0.25	0.0	
Topic 5-4: Recognizing the Need for Technical Rescue Resources	0.25	0.0	
Topic 5-5: Initiating a Discipline-Specific Search	0.50	2.0	
Topic 5-6: Supporting an Operations- or Technician-level Incident	0.25	0.0	

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Segment	Lecture	Application	Unit Total
Topic 5-7: Performing Ground Support Operations for Helicopter Activities	0.25	0.5	
Topic 5-8: Terminating an Incident	0.25	0.5	
Unit 5 Totals	**2.5**	**4.5**	**7.0**
Unit 6: Non-Motorized Watercraft Operations			
Topic 6-1: Establishing Non-Motorized Watercraft Stability	0.5	0.0	
Topic 6-2: Launching and Recovering a Non-Motorized Watercraft	0.5	2.0	
Topic 6-3: Operating a Non-Motorized Watercraft	1.0	6.5	
Topic 6-4: Tying Off a Non-Motorized Watercraft	0.5	0.5	
Topic 6-5: Performing Non-Motorized Watercraft-Based Victim Rescue	0.5	2.5	
Topic 6-6: Operating at a Crew Overboard Event	0.25	0.0	
Topic 6-7: Towing a Rescue Watercraft	0.25	1.0	
Unit 6 Totals	**3.5**	**12.5**	**16.0**
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	0.0	0.0
Course Totals	**11.5**	**28.5**	**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 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

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exams. These are in-class assessments to evaluate student progress and calculate course grades.

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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.

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Unit 2: Water Rescue Review

Topic 2-1: Selecting and Using Personal Protective Equipment

Terminal Learning Objective

Select and use hazard-specific PPE, given a watercraft rescue incident/scenario, PPE, including personal flotation devices (PFDs), helmets, and exposure garments that are consistent with the needs of the incident and type of watercraft, so that PPE is used in accordance with AHJ policies relative to the specific incident/scenario; the wearer is protected from the effects of accidental immersion, exposure to the elements, and injury from unanticipated movement of the watercraft; PPE emergency escape procedures are followed; and distress signals are communicated.

Enabling Learning Objectives

1. Describe hazards present on and near water and aboard watercraft used by AHJ (including those presented by weather, current, water conditions) and their capacities
2. Describe types and uses of and selection criteria for PPE
    - Personal flotation device (PFD)
        - Type III (USCG)
        - Type V (USCG)
    - Dry suit/wetsuit
    - Thermal protection
    - Helmet
    - Gloves
    - Close-toed footwear
    - Whistle (pealess)
    - Knife
    - Headlamp
    - Strobe light
3. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices
4. Identify manufacturer's recommendations for PPE
5. Describe pre-operational checklists for PPE
6. Describe how to don and doff PPE
    - AHJ protocols for equipment positioning
7. Describe distress signals
8. Describe personal escape techniques
    - Applications
    - Capabilities
    - Equipment and procedures for signaling distress
9. Describe how to care for and maintain PPE
10. Inspect PPE
11. Use pre-operation checklists

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12. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment
13. Locate, identify, don, and doff PPE (including water rescue helmets and water insulating garments)
14. Communicate distress signals
15. Use emergency escape procedures

Discussion Questions

1. What types of PPE are appropriate for different water environments?
2. How do you care for and maintain PPE?
3. What is the most important piece of PPE for non-motorized watercraft rescue operations?

Application

1. Inspect PPE
2. Locate, identify, don, and doff PPE

Instructor Notes

1. ELO 1 is covered in much more detail in Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures. The goal here is to tie PPE use to hazards that rescuers may encounter.

CTS Guide: CTS 1-3, CTS 2-7

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Topic 2-2: Describing Dynamic Hydrology and Identifying Travel Paths

Terminal Learning Objective

At the end of this topic a student, given a dynamic water environment, will be able to describe dynamic hydrology as it relates to rivers, channels, and floods so that hydrology impacts are avoided or mitigated during water rescue operations.

Enabling Learning Objectives

1. Describe the forces of dynamic water
2. Describe how to calculate current speed
3. Describe how to calculate water volume (cubic feet of water per second) in a river/channel
4. Describe river orientation and where to place personnel
    - Upstream
    - Downstream
    - River right
    - River left
5. Describe features created by moving water and how they impact water rescue operations
    - Laminar flow
    - Helical flow
    - Eddies
    - Eddy lines
    - Strainers/sieves
        - Natural
        - Manmade
    - Pillows
    - Hole/hydraulic
        - Smiling (closed)
        - Frowning (open)
    - Standing waves (haystacks)
    - Aerated water
    - Current vectors
    - Manmade features
        - Low-head dams
        - Drainage culverts
            - Trapezoid
            - Rectangle
        - Hydroelectric facilities
6. Identify areas and features that are safe zones in dynamic water environments
7. Identify river classifications
    - Class 1 through 6
    - Change based on conditions
8. Describe effects of hydrodynamic forces on watercraft, rescuers, and victims

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9. Describe criteria for selecting victim retrieval locations based on water environment and conditions
10. Describe techniques used to navigate dynamic water and identify travel paths and hazards

Discussion Questions

1. How does cubic feet per second (cfs) impact water hydrology?
2. How do water speed and volume impact watercraft rescue operations?
3. Where are safe zones typically found in dynamic water?

Application

1. Determined by instructor

Instructor Notes

1. For any topic taught in a classroom, supplement with images and videos as visual aids.

CTS Guide Reference: CTS 1-9

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Topic 2-3: Managing a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given water rescue scenarios and AHJ policies, procedures, and standards, will be able to manage a water rescue incident in accordance with local, state, and federal standards, policies, and procedures.

Enabling Learning Objectives

1. Describe water rescue scope of practice and standards
    - NFPA 1006 (current edition)
        - Surface water
        - Swiftwater
        - Floodwater
    - NFPA 2500 (current edition)
    - FIRESCOPE 162, Chapter 12 (current edition)
    - AHJ policies, procedures, and standards
2. Describe policies/procedures for rescue team activation
    - Local
    - State
    - Federal
3. Describe legal considerations and practices
    - Training and certification requirements
    - Negligence
    - Abandonment
4. Describe the discipline-specific components of the Incident Command System
    - Upstream spotter
    - Downstream safety
    - Rigging team (if needed)
    - Rescue team lead
    - Rescuer/rescue team
    - Receiving team
5. Describe rescue priorities
    - Low risk to high risk
        - Talk
        - Reach
        - Throw
        - Boat (row)
        - Swim (go)
        - Tethered swimmer (tow)
        - Helicopter (helo)
    - Rescue vs. recovery
    - Incident within an incident
    - Safety priorities
        - Rescuer (self)

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    - Rescue team
    - Victim(s)
6. Describe how to recognize the need for technical rescue resources
    - Identify need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Questions

1. What type of waterways are present in your AHJ?
2. What type of water rescue incidents are common to your AHJ?
3. What are your legal responsibilities regarding water rescue?
4. What are some key water rescue ICS positions?

Application

1. Manage a simulated rescue incident from initiation through demobilization and termination

Instructor Notes

1. Refer students to the course's training action plan (TAP) throughout the course.
2. Refer to FIRSCOPE ICS 162.

CTS Guide Reference: CTS 2-19

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Topic 2-4: Performing Self-Rescue and Survival Swimming Skills

Terminal Learning Objective

At the end of this topic a student, given a variety of water environments, will be able to perform self-rescue and survival swimming skills so that flotation is maintained, body heat is conserved, and egress is accomplished.

Enabling Learning Objectives

1. Describe effects of hypothermia and cold-water immersion
2. Describe crew and passenger accountability
3. Describe survival scenarios and skills
    - Crew overboard
    - Dewatering emergency
    - Contact with watercraft propulsion elements
    - Uncontrolled falls
    - Entanglement
    - Hypothermia
    - Individual day and night emergency signaling requirements
4. Assess hydrology and hazards of environment prior to entering water
5. Identify travel paths and hazards
6. Float and move through water to reach a point of egress or await rescue while conserving body heat

Discussion Questions

1. What safety concerns must be identified prior to getting in the water?
2. How can currents help or hinder a swimmer's efforts?

Application

1. Perform self-rescue and survival swimming skills

Instructor Notes

1. Familiarize yourself with the environment and its hazards before putting students in the water.

CTS Guide Reference: CTS 2-6

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Unit 3: Communications and Navigation

Topic 3-1: Communicating Between Watercraft and Rescuers

Terminal Learning Objective

At the end of this topic a student, given communication tools and equipment, will be able to communicate between the watercraft and other rescuers in the water, on the shore, in other watercraft, and in aircraft so that routine mission-related information and emergency messages are communicated to the intended recipient.

Enabling Learning Objectives

1. Describe methods of communication available to rescuer
    - Hand signals
    - Whistle commands
    - Flares
    - Emergency position-indicating radio beacon (EPIRB)
    - Personnel-locating beacon (PLB)
    - Radios
        - Marine band
            - Channel 16
        - AHJ-specific
2. Describe equipment limitations based on weather conditions, visibility, and distance from intended recipient
3. Describe communication procedures specific to USCG
    - Pan-pan
    - Sécurité
    - Mayday
4. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information

Discussion Questions

1. What type of radios do you use during watercraft rescue?
2. What common radio frequencies do you use in your AHJ?
3. What are the differences between pan-pan, sécurité, and mayday?

Application

1. Communicate using verbal commands
2. Communicate using hand signals
3. Communicate using whistle blasts
4. Communicate using radios

Instructor Notes

1. None

CTS Guide Reference: CTS 2-3

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Topic 3-2: Interpreting Navigational Aids and Devices

Terminal Learning Objective

At the end of this topic a student, given marine lights, structures, and markings on land, other vessels, or on the water, will be able to interpret navigational aids and devices so that nautical landmarks and other vessels are identified, intended course is selected, and collisions are avoided.

Enabling Learning Objectives

1. Describe navigation rules and regulations that govern vessel operation in navigable waters
    - Applicable regions and waterways
    - Governing bodies
        - USCG
        - CA Department of Boating and Waterways
            - California Harbors and Navigation Code
    - Enforcement agencies
2. Describe how to use physical and app-based navigation devices
    - Compass
    - Chart plotters
    - GPS
    - Nav lights
    - Radar
    - Forward-looking infrared radar (FLIR)
3. Identify types of visual aids and navigation markers
    - Buoys
    - Signs
    - Markers
4. Describe how to interpret visual aids and navigation markers
    - Shapes, numbers, and colors
    - Location
    - Meaning
5. Describe how to use navigational aids to:
    - Maneuver into and out of protected channels
    - Identify hazards
6. Describe how to determine right of way for various types of vessels
    - Navigation rules and regulations that govern vessel operation in navigable waters
7. Describe how directional aids assist in navigation and determining right of way
8. Interpret markers, lights, and signals to determine a course that will avoid other vessels

Discussion Questions

1. What devices does your AHJ use for watercraft navigation?
2. What are common navigation markers in your service area?
3. How is right of way on navigable waterways determined in the United States?
4. How do you determine right of way for various types of vessels?

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Application

1. Determined by instructor

Instructor Notes

1. If using a GPS, ensure all students are using the same format and datum.

CTS Guide Reference: CTS 2-5, CTS 3-11

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Topic 3-3: Plotting a Course

Terminal Learning Objective

At the end of this topic a student, given navigational tools and charts, will be able to plot a course so that that heading, speed, and course are determined and wind, weather, current, and water conditions are taken into account.

Enabling Learning Objectives

1. Describe how to operate conventional and electronic navigation tools used by the agency
2. Describe how to plot a course
   - Identify start and end points
   - Identify obstacles
   - Identify heading and distance
3. Determine location, heading, and speed to achieve the desired outcome

Discussion Question

1. Determined by instructor

Application

1. Plot a course
2. Select heading and speed to follow an intended course

Instructor Notes

1. None

CTS Guide Reference: CTS 3-3

Draft

Unit 4: Watercraft Components and Terminology

Topic 4-1: Identifying Types of Watercraft

Terminal Learning Objective

At the end of this topic a student, given a list of watercraft used by the organization, will be able to identify types of watercraft so that their limitations, capabilities, load ratings, performance criteria, and considerations for their deployment and recovery in the intended environment are identified.

Enabling Learning Objectives

1. Identify types of watercraft used by organization
   - Motorized
   - Non-motorized
   - Personal rescue watercraft
2. Identify hull design and watercraft components
   - Bow, stern, port, and starboard
   - Gunwale tubes and valves, as applicable
   - Transom
   - Drain plugs or scuppers
   - Hydrodynamics
3. Identify propulsion (motor) components
   - Kill switch with lanyard
   - Motor latches
   - Fuel lines
   - Fuel tanks
   - Prop guards
   - Warning systems
4. Describe factors that help determine watercraft selection and use
   - Capacity plate
     - Max allowable weight on vessel (people, motor, and gear)
     - Max allowable persons on vessel
     - Max allowable horsepower
   - Qualities and attributes of each craft
     - Draft
     - Size
     - Weight
     - Deployment method
   - Intended environment
     - Wind
     - Current
     - Weather conditions
   - Capabilities and limitations
   - Mission scope and tactical objectives

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5. Describe common types of rescue watercraft
    - Inflatable rescue boat (IRB) (motorized)
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, drain plug, scuppers, etc.)
        - Attachments (flip lines, painter/bow line, drift sock, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Rigid boat (motorized)
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, etc.)
        - Attachments (painter/bow line, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Raft (non-motorized)
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, thwarts, etc.)
        - Attachments (oar frame, flip lines, painter/bow line, drift sock, etc.)
        - Maintenance and repair
        - Operational safety
    - Personal rescue watercraft (PWRC)
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, motor, etc.)
        - Attachments (tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
6. Identify watercraft characteristics that affect its selection for use in a specific environment for a specific mission
    - Draft

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- Sail area
- Propulsion methods
- Size
- Weight
- Deployment method
- Configuration

Discussion Questions

1. What type of rescue watercraft are available in your AHJ?
2. How would you determine which boat to use for a rescue?
3. What are the differences between motorized inflatable rescue boats and jon boats?

Application

1. Given scenarios (videos or images), have students determine which type of watercraft to use and why.

Instructor Notes

1. Cover all three watercraft types (motorized, non-motorized, PRWC) at a high level. Cover the type specific to the course in detail.

CTS Guide Reference: CTS 2-1

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Topic 4-2: Assembling and Configuring Watercraft

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to configure a watercraft so that the location of access and egress points, propulsion system components, steering controls, communication equipment, emergency equipment, through hull and deck fittings, portals, and fittings necessary for water- and weathertight integrity are located.

Enabling Learning Objectives

1. Describe how to assemble a watercraft
    - IRB/MIRB
        - Inflation
            - Manual
            - Mechanical
            - PSI
            - Pressure relief valves
            - Interconnecting valves
            - Environmental impact on inflation
        - Flooring
        - Motor mount
            - Transom brackets
            - Transom bolts
        - Fuel system (tank and lines)
        - Accessories (batteries, gear, etc.)
    - Jon boat
        - Motor mount
        - Fuel system
        - Accessories
    - Personal rescue watercraft
        - Accessories
2. Describe watercraft equipment and components and where to place it in the vessel
    - Paddles
    - Towing bridles
    - Compass
    - Righting line
    - Bow or painter line
    - Handheld lights
    - Anchor
    - Patch kit
    - Wheel kits
    - Rigging
3. Describe rescue equipment to carry on watercraft
    - Throw bag
    - Rescue tube or can

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- Portable radio
- GPS
- Spare personal flotation devices (PFDs) for victims
- Knife
- First Aid/EMS
    - Waterproof container
    - Space blanket
- Helmets

4. Describe location of emergency equipment and how to operate and deploy it
    - Signaling devices
    - Fire extinguishers
    - Distress beacons
    - Life rafts
    - PFDs
    - Exposure suits
5. Describe how to configure a watercraft
6. Identify fittings, portals, and other equipment

Discussion Questions

1. What are the differences between boat equipment and rescue equipment?
2. What rescue equipment do boats in your AHJ carry?
3. What steps do you take to keep your equipment dry?
4. What are the pros and cons of fuel tank placement?

Application

1. Assemble a raft
2. Configure a non-motorized watercraft to meet a mission objective

Instructor Notes

1. Refer to FIRESCOPE ICS 162.
2. Cover all three watercraft types (motorized, non-motorized, PRWC) at a high level. Cover the type specific to the course in detail.

CTS Guide Reference: CTS 2-2, CTS 2-16

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Topic 4-3: Trailering a Watercraft

Terminal Learning Objective

At the end of the topic a student, given a watercraft, tow vehicle, and trailer, will be able to trailer a watercraft so that watercraft is secure and ready for transport.

Enabling Learning Objectives

1. Identify trailers components
   - Hitch types and sizes
   - Electrical connection
   - Tires, wheels, and hubs
   - Winch
   - Bunks and rollers
   - Tie downs
2. Describe safety considerations associated with trailering operations
   - Pre-trip inspection and set up
     - Connect and secure trailer and lights
     - Check tires, wheels, and hubs
     - Check bunks and rollers
     - Check winch
     - Secure watercraft and all equipment
   - Backers
   - Transit
   - Travel speed
3. Describe how to back up a trailered watercraft
4. Describe trailer positioning
   - Launch
   - Recovery
   - Boat ramp etiquette
5. Describe considerations for unimproved launches
6. Conduct a pre-trip trailer inspection
7. Load and secure a watercraft on a trailer
8. Launch a watercraft from a trailer
9. Recover a watercraft onto a trailer

Discussion Questions

1. What are your AHJ's trailering policies?
2. What risks are involved with watercraft trailering and launching?

Application

1. Conduct a pre-trip trailer inspection
2. Load and secure a non-motorized watercraft on a trailer
3. Launch a non-motorized watercraft from a trailer
4. Recover a non-motorized watercraft onto a trailer

Instructor Notes

1. None

Draft

CTS Guide Reference: CTS 2-21

Draft

Topic 4-4: Conducting Watercraft Pre- and Post-Operational Checks

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to conduct watercraft pre- and post-operational checks and shut down a watercraft so that operational checks are performed, systems are energized, propulsion systems are started, functional checks are conducted, and the watercraft is ready to be deployed, returned to ready state, secured, or protected from damaging and tampering.

Enabling Learning Objectives

1. Describe watercraft system operational procedures and readiness checks
   - Look for damage, leaks, broken or missing parts
   - Complete prior to and after operating the watercraft
2. Identify components to inspect
   - Watercraft structure
     - Proper inflation
     - Valves
     - Seams
     - Drain plugs and scuppers
     - Attachment points
   - Accessories
     - Rigging
     - Equipment
3. Describe AHJ procedures for watercraft shutdown operations
4. Describe how to shut down a watercraft
   - Secure watercraft from unwanted movement, theft, and vandalism
     - Tie knots, bends, and hitches required to moor or secure craft for long-term storage

Discussion Questions

1. What are your agency's preventative maintenance service schedules?

Application

1. Conduct a pre-operation check
2. Conduct a post-operation check

Instructor Notes

1. Students will perform pre- and post-operational checks each day. Evaluation for the Training Record can occur during those daily routines.
2. Ensure that proper cooling systems are in place for all motor operations (in and out of water).

CTS Guide Reference: CTS 3-1, CTS 3-12

Draft

Unit 5: Initial Incident Actions

Topic 5-1: Sizing Up a Watercraft Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, background information and applicable reference materials, will be able to size up a watercraft rescue incident so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameters are identified, and information required to develop an initial incident action plan is obtained.

Enabling Learning Objectives

1. Describe how to conduct a size up
    - Determine scope of the rescue
    - Define operational mode
    - Determine resource availability, capability, and response times
    - Determine types of rescues
    - Identify number of victims
    - Establish place last seen (PLS) and time last seen (TLS) of all the victims
    - Evaluate environmental conditions that influence victim location
    - Identify and interview witnesses and reporting parties
    - Assess resource needs
    - Identify primary search parameters
    - Identify factors influencing access and egress routes
    - Identify water volume and velocity and technical features of search area
    - Obtain information required to develop an initial incident action plan
2. Describe types of reference materials and their uses
3. Describe how to conduct a risk/benefit assessment
4. Describe information-gathering techniques and how that information is used in the size-up process
5. Describe elements of an incident action plan and related information
6. Describe how size up relates to the incident management system
7. Describe basic search criteria for watercraft rescue incidents
8. Read technical rescue reference materials
9. Gather information
10. Evaluate site conditions
11. Relay information
12. Use interview techniques
13. Manage witnesses
14. Use information-gathering sources

Discussion Questions

1. Determined by instructor

Draft

Application

1. Size up a non-motorized watercraft rescue incident

Instructor Notes

1. ELO 7 is covered in more detail in Topic 5-5: Initiating a Discipline-Specific Search. Cover content at an introductory level here.

CTS Guide Reference: CTS 1-5

Draft

Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Terminal Learning Objective

At the end of this topic a student, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, will be able to recognize incident hazards and initiate isolation procedures 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 taken into account.

Enabling Learning Objectives

1. Describe hazards created by or associated with watercraft rescue, including risks to rescuers and victims
    - Water depth
    - Positive, neutral, and negative load hazards
    - Slips, falls, entrapment
    - Propulsion hazards (motors, propellors, paddles, etc.)
    - Ripping, wrapping, and flipping the watercraft
    - Non-locking carabiners
    - Rigging hazards
    - Environmental hazards
    - Chemical hazards
    - Biological hazards
    - Animals and insects
2. Describe resource capabilities and limitations
3. Describe equipment types and their use
4. Describe types of mitigation and isolation equipment and their use
    - Propellor guards
    - Kill switch
    - Proper PPE
    - First aid kit
    - Lighting
5. Describe operational requirement concerns
6. Describe types of technical references (apps)
7. Describe methods for controlling access to the scene
8. Initiate mitigation and isolation procedures
    - Identify incident hazards
    - Identify resource capabilities and limitations
    - Assess potential hazards to rescuers and bystanders
    - Place scene control barriers
    - Operate control and mitigation equipment

Discussion Questions

1. When assessing a waterway, what are the most dangerous hazards?
2. What hazards are associated with working on and around watercraft?

Draft

Application

1. Conduct an incident hazard assessment and isolate hazards

Instructor Notes

1. None

CTS Guide Reference: CTS 1-6

Draft

Topic 5-3: Identifying When to Contact Local and Federal Authorities

Terminal Learning Objective

At the end of this topic a student, given conditions that require their involvement, will be able to identify conditions that require the notification of local and federal authorities so that the proper agency is notified and relevant information is communicated.

Enabling Learning Objectives

1. Identify conditions that require notification of local and federal authorities
    - Conditions that require their involvement
    - Vessels in distress
    - Hazards to navigation
    - Release of hazardous or toxic substances
    - Changes to water flow
    - Dead victim
    - Conditions that affect health and safety of those in and around navigable waters
2. Identify organizations or authorities to contact
    - US Coast Guard
    - Law enforcement
    - Fish and Wildlife
    - Water control agencies
    - Utilities
    - Other
3. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies
4. Describe methods of notification
5. Describe required other actions
6. Perform methods of notification

Discussion Question

1. Under what circumstances would you need to communicate with local, state, or federal agencies or authorities?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-4

Draft

Topic 5-4: Recognizing the Need for Technical Rescue Resources

Terminal Learning Objective

At the end of this topic a student, given AHJ guidelines, will be able to recognize the need for technical rescue resources at an operations- or technician-level incident so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Enabling Learning Objectives

1. Describe types of incidents common to the AHJ
2. Describe how to recognize the need for technical rescue resources
    - Identify need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Identify and evaluate various types of hazards within the AHJ
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Question

1. What technical rescue resources does your AHJ use for watercraft rescue?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-7

Draft

Topic 5-5: Initiating a Discipline-Specific Search

Terminal Learning Objective

At the end of this topic a student, give hazard-specific PPE, equipment pertinent to the search mission, an incident location, and victim investigative information, will be able to initiate a discipline-specific search so that search parameters are established, the victim profile is established, the access and egress of all people either involved in the search or already within the search area are questioned and the information is updated and relayed to command; the personnel assignments match their expertise, all victims are located as quickly as possible, applicable technical rescue concerns are managed, risks to searchers are minimized, and all searchers are accounted for.

Enabling Learning Objectives

1. Describe AHJ policies and procedures
2. Identify required resources for performing a search
    - Day vs. night
3. Describe how data collection and map applications can assist with victim searches
4. Describe search fundamentals
    - Location, Access, Stabilize, Transport (LAST)
    - Place Last Seen (PLS)
    - Time Last Seen (TLS)
    - Probability of Detection (POD)
5. Describe witness management
6. Identify different tools used for searches
7. Describe general water search categories
    - Aquatic Wide Area Search
    - River Search
    - Flood Basin Search
8. Describe search types
    - Reconnaissance
    - Hasty (rapid)
    - Primary
    - Secondary
        - Low
        - High
9. Describe how to operate in the site-specific environment
10. Describe how to transfer victims to responders
    - On shore
    - On a vessel
    - On a high-profile vehicle
11. Perform reconnaissance, hasty (rapid), primary, and secondary searches
12. Communicate actions to a shore-based incident commander
13. Coordinate multivessel rescue activities
14. Enter, maneuver in, and exit the search environment
15. Provide for and perform self-escape and self-rescue

Draft

Discussion Questions

1. What are the differences between types of searches?
2. What elements are required for an effective preplan?
3. What are specific safety considerations during incidents with multiple responding vessels?
4. What are specific safety considerations during night searches?
5. What are the most effective methods of communication between vessels?

Application

1. Perform reconnaissance, hasty (rapid), primary, and secondary searches
2. Perform a night search
3. Communicate search actions to a shore-based incident commander
4. Coordinate multivessel rescue activities
5. Enter, maneuver in, and exit the search environment
6. Provide for and perform self-escape and self-rescue

Instructor Notes

1. ELO 8: The search types are delineated in FIRESCOPE ICS 162.
2. Encourage students to use data collection and/or map applications during search drills.
3. At least one search during this class must be conducted at night.

CTS Guide Reference: CTS 1-1

Draft

Topic 5-6: Supporting an Operations- or Technician-level Incident

Terminal Learning Objective

At the end of this topic a student, given an incident, an assignment, an incident action plan, and resources from the tool cache, will be able to support an operations- or technician-level incident, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Enabling Learning Objectives

1. Describe AHJ operational protocols
2. Describe scene support requirements
3. Describe support procedures
    - Search patterns
    - Equipment setup
    - Communications
    - Upstream or downstream safety spotter
    - Personnel accountability
    - Tend to an in-water rescuer
    - Scene control and access
    - Liaison with victim, family, bystanders, agency, etc.
4. Identify how to avoid becoming a hazard or victim
5. Execute basic support skills

Discussion Question

1. How can you support an operations- or technician-level incident?
2. In what ways can a rescuer become a hazard or victim?'

Application

1. Support an operations- or technician-level incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-8

Draft

Topic 5-7: Performing Ground Support Operations for Helicopter Activities

Terminal Learning Objective

At the end of this topic a student, given a rescue scenario/incident, helicopter, operational plans, PPE, requisite equipment, and available specialized resources, will be able to perform ground support operations for helicopter activities so that rescue personnel are aware of the operational characteristics of the aircraft and demonstrate operational proficiency in establishing and securing landing zones and communicating with aircraft personnel until the assignment is complete.

Enabling Learning Objectives

1. Describe ground support operations relating to helicopter use and deployment
2. Describe operation plans for helicopter service activities
3. Describe type-specific PPE
4. Describe aircraft familiarization and hazard areas specific to helicopters
    - Aircraft personnel who provide instruction/authority
    - Proper way to approach and leave the area
    - Proper way to enter and exit aircraft
    - Working near/under rotor wash
    - Landing zone requirements
    - Crash survival principals
    - Ancillary aircraft rescue equipment
5. Describe scene control and landing zone requirements
6. Describe aircraft safety systems
7. Describe communication protocols
8. Provide ground support operations
9. Review standard operating procedures for helicopter operations
10. Use PPE
11. Establish and control landing zones
12. Communicate with aircrews

Discussion Question

1. What hazards are associated with working around watercraft and helicopters?

Application

1. Determined by instructor

Instructor Notes

1. SFT strongly recommends working with aircraft during the course when possible.

CTS Guide Reference: CTS 1-2

Draft

Topic 5-8: Terminating an Incident

Terminal Learning Objective

At the end of this topic a student, given PPE specific to the incident, isolation barriers, and a tool cache, will be able to terminate an incident so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for; scene documentation is performed; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are conducted; and command is terminated.

Enabling Learning Objectives

1. Describe PPE characteristics
   - PPE requirements change in IDLH vs non-IDLH
   - Decontamination requirements
2. Identify hazard and risk identification
   - Reevaluate mitigated and ongoing hazards
   - Resources in transition
   - Complacency
   - Normalized deviance
   - Fatigue
3. Describe equipment/vessel removal procedures
   - When to leave in place
   - Systematic breakdown and removal
4. Describe isolation techniques
5. Identify statutory requirements
   - Determined by AHJ
6. Identify responsible parties
7. Describe accountability system use
   - PAR – personnel accountability report
8. Describe documentation and reporting methods
   - Determined by AHJ
9. Describe post-incident analysis techniques
   - Determined by AHJ
   - Critical incident stress debriefing
10. Select and use hazard-specific PPE
11. Decontaminate PPE
12. Use barrier protection techniques
13. Implement data collection and record-keeping/reporting protocols
14. Conduct post-incident analysis activities

Discussion Question

1. What hazards and risks can arise during incident termination?
2. Who are some examples of responsible parties that may assume responsibility for the scene when the incident terminates?

Draft

3. What critical incident stress management resources are available to you?

Application

1. Terminate an incident

Instructor Notes

1. None

CTS Guide Reference: CTS 2-18

Draft

Unit 6: Non-Motorized Watercraft Operations

Topic 6-1: Establishing Non-Motorized Watercraft Stability

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft used by the AHJ, will be able to maintain watercraft stability so that the stability of the craft is not compromised, the possibility of a fall is minimized, and the rescuer is protected from harm.

Enabling Learning Objectives

1. Describe elements that affect watercraft stability
    - Mass
    - Center of gravity
    - Inflation and profile
    - Weight distribution
    - Impact loads
    - Current
    - Wind and water conditions
2. Describe how to board a non-motorized watercraft
3. Describe how to exit a non-motorized watercraft
4. Board and exit a non-motorized watercraft in a manner that prevents injury and minimizes impact on watercraft stability

Discussion Question

1. How does weight distribution affect stability for different types of non-motorized watercraft?
2. How do weather and water conditions impact non-motorized watercraft inflation and stability?

Application

1. Determined by instructor

Instructor Notes

1. Students will board and exit non-motorized watercraft as part of the course, but this is not a testable skill on the Training Record.

CTS Guide Reference: CTS 1-4

Draft

Topic 6-2: Launching and Recovering a Non-Motorized Watercraft

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft, an operator, and watercraft crewmember(s), will be able to launch and recover a non-motorized watercraft from a trailer or other conveyance so that communication is maintained between operator and crew, current and wind are accounted for, mooring lines are rigged and managed, equipment is secured, damage to watercraft is prevented, and watercraft is positioned properly and secured from unintended movement.

Enabling Learning Objectives

1. Describe considerations for specialized tools or conveyances used to launch and recover non-motorized watercraft
   - Trailers
2. Describe how environmental conditions affect non-motorized watercraft movement
   - Environmental conditions
     - Wind
     - Weather
     - Water
     - Tide
     - Attitude
       - Positive (against dominant force)
       - Negative (with dominant force)
   - Watercraft location
     - After deployment
     - After being secured
3. Describe how non-motorized watercraft type impacts launch operations
4. Describe how to launch a non-motorized watercraft as a bowman
   - Prevent damage and minimize undesired movement of the watercraft
     - Rig lines (launch)
     - Tie knots, bends, and hitches
     - Secure equipment
   - Predict direction and speed of vessel based on watercraft operators' actions
   - Position bow in positive attitude for launch
   - Maneuver and position watercraft using lines or other external systems
5. Describe how launch a non-motorized watercraft as an operator
   - Maneuver and position watercraft
   - Predict direction and speed of departure based on conditions

Discussion Questions

1. How do environmental conditions influence non-motorized watercraft launches?
2. What are the benefits of launching non-motorized watercraft in positive attitude?

Application

1. Launch a non-motorized watercraft in dynamic water
2. Recover a non-motorized watercraft from dynamic water

Draft

Instructor Notes

1. Students should practice launching and recovering in static water before launching and recovering in dynamic water for evaluation.

CTS Guide Reference: CTS 2-9, CTS 2-10, CTS 3-4, CTS 3-5

Draft

Topic 6-3: Operating a Non-Motorized Watercraft

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft, paddles, and a plotted course, will be able to operate a non-motorized watercraft so that the course is followed, obstacles and other vessels are avoided, wind and currents accounted for, awareness of position is maintained, and the destination is reached.

Enabling Learning Objectives

1. Describe crew positions
   - Boat commander
   - Paddle crew
   - Rescue swimmer(s)
2. Describe how to paddle and/or maneuver a non-motorized watercraft
3. Describe paddle commands and signals
   - Forward paddle
   - Back paddle
   - Left turn
   - Right turn
   - Stop
   - High side
   - Bump/brace
   - Pry stroke
   - Draw stroke
   - J stroke
4. Describe basic non-motorized watercraft handling techniques
   - Control
     - Hovering
     - Back ferrying
     - Upstream ferrying
     - Downstream ferrying
     - Eddy catching
     - Pinning
   - Turns
     - J
     - Peel
     - Around objects
   - Approach
     - Stationary object
     - Person
   - Crew transfer while underway
5. Describe vessel-specific policies and procedures for operating a non-motorized watercraft

Draft

6. Describe effects of local water, wind, and weather conditions on non-motorized watercraft direction and speed
7. Describe how to mitigate safety issues and potential non-motorized watercraft-related emergencies
   - Slip and fall
   - Person(s) overboard
   - Structural failure (puncture, leak, etc.)
   - Loss of paddler effectiveness
   - Flip
   - Wrap (around an object)
8. Describe how to enter a non-motorized watercraft from the water
   - Self-rescue
   - Crew assist
9. Right a flipped non-motorized watercraft
10. Paddle and/or maneuver a non-motorized watercraft
11. Use paddle commands and signals
12. Approach a stationary object
13. Select heading and speed to follow an intended course

Discussion Questions

1. What are considerations for shallow-water operations?
2. What are the methods used to avoid a wrap?
3. What are the methods used to leave an eddy?

Application

1. Paddle and/or maneuver a non-motorized watercraft
2. Use paddle commands and signals
3. Perform basic non-motorized watercraft handling techniques (J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)
4. Unwrap a non-motorized watercraft from an obstacle (at least as a simulation)
5. Right a flipped non-motorized watercraft
6. Enter a non-motorized watercraft from the water (self-rescue)
7. Enter a non-motorized watercraft from the water (crew assist)

Instructor Notes

1. Students should practice operating in static water before operating in dynamic water for evaluation.

CTS Guide Reference: CTS 2-8, CTS 2-17, CTS 3-2

Draft

Topic 6-4: Tying Off a Non-Motorized Watercraft

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft, a boat captain/guide, watercraft crewmember(s), and equipment, will be able to tie off a watercraft so that vessel movement is prevented and weather, current and tide change are accounted for.

Enabling Learning Objectives

1. Identify techniques for tying off
   - Shore-based
   - Water-based
2. Describe requirements for line length
   - Vessel
   - Weather conditions
3. Describe the effects of vessel movement while tied off
   - Dominant force
   - Changing water conditions
4. Tie off a non-motorized watercraft

Discussion Question

1. What is your AHJ's tie-off policy?
2. What complications can arise from tying off in dynamic water?

Application

1. Tie-off a non-motorized watercraft

Instructor Notes

1. None

CTS Guide Reference: CTS 2-11, CTS 3-6

Draft

Topic 6-5: Performing Non-Motorized Watercraft-Based Victim Rescue

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft available to the agency, in-water rescuers, a watercraft operator, watercraft crewmember(s), a water rescue tool cache, a means of securement, and water rescue PPE, will be able to deploy and recover rescuers to perform non-motorized watercraft-based victim rescue so that rescuers are deployed and recovered at the designated location, the watercraft is not broached (flipped), control of the watercraft is maintained, risks to victim and rescuers are minimized; and rescuers and victim are removed from the hazard and protected from injury.

Enabling Learning Objectives

1. Describe how non-motorized watercraft type impacts rescuer deployment and victim rescue
2. Describe how to rig or configure non-motorized watercraft components and equipment
   - Search equipment
   - Rescue equipment
   - Transport equipment
   - Body recovery equipment
3. Describe how conditions affect rescuer deployment and victim rescue operations
   - Hazards
   - Water conditions
   - Watercraft posture and attitude
4. Describe communication processes
   - Crew to crew
   - Crew to victim
     - Maintain visibility between operator and victim (to avoid injury)
     - Give clear direction to the victim about next steps
5. Describe safety consideration during non-motorized watercraft entry or exit
   - Uncontrolled falls
   - Entanglement
   - Paddle discipline
6. Describe how to rescue a victim from dynamic water using a non-motorized watercraft
   - Coordinate vessel movement and location (captain/guide and paddle crew)
   - Maneuver and control watercraft (captain/guide)
   - Capture and control victim on the non-captain/guide side
     - Apply flotation
   - Pull victim into watercraft (rescuer swimmer)
7. Describe how to rescue a victim from a fixed object using a non-motorized watercraft
   - Coordinate vessel movement and location (captain/guide and paddle crew)
   - Maneuver and control watercraft (captain/guide)
   - Navigate watercraft to fixed obstacle (paddle crew)
     - Maintain force against object (pinning)
   - Direct victim into watercraft (rescue swimmer)

Draft

- Maneuver and control watercraft away from object (captain)

8. Describe how to rescue a victim using a throw bag from a non-motorized watercraft
   - Coordinate vessel movement and location (captain/guide and paddle crew)
   - Maneuver and control watercraft (captain/guide and paddle crew)
   - Set up throw bag and position in boat (rescue swimmer)
   - Communicate with in-water person:
     - Victim (rescue swimmer)
     - Rescue swimmer (captain/guide)
   - Deploy throw bags:
     - To solo victim (rescue swimmer)
     - To rescue swimmer (captain/guide)
   - Retrieve victim and/or rescuer swimmer with throw bags (rescue swimmer)
     - Rope management
     - Communications
   - Capture and control victim on non-operator side (captain/guide and paddle crew)
     - Apply flotation
   - Pull victim and/or rescuer into watercraft (rescue swimmer)
9. Describe how to deploy a rescue swimmer from a non-motorized watercraft
   - Coordinate vessel movement and location (captain/guide and paddle crew)
   - Maneuver and control watercraft (captain/guide and paddle crew)
   - Deploy rescue swimmer (rescue swimmer)
     - Free swim – upstream ferry
       - Maintain a positive attitude (upstream ferry angle)
       - J turn (captain/guide and paddle crew)
       - Set up to recover rescue swimmer and victim (paddle crew)
     - Free swim – downstream ferry
       - Launch the swimmer
       - Forward paddle downstream
       - J turn (captain/guide and paddle crew)
       - Set up to recover rescue swimmer and victim (paddle crew)
     - Tethered swim
       - Hold in eddy and move downstream (captain/guide and paddle crew)
       - Manage line (captain/guide and paddle crew)
       - Retrieve victim and/or rescuer swimmer with tether (rescue swimmer or paddle crew)
   - Capture and control victim on non-operator side (captain/guide and paddle crew)
     - Apply flotation
   - Pull victim and/or rescuer into watercraft (paddle crew)
10. Describe on-board victim care considerations
    - Apply flotation (if victim does not have already)
    - Limit care to immediate life-threatening injuries
    - Manually immobilize victim (avoid strapping to backboard or stokes basket)
11. Describe how a retrieve a victim into a non-motorized watercraft

Draft

- Victim with safety equipment
- Victim without safety equipment
- Parbuckling

Discussion Question

1. Why is it important to establish communications between the captain/guide and paddle crew, and rescuers? How can you maintain that communication during the operation?
2. Should you deploy rescuers into a positive or negative attitude?
3. What complications can arise when deploying rope/throw bags from a non-motorized watercraft?

Application

1. Rescue a victim from dynamic water using a non-motorized watercraft
2. Rescue a victim from a fixed object using a non-motorized watercraft
3. Rescue a victim using a throw bag from a non-motorized watercraft
4. Retrieve a non-responsive victim using a non-motorized watercraft
5. Deploy and recover a free-swimming rescue swimmer from a non-motorized watercraft
6. Deploy and recover a tethered swimmer from a non-motorized watercraft

Instructor Notes

1. Students should practice deploying rescuers and rescuing victims in static water before deploying rescuers and rescuing victims in dynamic water for evaluation.

CTS Guide Reference: CTS 2-13, CTS 2-14, CTS 3-8, CTS 3-9

Draft

Topic 6-6: Operating at a Crew Overboard Event

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft available to the agency, an operator, and watercraft crewmember(s), will be able to operate at a crew overboard (COB/MOB) event so that the incident is communicated to the captain/guide, visual location of the subject is maintained, the location and marked, and recovery of the subject is accomplished.

Enabling Learning Objectives

1. Describe non-motorized watercraft procedures for crew/man overboard
2. Describe effects of immersion and hypothermia
3. Describe communication methods for a COB event between operator and crew
4. Describe tactics for noting COB locations to assist with returning to event location
    - Object in the water (surface marker)
    - Mark a waypoint
    - Landmark references
5. Describe how to support a COB event as a captain/guide
    - Deploy aid to the member
    - Note location of COB event
    - Perform operations specific to maneuvering watercraft and preparing to recover crewmember
    - Recover crewmember
6. Describe how to operate a non-motorized watercraft during a COB event
    - Maneuver watercraft back to COB location
    - Approach target area to recover crewmember

Discussion Question

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. Any skill associated with this topic is already embedded in in Topic 6-5: Performing Motorized Watercraft-Based Victim Rescue

CTS Guide Reference: CTS 2-12, CTS 3-7

Draft

Topic 6-7: Towing a Rescue Watercraft

Terminal Learning Objective

At the end of this topic a student, given a non-motorized watercraft available to the agency, an captain/guide and watercraft crewmember(s), will be able to tow a rescue watercraft so that the relative size of both watercraft is considered; neither vessel is broached (flipped); wind, weather, and water conditions are accounted for; lines are connected between the vessels; maneuverability and control are maintained; and both watercraft are protected from damage.

Enabling Learning Objectives

1. Describe safety considerations for towing watercraft
    - Environmental conditions (wind, water, current, weather)
    - Size of towing boat versus size of boat to be towed
    - Towing equipment available
    - Connection points
2. Describe non-motorized watercraft-specific procedures for taking a watercraft under tow
    - Rigging methods
    - Connection points
    - Chafe and impact protection
3. Describe towing methods
    - Stern tow
4. Describe non-motorized watercraft handling dynamics while towing
    - Control movement and direction of watercraft and watercraft under tow
    - Monitor position and condition of watercraft under tow
    - Communicate with watercraft operator to maneuver watercraft
    - Maintain situational awareness
5. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both vessels
6. Demonstrate conducting a stern tow

Discussion Questions

1. What are some safety considerations for the watercraft under tow?
2. How are emergency and non-emergency towing different?
3. How do you configure a towing bridle?

Application

1. Conduct a stern tow from a non-motorized watercraft

Instructor Notes

1. None

CTS Guide Reference: CTS 2-15, CTS 2-10

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Drill Ground Activities and Evolutions

Activities and Evolutions

The following components must be covered in the drill ground activities and/or evolutions but can be combined and completed in the order that best suits the props available and AHJ policies and procedures.

Drill ground activities must incorporate the following learning objectives:

- Size up a watercraft rescue incident (Topic 5-1)
- Conduct an incident hazard assessment and isolate hazards (Topic 5-2)
- Support an operations- or technician-level incident (Topic 5-6)
- PPE
    - Inspect PPE (Topic 2-1)
    - Locate, identify, don, and doff PPE (Topic 2-1)
- Communication
    - Communicate using verbal commands (Topic 3-1)
    - Communicate using hand signals (Topic 3-1)
    - Communicate using whistle blasts (Topic 3-1)
    - Communicate using radios (Topic 3-1)
- Navigation
    - Plot a course (Topic 3-3)
    - Select heading and speed to follow an intended course (Topic 3-3)
- Terminate an incident (Topic 5-8)

Drill ground activities must address the following watercraft operations:

- Assembly and Configuration
    - Assemble a raft (Topic 4-2)
    - Configure a watercraft to meet a mission objective (Topic 4-2)
- Maintenance and Readiness
    - Conduct a pre-operation check (Topic 4-4)
    - Conduct a post-operation check (Topic 4-4)
- Trailering
    - Conduct a pre-trip trailer inspection (Topic 4-3)
    - Load and secure a watercraft on a trailer (Topic 4-3)
    - Launch a watercraft from a trailer (Topic 4-3)
    - Recover a watercraft onto a trailer (Topic 4-3)
- Operating
    - Launch a non-motorized watercraft in dynamic water (Topic 6-2)
    - Recover a non-motorized watercraft from dynamic water (Topic 6-2)
    - Paddle and/or maneuver a non-motorized watercraft (Topic 6-3)
    - Use paddle commands and signals (Topic 6-3)

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- Perform basic non-motorized watercraft handling techniques (J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway) (Topic 6-3)
- Unwrap a non-motorized watercraft from an obstacle (at least as a simulation) (Topic 6-3)
- Right a flipped non-motorized watercraft (Topic 6-3)
- Enter a non-motorized watercraft from the water (self-rescue) (Topic 6-3)
- Enter a non-motorized watercraft from the water (crew assist) (Topic 6-3)
- Tie-off a non-motorized watercraft (Topic 6-4)

Drill ground activities must incorporate the following rescue scenarios:

- Manage a simulated rescue incident from initiation through demobilization and termination (Topic 2-3)
- Search
  - Perform reconnaissance, hasty (rapid), primary, and secondary searches (Topic 5-5)
  - Perform a night search (Topic 5-5)
  - Communicate search actions to a shore-based incident commander (Topic 5-5)
  - Coordinate multivessel rescue activities (Topic 5-5)
  - Enter, maneuver in, and exit the search environment (Topic 5-5)
  - Provide for and perform self-escape and self-rescue (Topic 5-5)
- Rescue
  - Rescue a victim from dynamic water using a non-motorized watercraft (Topic 6-5)
  - Rescue a victim from a fixed object using a non-motorized watercraft (Topic 6-5)
  - Rescue a victim using a throw bag from a non-motorized watercraft (Topic 6-5)
  - Retrieve a non-responsive victim using a non-motorized watercraft (Topic 6-5)
  - Perform self-rescue and survival swimming skills (Topic 2-4)
  - Deploy and recover a free-swimming rescue swimmer from a non-motorized watercraft (Topic 6-5)
  - Deploy and recover a tethered swimmer from a non-motorized watercraft (Topic 6-5)
  - Conduct a stern tow from a non-motorized watercraft (Topic 6-7)

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Safety Notes

Student Safety
Before conducting any in-water training you, as the instructor, are responsible for ensuring the safety of everyone involved in the training exercise.

Never put students in a position where they must act as the sole rescuer of other students. Their presence in the class implies that their knowledge and skill levels are not sufficient to operate without direct supervision.

Always be in a position from which you can rescue students. Drills, simulations, or training areas where students cannot be rapidly rescued are not suitable and must be avoided.

Site Selection
The body of water used for training should be no more complex than a Class III and should provide a means for safe and effective rescue of both students and instructors.

An ideal training area offers a variety of water features that provide opportunities to have students complete all skills.

Water depth and consistency should be suitable to perform all required tasks.

The bank of the body of water should provide a safe means of ingress and egress.

Be cautious when training in small waterways and creeks. These bodies of water don't usually carry heavy water flows and are often strainer choked and full of debris. Do a complete and comprehensive survey before training in these bodies of water.

Scrutinize irrigation canals and manmade dams. These structures often have debris such as rebar and rip rap in them that are hazardous to swimmers. They can also have rapidly changing water levels.

Low head dams are extremely hazardous and should never be used for training purposes. They offer no way out, and rescue is difficult at best. Training in and around them is inviting disaster.

Site Assessment and Safety
Be thoroughly familiar with the training area to identify and mitigate all hazards.

- Arrive early at the training site to assess conditions.
- Scout the training area for strainers, sweepers, exposed rebar, or other debris that could snag a student.
- Assess the area for foot and body entrapment hazards such as underwater ledges and submerged debris and logs.

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- Anticipate projected water levels and know if the waterway is influenced by dam release or prone to sudden changes due to hydroelectric activities or precipitation.
- The area may have a rapid current and with wave trains.
- Avoid areas with large holes or other dangerous currents.
- Monitor the weather for potential impact on water flows.
- Pre-plan the “no go” zone location.

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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.

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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.

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Non-Motorized Watercraft Rescue Technician (2021) Training Record

Name: _____

SFT ID Number: _____

Skill		Course Plan Topic	Evaluator Initials
1.	Inspect PPE	2-1	
2.	Locate, identify, don, and doff PPE	2-1	
3.	Manage a simulated rescue incident from initiation through demobilization and termination	2-3	
4.	Perform self-rescue and survival swimming skills	2-4	
5.	Communicate using verbal commands	3-1	
6.	Communicate using hand signals	3-1	
7.	Communicate using whistle blasts	3-1	
8.	Communicate using radios	3-1	
9.	Plot a course	3-3	
10.	Select heading and speed to follow an intended course	3-3	
11.	Assemble a raft	4-2	
12.	Configure a non-motorized watercraft to meet a mission objective	4-2	
13.	Conduct a pre-trip trailer inspection	4-3	
14.	Load and secure a non-motorized watercraft on a trailer	4-3	
15.	Launch a non-motorized watercraft from a trailer	4-3	
16.	Recover a non-motorized watercraft onto a trailer	4-3	
17.	Conduct a pre-operation check	4-4	
18.	Conduct a post-operation check	4-4	
19.	Size up a non-motorized watercraft rescue incident	5-1	
20.	Conduct an incident hazard assessment and isolate hazards	5-2	
21.	Perform reconnaissance, hasty (rapid), primary, and secondary searches	5-5	
22.	Perform a night search	5-5	

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23.	Communicate search actions to a shore-based incident commander	5-5	
24.	Coordinate multivessel rescue activities	5-5	
25.	Enter, maneuver in, and exit the search environment	5-5	
26.	Provide for and perform self-escape and self-rescue	5-5	
27.	Support an operations- or technician-level incident	5-6	
28.	Launch a non-motorized watercraft in dynamic water	6-2	
29.	Recover a non-motorized watercraft in dynamic water	6-2	
30.	Paddle and/or maneuver a non-motorized watercraft	6-3	
31.	Use paddle commands and signals	6-3	
32.	Perform basic non-motorized watercraft handling techniques (J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)	6-3	
33.	Unwrap a non-motorized watercraft from an obstacle (at least as a simulation)	6-3	
34.	Right a flipped non-motorized watercraft	6-3	
35.	Enter a non-motorized watercraft from the water (self-rescue)	6-3	
36.	Enter a non-motorized watercraft from the water (crew assist)	6-3	
37.	Tie-off a non-motorized watercraft	6-4	
38.	Rescue a victim from dynamic water using a non-motorized watercraft	6-5	
39.	Rescue a victim from a fixed object using a non-motorized watercraft	6-5	
40.	Rescue a victim using a throw bag from a non-motorized watercraft	6-5	
41.	Retrieve a non-responsive victim using a non-motorized watercraft	6-5	
42.	Deploy and recover a free-swimming rescue swimmer from a non-motorized watercraft	6-5	
43.	Deploy and recover a tethered swimmer from a non-motorized watercraft	6-5	
44.	Conduct a stern tow from a non-motorized watercraft	6-7	
45.	Terminate an incident	5-8	

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A candidate has successfully completed the skill when they perform it to the corresponding Terminal Learning Objective standard found in State Fire Training's Non-Motorized Watercraft Rescue Technician course.

SFT Course ID: _____

Course Delivery Date: _____

Instructor of Record: _____

Instructor SFT ID Number: _____

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Personal Rescue Watercraft Rescue Technician (2021)

Course Plan

Course Details

Description: This course provides the knowledge and skills to prepare an emergency responder to conduct rescue operations using a personal rescue watercraft (PRWC) in a safe and effective manner in accordance with AHJ policies and procedures. Topics include PPE; hydrology; incident management; self-rescue and survival swimming skills; communication; navigation; assembling and configuring watercraft; maintenance; trailering; hazard mitigation; launching, docking, operating, anchoring, and recovering watercraft; victim search and rescue; crew overboard events; and towing. This course incorporates awareness, operations, and technician training based on NFPA 1006 (2021).

Designed For: Public safety members with river and flood rescue responsibilities.

Prerequisites: Water Rescue Technician (2021) (SFT) **or** River and Flood Rescue Technician (2017) (SFT)

California Safe Boaters Safety Course (CBT – CA Boating and Waterways)

Urban Search and Rescue Boat Operator (CBT – FEMA)

Standard: Attend and participate in all course sections

Successful completion of all skills identified on the Training Record

Hours: 32 hours

(11 lecture / 21 application)

Max Class Size: 24

Instructor Level: SFT Registered Personal Rescue Watercraft Rescue Technician Instructor

Instructor/Student Ratio: 1:24 (lecture)

1:8 (application)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Registered Personal Rescue Watercraft Rescue Technician Instructors.

SFT recommends that students complete the requirements of their AHJ's swim test prior to course participation.

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SFT Designation: FSTEP

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Required Resources

Instructor Resources

To teach this course, instructors need:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (current edition)
- NFPA 2500: Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services (current edition)
- FIRECOPE ICS 162 Technical Search and Rescue Incident Operational System Description
- ICS 420-1 – Field Operations Guide (FEMA, current edition)
- Emergency Response Guidebook (DOT, current edition)
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

Recommended resources:

- *Water Rescue: Principles and Practice to NFPA 1006 and 1670: Surface, Swiftwater, Dive, Ice, Surf, and Flood* (Treinish, Steve; Jones & Bartlett; 3rd edition, 2021)
- *Swiftwater Rescue* (Slim Ray; CFS Press; expanded edition, 2013)
- *River Rescue: A Manual for Whitewater Safety* (Bechdel, Ray, & AtLee; CFS Press, 4th edition, 2009)

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/fire-service-training-and-education-program

- None

Student Resources

To participate in this course, students need:

- Any textbook required by the instructor
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

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

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    - Projector and screen
    - Laptop or tablet with presentation or other viewing software
    - Internet access with appropriate broadband capabilities
- A Personal Rescue Watercraft Rescue Technician training site with the NFPA 1006 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 curriculum
    - Minimum requirement is a waterway with Class 2 water features

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this Watercraft Rescue Technician course.

- The equipment listed below is the minimum for the delivery of this course.
- The student is responsible for providing their PPE and ensuring that all PPE meets AHJ and site requirements.
- For all tools and equipment, ensure that you have the power source, operating supplies (blades, fuel, etc.), cleaning supplies, and appropriate PPE.

The following equipment is required to deliver this course:

Quantity Per 8-student Team	Equipment
1	BLS/First-Aid kit (per AHJ)
2	PRWC (3 people max per PRWC)
2	Rescue platform attached to PRWC
1	Hand tools cash (long handled) including: o 90-degree pliers o Straight pliers o Cutting tool
2	Collapsible paddles (1 per PRWC)
2	Tow bridles (bow)
2	Tow bridles (stern)
1 per watercraft	Rope and waters rescue throw bags
1 per watercraft	Waterproof hand lights
1 per watercraft	VHF portable marine radios
2 of each color	Navigation lights (red, green, white – snap light or battery)
1	Large wheel beach-style trailer/cart
Determined by scenario	Straps to secure equipment to PRWC
Per Course	**Cache List**
1	Backboard (floating – recommended)

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6	Buoys (minimum – with adequate line and anchors for water depth)
1	Flush kit with required accessories
2 per class	Rescue tubes/cans
1 per class	Compasses
1 per class	GPS units
Per Course	**Optional**
Determined by scenario	Lanyard, kill switch, spare
Determined by scenario	Drain plugs, spare
Determined by scenario	Oil (per manufacturer's specifications)
Determined by scenario	Filter, oil (per manufacturer's specifications)
Determined by scenario	Repair kit
Determined by scenario	Water rescue manikins

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 Watercraft Rescue Technician class.

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Personal Rescue Watercraft Rescue Technician (2021) Instructor.

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Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Unit 1 Totals	**0.5**	**0.0**	**0.5**
Unit 2: Water Rescue Review			
Topic 2-1: Selecting and Using Personal Protective Equipment	0.25	0.5	
Topic 2-2: Describing Dynamic Hydrology and Identifying Travel Paths	0.5	0.0	
Topic 2-3: Managing a Water Rescue Incident	0.5	1.0	
Topic 2-4: Performing Self-Rescue and Survival Swimming Skills	0.5	1.25	
Unit 2 Totals	**1.75**	**2.74**	4.5
Unit 3: Communications and Navigation			
Topic 3-1: Communicating Between Watercraft and Rescuers	0.25	0.25	
Topic 3-2: Interpreting Navigational Aids and Devices	0.25	0.0	
Topic 3-3: Plotting a Course	0.25	0.5	
Unit 3 Totals	**0.75**	**0.75**	**1.5**
Unit 4: Watercraft Components and Terminology			
Topic 4-1: Identifying Types of Watercraft	0.5	0.25	
Topic 4-2: Assembling and Configuring Watercraft	0.25	0.5	
Topic 4-3: Performing Motor Maintenance	1.0	1.0	
Topic 4-4: Trailering a Watercraft	0.25	0.5	
Topic 4-5: Conducting Watercraft Pre- and Post-Operational Checks	1.0	1.0	
Topic 4-6: Shutting Down a Watercraft	0.25	0.0	
Unit 4 Totals	**3.25**	**3.25**	**6.5**
Unit 5: Initial Incident Actions			
Topic 5-1: Sizing Up a Watercraft Rescue Incident	0.5	0.5	
Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures	0.25	0.5	
Topic 5-3: Identifying When to Contact Local and Federal Authorities	0.25	0.0	
Topic 5-4: Recognizing the Need for Technical Rescue Resources	0.25	0.0	
Topic 5-5: Initiating a Discipline-Specific Search	0.5	2.0	

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Segment	Lecture	Application	Unit Total
Topic 5-6: Supporting an Operations- or Technician-level Incident	0.25	1.0	
Topic 5-7: Performing Ground Support Operations for Helicopter Activities	0.25	0.0	
Topic 5-8: Terminating an Incident	0.25	0.5	
Unit 5 Totals	**2.5**	**4.5**	**7.0**
Unit 6: Motorized Watercraft Operations			
Topic 6-1: Establishing PRWC Stability	0.5	0.0	
Topic 6-2: Launching, Docking, and Recovering a PRWC	0.5	2.0	
Topic 6-3: Operating a PRWC	0.25	4.5	
Topic 6-4: Anchoring a PRWC	0.25	0.5	
Topic 6-5: Performing PRWC-Based Victim Rescue	0.25	2.5	
Topic 6-6: Operating at a Crew Overboard Event	0.25	0.0	
Topic 6-7: Towing a Rescue Watercraft	0.25	0.25	
Unit 6 Totals	**2.25**	**9.75**	**12.0**
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	0.0	0.0
Course Totals	**11.0**	**21.0**	**32.0**

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 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

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exams. These are in-class assessments to evaluate student progress and calculate course grades.

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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.

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Unit 2: Water Rescue Review

Topic 2-1: Selecting and Using Personal Protective Equipment

Terminal Learning Objective

Select and use hazard-specific PPE, given a watercraft rescue incident/scenario, PPE, including personal flotation devices (PFDs), helmets, and exposure garments that are consistent with the needs of the incident and type of watercraft, so that PPE is used in accordance with AHJ policies relative to the specific incident/scenario; the wearer is protected from the effects of accidental immersion, exposure to the elements, and injury from unanticipated movement of the watercraft; PPE emergency escape procedures are followed; and distress signals are communicated.

Enabling Learning Objectives

1. Describe hazards present on and near water and aboard watercraft used by AHJ (including those presented by weather, current, water conditions) and their capacities
2. Describe types and uses of and selection criteria for PPE
    - Personal flotation device (PFD)
        - Type III (USCG)
        - Type V (USCG)
    - Dry suit/wetsuit
    - Thermal protection
    - Helmet
    - Gloves
    - Close-toed footwear
    - Whistle (pealess)
    - Knife
    - Headlamp
    - Strobe light
3. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices
4. Identify manufacturer's recommendations for PPE
5. Describe pre-operational checklists for PPE
6. Describe how to don and doff PPE
    - AHJ protocols for equipment positioning
7. Describe distress signals
8. Describe personal escape techniques
    - Applications
    - Capabilities
    - Equipment and procedures for signaling distress
9. Describe how to care for and maintain PPE
10. Inspect PPE
11. Use pre-operation checklists

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12. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment
13. Locate, identify, don, and doff PPE (including water rescue helmets and water insulating garments)
14. Communicate distress signals
15. Use emergency escape procedures

Discussion Questions

1. What types of PPE are appropriate for different water environments?
2. How do you care for and maintain PPE?
3. What is the most important piece of PPE for motorized watercraft rescue operations?

Application

1. Inspect PPE
2. Locate, identify, don, and doff PPE

Instructor Notes

1. ELO 1 is covered in much more detail in Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures. The goal here is to tie PPE use to hazards that rescuers may encounter.

CTS Guide: CTS 1-3, CTS 2-7

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Topic 2-2: Describing Dynamic Hydrology and Identifying Travel Paths

Terminal Learning Objective

At the end of this topic a student, given a dynamic water environment, will be able to describe dynamic hydrology as it relates to rivers, channels, and floods so that hydrology impacts are avoided or mitigated during water rescue operations.

Enabling Learning Objectives

1. Describe the forces of dynamic water
2. Describe how to calculate current speed
3. Describe how to calculate water volume (cubic feet of water per second) in a river/channel
4. Describe river orientation and where to place personnel
    - Upstream
    - Downstream
    - River right
    - River left
5. Describe features created by moving water and how they impact water rescue operations
    - Laminar flow
    - Helical flow
    - Eddies
    - Eddy lines
    - Strainers/sieves
        - Natural
        - Manmade
    - Pillows
    - Hole/hydraulic
        - Smiling (closed)
        - Frowning (open)
    - Standing waves (haystacks)
    - Aerated water
    - Current vectors
    - Manmade features
        - Low-head dams
        - Drainage culverts
            - Trapezoid
            - Rectangle
        - Hydroelectric facilities
6. Identify areas and features that are safe zones in dynamic water environments
7. Identify river classifications
    - Class 1 through 6
    - Change based on conditions
8. Describe effects of hydrodynamic forces on watercraft, rescuers, and victims

Draft

9. Describe criteria for selecting victim retrieval locations based on water environment and conditions
10. Describe techniques used to navigate dynamic water and identify travel paths and hazards

Discussion Questions

1. How does cubic feet per second (cfs) impact water hydrology?
2. How do water speed and volume impact watercraft rescue operations?
3. Where are safe zones typically found in dynamic water?

Application

1. Determined by instructor

Instructor Notes

1. For any topic taught in a classroom, supplement with images and videos as visual aids.

CTS Guide Reference: CTS 1-9

Draft

Topic 2-3: Managing a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given water rescue scenarios and AHJ policies, procedures, and standards, will be able to manage a water rescue incident in accordance with local, state, and federal standards, policies, and procedures.

Enabling Learning Objectives

1. Describe water rescue scope of practice and standards
    - NFPA 1006 (current edition)
        - Surface water
        - Swiftwater
        - Floodwater
    - NFPA 2500 (current edition)
    - FIRESCOPE 162, Chapter 12 (current edition)
    - AHJ policies, procedures, and standards
2. Describe policies/procedures for rescue team activation
    - Local
    - State
    - Federal
3. Describe legal considerations and practices
    - Training and certification requirements
    - Negligence
    - Abandonment
4. Describe the discipline-specific components of the Incident Command System
    - Upstream spotter
    - Downstream safety
    - Rigging team (if needed)
    - Rescue team lead
    - Rescuer/rescue team
    - Receiving team
5. Describe rescue priorities
    - Low risk to high risk
        - Talk
        - Reach
        - Throw
        - Boat (row)
        - Swim (go)
        - Tethered swimmer (tow)
        - Helicopter (helo)
    - Rescue vs. recovery
    - Incident within an incident
    - Safety priorities
        - Rescuer (self)

Draft

    - Rescue team
    - Victim(s)
6. Describe how to recognize the need for technical rescue resources
    - Identify need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Questions

1. What type of waterways are present in your AHJ?
2. What type of water rescue incidents are common to your AHJ?
3. What are your legal responsibilities regarding water rescue?
4. What are some key water rescue ICS positions?

Application

1. Manage a simulated rescue incident from initiation through demobilization and termination

Instructor Notes

1. Refer students to the course's training action plan (TAP) throughout the course.
2. Refer to FIRSCOPE ICS 162.

CTS Guide Reference: CTS 2-19

Draft

Topic 2-4: Performing Self-Rescue and Survival Swimming Skills

Terminal Learning Objective

At the end of this topic a student, given a variety of water environments, will be able to perform self-rescue and survival swimming skills so that flotation is maintained, body heat is conserved, and egress is accomplished.

Enabling Learning Objectives

1. Describe effects of hypothermia and cold-water immersion
2. Describe crew and passenger accountability
3. Describe survival scenarios and skills
    - Crew overboard
    - Dewatering emergency
    - Contact with watercraft propulsion elements
    - Uncontrolled falls
    - Entanglement
    - Hypothermia
    - Individual day and night emergency signaling requirements
4. Assess hydrology and hazards of environment prior to entering water
5. Identify travel paths and hazards
6. Float and move through water to reach a point of egress or await rescue while conserving body heat

Discussion Questions

1. What safety concerns must be identified prior to getting in the water?
2. How can currents help or hinder a swimmer's efforts?

Application

1. Perform self-rescue and survival swimming skills

Instructor Notes

1. Familiarize yourself with the environment and its hazards before putting students in the water.

CTS Guide Reference: CTS 2-6

Draft

Unit 3: Communications and Navigation

Topic 3-1: Communicating Between Watercraft and Rescuers

Terminal Learning Objective

At the end of this topic a student, given communication tools and equipment, will be able to communicate between the watercraft and other rescuers in the water, on the shore, in other watercraft, and in aircraft so that routine mission-related information and emergency messages are communicated to the intended recipient.

Enabling Learning Objectives

1. Describe methods of communication available to rescuer
    - Hand signals
    - Whistle commands
    - Flares
    - Emergency position-indicating radio beacon (EPIRB)
    - Personnel-locating beacon (PLB)
    - Radios
        - Marine band
            - Channel 16
        - AHJ-specific
2. Describe equipment limitations based on weather conditions, visibility, and distance from intended recipient
3. Describe communication procedures specific to USCG
    - Pan-pan
    - Sécurité
    - Mayday
4. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information

Discussion Questions

1. What type of radios do you use during watercraft rescue?
2. What common radio frequencies do you use in your AHJ?
3. What are the differences between pan-pan, sécurité, and mayday?

Application

1. Communicate using verbal commands
2. Communicate using hand signals
3. Communicate using whistle blasts
4. Communicate using radios

Instructor Notes

1. None

CTS Guide Reference: CTS 2-3

Draft

Topic 3-2: Interpreting Navigational Aids and Devices

Terminal Learning Objective

At the end of this topic a student, given marine lights, structures, and markings on land, other vessels, or on the water, will be able to interpret navigational aids and devices so that nautical landmarks and other vessels are identified, intended course is selected, and collisions are avoided.

Enabling Learning Objectives

1. Describe navigation rules and regulations that govern vessel operation in navigable waters
    - Applicable regions and waterways
    - Governing bodies
        - USCG
        - CA Department of Boating and Waterways
            - California Harbors and Navigation Code
    - Enforcement agencies
2. Describe how to use physical and app-based navigation devices
    - Compass
    - Chart plotters
    - GPS
    - Nav lights
    - Radar
    - Forward-looking infrared radar (FLIR)
3. Identify types of visual aids and navigation markers
    - Buoys
    - Signs
    - Markers
4. Describe how to interpret visual aids and navigation markers
    - Shapes, numbers, and colors
    - Location
    - Meaning
5. Describe how to use navigational aids to:
    - Maneuver into and out of protected channels
    - Identify hazards
6. Describe how to determine right of way for various types of vessels
    - Navigation rules and regulations that govern vessel operation in navigable waters
7. Describe how directional aids assist in navigation and determining right of way
8. Interpret markers, lights, and signals to determine a course that will avoid other vessels

Discussion Questions

1. What devices does your AHJ use for watercraft navigation?
2. What are common navigation markers in your service area?
3. How is right of way on navigable waterways determined in the United States?
4. How do you determine right of way for various types of vessels?

Draft

Application

1. Determined by instructor

Instructor Notes

1. If using a GPS, ensure all students are using the same format and datum.

CTS Guide Reference: CTS 2-5, CTS 3-11

Draft

Topic 3-3: Plotting a Course

Terminal Learning Objective

At the end of this topic a student, given navigational tools and charts, will be able to plot a course so that that heading, speed, and course are determined and wind, weather, current, and water conditions are taken into account.

Enabling Learning Objectives

1. Describe how to operate conventional and electronic navigation tools used by the agency
2. Describe how to plot a course
   - Identify start and end points
   - Identify obstacles
   - Identify heading and distance
3. Determine location, heading, and speed to achieve the desired outcome

Discussion Question

1. Determined by instructor

Application

1. Plot a course
2. Select heading and speed to follow an intended course

Instructor Notes

1. None

CTS Guide Reference: CTS 3-3

Draft

Unit 4: Watercraft Components and Terminology

Topic 4-1: Identifying Types of Watercraft

Terminal Learning Objective

At the end of this topic a student, given a list of watercraft used by the organization, will be able to identify types of watercraft so that their limitations, capabilities, load ratings, performance criteria, and considerations for their deployment and recovery in the intended environment are identified.

Enabling Learning Objectives

1. Identify types of watercraft used by organization
   - Motorized
   - Non-motorized
   - Personal rescue watercraft
2. Identify hull design and watercraft components
   - Bow, stern, port, and starboard
   - Gunwale tubes and valves, as applicable
   - Transom
   - Drain plugs
   - Hydrodynamics
3. Identify propulsion (motor) components
   - Kill switch with lanyard
   - Fuel lines
   - Fuel tanks
   - Warning systems
4. Describe factors that help determine watercraft selection and use
   - Capacity plate
     - Max allowable weight on vessel (people, motor, and gear)
     - Max allowable persons on vessel
     - Max allowable horsepower
   - Qualities and attributes of each craft
     - Draft
     - Size
     - Weight
     - Deployment method
   - Intended environment
     - Wind
     - Current
     - Weather conditions
   - Capabilities and limitations
   - Mission scope and tactical objectives
5. Describe common types of rescue watercraft
   - Inflatable rescue boat (IRB) (motorized)

Draft

    - Design
    - Construction materials
    - Capability
    - Inflation
    - Rigging
    - Components (D-rings, valves, handles, drain plug, scuppers, etc.)
    - Attachments (flip lines, painter/bow line, drift sock, motor, prop guards, tow bridles, etc.)
    - Maintenance and repair
    - Operational safety
- Rigid boat (motorized)
    - Design
    - Construction materials
    - Capability
    - Rigging
    - Components (D-rings, handles, pump, etc.)
    - Attachments (painter/bow line, motor, prop guards, tow bridles, etc.)
    - Maintenance and repair
    - Operational safety
- Raft (non-motorized)
    - Design
    - Construction materials
    - Capability
    - Inflation
    - Rigging
    - Components (D-rings, valves, handles, thwarts, etc.)
    - Attachments (oar frame, flip lines, painter/bow line, drift sock, etc.)
    - Maintenance and repair
    - Operational safety
- Personal rescue watercraft (PWRC)
    - Design
    - Construction materials
    - Capability
    - Rigging
    - Components (D-rings, handles, pump, motor, etc.)
    - Attachments (tow bridles, etc.)
    - Maintenance and repair
    - Operational safety

6. Identify watercraft characteristics that affect its selection for use in a specific environment for a specific mission
    - Draft
    - Sail area
    - Propulsion methods

Draft

- Size
- Weight
- Deployment method
- Configuration

Discussion Questions

1. What type of rescue watercraft are available in your AHJ?
2. How would you determine which boat to use for a rescue?
3. What are the differences between motorized inflatable rescue boats and jon boats?

Application

1. Given scenarios (videos or images), have students determine which type of watercraft to use and why.

Instructor Notes

1. Cover all three watercraft types (motorized, non-motorized, PRWC) at a high level. Cover the type specific to the course in detail.

CTS Guide Reference: CTS 2-1

Draft

Topic 4-2: Assembling and Configuring Watercraft

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to configure a watercraft so that the location of access and egress points, propulsion system components, steering controls, communication equipment, emergency equipment, through hull and deck fittings, portals, and fittings necessary for water- and weathertight integrity are located.

Enabling Learning Objectives

1. Describe how to assemble a watercraft
    - IRB/MIRB
        - Inflation
            - Manual
            - Mechanical
            - PSI
            - Pressure relief valves
            - Interconnecting valves
            - Environmental impact on inflation
        - Flooring
        - Motor mount
            - Transom brackets
            - Transom bolts
        - Fuel system (tank and lines)
        - Accessories (batteries, gear, etc.)
    - Jon boat
        - Motor mount
        - Fuel system
        - Accessories
    - Personal rescue watercraft
        - Accessories
2. Describe watercraft equipment and components and where to place it in the vessel
    - Paddles
    - Towing bridles
    - Compass
    - Righting line
    - Bow or painter line
    - Handheld lights
    - Anchor
    - Patch kit
    - Wheel kits
    - Rigging
3. Describe rescue equipment to carry on watercraft
    - Throw bag
    - Rescue tube or can

Draft

- Portable radio
- GPS
- Spare personal flotation devices (PFDs) for victims
- Knife
- First Aid/EMS
    - Waterproof container
    - Space blanket
- Helmets

4. Describe location of emergency equipment and how to operate and deploy it
    - Signaling devices
    - Fire extinguishers
    - Distress beacons
    - Life rafts
    - PFDs
    - Exposure suits
5. Describe how to configure a watercraft
6. Identify fittings, portals, and other equipment

Discussion Questions

1. What are the differences between boat equipment and rescue equipment?
2. What rescue equipment do boats in your AHJ carry?
3. What steps do you take to keep your equipment dry?
4. What are the pros and cons of fuel tank placement?

Application

1. Configure a PRWC to meet a mission objective

Instructor Notes

1. Refer to FIRESCOPE ICS 162.
2. Cover all three watercraft types (motorized, non-motorized, PRWC) at a high level. Cover the type specific to the course in detail.

CTS Guide Reference: CTS 2-2, CTS 2-16

Draft

Topic 4-3: Performing Motor Maintenance

Terminal Learning Objective

At the end of this topic a student, given a motorized river and flood rescue boat, will perform motor maintenance to ensure operational readiness.

Enabling Learning Objectives

1. Describe how water conditions impact motors
    - Salt
    - pH level
    - Turbidity
    - Harmful organisms
2. Identify equipment needed to perform motor maintenance
    - Tools
    - Reference materials
    - Fluids and replacement parts
    - Diagnostics equipment
3. Describe maintenance requirements for general use
    - New motor break in
    - Pre- and post-operation
    - Monthly
    - Annual
4. Describe how to service a PRWC motor
    - Check fuel and oil levels
    - Inspect
        - Spark plugs and indexing
        - Fuel system
        - Intake grate, shaft, pump, and ride plate
        - Air box
        - Electrical system
        - Hull
        - Drain plugs
        - Fire extinguisher
    - Inspect and lubricate
        - Reverse/neutral bucket and shift lever
        - Steering nozzle
        - Throttle assembly
    - Use bypass flush connection
    - Use fuel additives and nonethanol fuel diagnostics equipment
5. Identify equipment needed to dewater a PRWC
    - Tools
    - Diagnostic equipment
    - Replacement parts
6. Describe how to dewater a PWRC motor

Draft

- Remove spark plugs noting index
- Run diagnostics (optional)
- Extract water per manufacturer specifications
- Apply water-displacing lubricant to spark plug cylinders
- Apply anti-seize to spark plugs
- Reassemble
- Change oil and filter
- Restart

Discussion Questions

1. What are your AHJ's motor maintenance requirements?
2. What are the manufacturer's motor maintenance requirements for your motors?

Application

1. Perform pre- and post-op motor maintenance
2. Dewater a motor

Instructor Notes

1. All maintenance must comply with manufacture recommendations.

CTS Guide Reference: CTS 2-20

Draft

Topic 4-4: Trailering a Watercraft

Terminal Learning Objective

At the end of the topic a student, given a watercraft, tow vehicle, and trailer, will be able to trailer a watercraft so that watercraft is secure and ready for transport.

Enabling Learning Objectives

1. Identify trailers components
   - Hitch types and sizes
   - Electrical connection
   - Tires, wheels, and hubs
   - Winch
   - Bunks and rollers
   - Tie downs
2. Describe safety considerations associated with trailering operations
   - Pre-trip inspection and set up
     - Connect and secure trailer and lights
     - Check tires, wheels, and hubs
     - Check bunks and rollers
     - Check winch
     - Secure watercraft and all equipment
   - Backers
   - Transit
   - Travel speed
3. Describe how to back up a trailered watercraft
4. Describe trailer positioning
   - Launch
   - Recovery
   - Boat ramp etiquette
5. Describe considerations for unimproved launches
6. Conduct a pre-trip trailer inspection
7. Load and secure a watercraft on a trailer
8. Launch a watercraft from a trailer
9. Recover a watercraft onto a trailer

Discussion Questions

1. What are your AHJ's trailering policies?
2. What risks are involved with watercraft trailering and launching?

Application

1. Conduct a pre-trip trailer inspection
2. Load and secure a PRWC on a trailer
3. Launch a PRWC from a trailer
4. Recover a PRWC onto a trailer

Instructor Notes

1. None

Draft

CTS Guide Reference: CTS 2-21

Draft

Topic 4-5: Conducting Watercraft Pre- and Post-Operational Checks

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to conduct watercraft pre- and post-operational checks so that operational checks are performed, systems are energized, propulsion systems are started, functional checks are conducted, and the watercraft is ready to be deployed or returned to ready state.

Enabling Learning Objectives

1. Describe watercraft system operational procedures and readiness checks
    - Complete prior to and after operating the watercraft
    - Look for damage, leaks, broken or missing parts
    - Open compartments to ventilate prior to checks
2. Identify components to inspect
    - Watercraft structure
        - Hull integrity
        - Proper inflation
        - Valves
        - Seams
        - Drain plugs ~~and scuppers~~
        - Attachment points
        - Compartments
            - Latches (seat, hood, helm)
            - Gaskets (seat, hood, helm)
            - Straps (seat, hood, helm)
    - Electrical systems
        - Ignition
        - Navigation systems
        - Lights
            - Navigational
            - Accessory
        - Auxiliary
    - Motor
        - Kill switch lanyard
        - Oil level
        - Oil leaks
        - Hose connections
        - Fasteners
        - Fuel leaks
        - Intake grate (free of debris)
        - Fuel level
        - Fuel lines and cap
    - Controls
        - Reverse/neutral bucket and shift lever
        - Steering nozzle

Draft

    - Throttle assembly
  - Accessories
    - Rigging
    - Equipment
3. Check proper fluid levels, charges, connections, and lubrication of systems and connections

Discussion Questions

1. What are your agency's preventative maintenance service schedules?

Application

1. Conduct a pre-operation check
2. Conduct a post-operation check

Instructor Notes

1. Students will perform pre- and post-operational checks each day. Evaluation for the Training Record can occur during those daily routines.
2. Ensure that proper cooling systems are in place for all motor operations (in and out of water).

CTS Guide Reference: CTS 3-1

Draft

Topic 4-6: Shutting Down a Watercraft

Terminal Learning Objective

At the end of this topic a student, given a watercraft available to the agency, will be able to shut down a watercraft so that post-shutdown checks are conducted, and the craft is secured and protected from damage and tampering.

Enabling Learning Objectives

1. Describe AHJ procedures for watercraft shutdown operations
2. Describe how to shut down a watercraft
    - Shut down propulsion and ancillary systems
    - Secure watercraft from unwanted movement, theft, and vandalism
        - Tie knots, bends, and hitches required to moor or secure craft for long-term storage
    - Use conveyances such as trailers, davits, or jet docks for storing or securing watercraft

Discussion Question

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 3-12

Draft

Unit 5: Initial Incident Actions

Topic 5-1: Sizing Up a Watercraft Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, background information and applicable reference materials, will be able to size up a watercraft rescue incident so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameters are identified, and information required to develop an initial incident action plan is obtained.

Enabling Learning Objectives

1. Describe how to conduct a size up
    - Determine scope of the rescue
    - Define operational mode
    - Determine resource availability, capability, and response times
    - Determine types of rescues
    - Identify number of victims
    - Establish place last seen (PLS) and time last seen (TLS) of all the victims
    - Evaluate environmental conditions that influence victim location
    - Identify and interview witnesses and reporting parties
    - Assess resource needs
    - Identify primary search parameters
    - Identify factors influencing access and egress routes
    - Identify water volume and velocity and technical features of search area
    - Obtain information required to develop an initial incident action plan
2. Describe types of reference materials and their uses
3. Describe how to conduct a risk/benefit assessment
4. Describe information-gathering techniques and how that information is used in the size-up process
5. Describe elements of an incident action plan and related information
6. Describe how size up relates to the incident management system
7. Describe basic search criteria for watercraft rescue incidents
8. Read technical rescue reference materials
9. Gather information
10. Evaluate site conditions
11. Relay information
12. Use interview techniques
13. Manage witnesses
14. Use information-gathering sources

Discussion Questions

1. Determined by instructor

Draft

Application

1. Size up a PRWC rescue incident

Instructor Notes

1. ELO 7 is covered in more detail in Topic 5-5: Initiating a Discipline-Specific Search. Cover content at an introductory level here.

CTS Guide Reference: CTS 1-5

Draft

Topic 5-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Terminal Learning Objective

At the end of this topic a student, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, will be able to recognize incident hazards and initiate isolation procedures 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 taken into account.

Enabling Learning Objectives

1. Describe hazards created by or associated with watercraft rescue, including risks to rescuers and victims
    - Water depth
    - Positive, neutral, and negative load hazards
    - Slips, falls, entrapment
    - Propulsion hazards (motors, propellors, paddles, etc.)
    - Ripping, wrapping, and flipping the watercraft
    - Non-locking carabiners
    - Rigging hazards
    - Environmental hazards
    - Chemical hazards
    - Biological hazards
    - Animals and insects
2. Describe resource capabilities and limitations
3. Describe equipment types and their use
4. Describe types of mitigation and isolation equipment and their use
    - Propellor guards
    - Kill switch
    - Proper PPE
    - First aid kit
    - Lighting
5. Describe operational requirement concerns
6. Describe types of technical references (apps)
7. Describe methods for controlling access to the scene
8. Initiate mitigation and isolation procedures
    - Identify incident hazards
    - Identify resource capabilities and limitations
    - Assess potential hazards to rescuers and bystanders
    - Place scene control barriers
    - Operate control and mitigation equipment

Discussion Questions

1. When assessing a waterway, what are the most dangerous hazards?
2. What hazards are associated with working on and around watercraft?

Draft

Application

1. Conduct an incident hazard assessment and isolate hazards

Instructor Notes

1. None

CTS Guide Reference: CTS 1-6

Draft

Topic 5-3: Identifying When to Contact Local and Federal Authorities

Terminal Learning Objective

At the end of this topic a student, given conditions that require their involvement, will be able to identify conditions that require the notification of local and federal authorities so that the proper agency is notified and relevant information is communicated.

Enabling Learning Objectives

1. Identify conditions that require notification of local and federal authorities
    - Conditions that require their involvement
    - Vessels in distress
    - Hazards to navigation
    - Release of hazardous or toxic substances
    - Changes to water flow
    - Dead victim
    - Conditions that affect health and safety of those in and around navigable waters
2. Identify organizations or authorities to contact
    - US Coast Guard
    - Law enforcement
    - Fish and Wildlife
    - Water control agencies
    - Utilities
    - Other
3. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies
4. Describe methods of notification
5. Describe required other actions
6. Perform methods of notification

Discussion Question

1. Under what circumstances would you need to communicate with local, state, or federal agencies or authorities?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-4

Draft

Topic 5-4: Recognizing the Need for Technical Rescue Resources

Terminal Learning Objective

At the end of this topic a student, given AHJ guidelines, will be able to recognize the need for technical rescue resources at an operations- or technician-level incident so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Enabling Learning Objectives

1. Describe types of incidents common to the AHJ
2. Describe how to recognize the need for technical rescue resources
    - Identify need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Identify and evaluate various types of hazards within the AHJ
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Question

1. What technical rescue resources does your AHJ use for watercraft rescue?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-7

Draft

Topic 5-5: Initiating a Discipline-Specific Search

Terminal Learning Objective

At the end of this topic a student, give hazard-specific PPE, equipment pertinent to the search mission, an incident location, and victim investigative information, will be able to initiate a discipline-specific search so that search parameters are established, the victim profile is established, the access and egress of all people either involved in the search or already within the search area are questioned and the information is updated and relayed to command; the personnel assignments match their expertise, all victims are located as quickly as possible, applicable technical rescue concerns are managed, risks to searchers are minimized, and all searchers are accounted for.

Enabling Learning Objectives

1. Describe AHJ policies and procedures
2. Identify required resources for performing a search
    - Day vs. night
3. Describe how data collection and map applications can assist with victim searches
4. Describe search fundamentals
    - Location, Access, Stabilize, Transport (LAST)
    - Place Last Seen (PLS)
    - Time Last Seen (TLS)
    - Probability of Detection (POD)
5. Describe witness management
6. Identify different tools used for searches
7. Describe general water search categories
    - Aquatic Wide Area Search
    - River Search
    - Flood Basin Search
8. Describe search types
    - Reconnaissance
    - Hasty (rapid)
    - Primary
    - Secondary
        - Low
        - High
9. Describe how to operate in the site-specific environment
10. Describe how to transfer victims to responders
    - On shore
    - On a vessel
    - On a high-profile vehicle
11. Perform reconnaissance, hasty (rapid), primary, and secondary searches
12. Communicate actions to a shore-based incident commander
13. Coordinate multivessel rescue activities
14. Enter, maneuver in, and exit the search environment
15. Provide for and perform self-escape and self-rescue

Draft

Discussion Questions

1. What are the differences between types of searches?
2. What elements are required for an effective preplan?
3. What are specific safety considerations during incidents with multiple responding vessels?
4. What are specific safety considerations during night searches?
5. What are the most effective methods of communication between vessels?

Application

1. Perform reconnaissance, hasty (rapid), primary, and secondary searches
2. Perform a night search
3. Communicate search actions to a shore-based incident commander
4. Coordinate multivessel rescue activities
5. Enter, maneuver in, and exit the search environment
6. Provide for and perform self-escape and self-rescue

Instructor Notes

1. ELO 8: The search types are delineated in FIRESCOPE ICS 162.
2. Encourage students to use data collection and/or map applications during search drills.
3. At least one search during this class must be conducted at night.

CTS Guide Reference: CTS 1-1

Draft

Topic 5-6: Supporting an Operations- or Technician-level Incident

Terminal Learning Objective

At the end of this topic a student, given an incident, an assignment, an incident action plan, and resources from the tool cache, will be able to support an operations- or technician-level incident, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Enabling Learning Objectives

1. Describe AHJ operational protocols
2. Describe resource selection and use
3. Describe scene support requirements
4. Describe support procedures
    - Search patterns
    - Equipment setup
    - Communications
    - Upstream or downstream safety spotter
    - Personnel accountability
    - Tend to an in-water rescuer
    - Scene control and access
    - Liaison with victim, family, bystanders, agency, etc.
5. Identify how to avoid becoming a hazard or victim
6. Execute basic support skills

Discussion Question

1. How can you support an operations- or technician-level incident?
2. In what ways can a rescuer become a hazard or victim?'

Application

1. Support an operations- or technician-level incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-8

Draft

Topic 5-7: Performing Ground Support Operations for Helicopter Activities

Terminal Learning Objective

At the end of this topic a student, given a rescue scenario/incident, helicopter, operational plans, PPE, requisite equipment, and available specialized resources, will be able to perform ground support operations for helicopter activities so that rescue personnel are aware of the operational characteristics of the aircraft and demonstrate operational proficiency in establishing and securing landing zones and communicating with aircraft personnel until the assignment is complete.

Enabling Learning Objectives

1. Describe ground support operations relating to helicopter use and deployment
2. Describe operation plans for helicopter service activities
3. Describe type-specific PPE
4. Describe aircraft familiarization and hazard areas specific to helicopters
    - Aircraft personnel who provide instruction/authority
    - Proper way to approach and leave the area
    - Proper way to enter and exit aircraft
    - Working near/under rotor wash
    - Landing zone requirements
    - Crash survival principals
    - Ancillary aircraft rescue equipment
5. Describe scene control and landing zone requirements
6. Describe aircraft safety systems
7. Describe communication protocols
8. Provide ground support operations
9. Review standard operating procedures for helicopter operations
10. Use PPE
11. Establish and control landing zones
12. Communicate with aircrews

Discussion Question

1. What hazards are associated with working around watercraft and helicopters?

Application

1. Determined by instructor

Instructor Notes

1. SFT strongly recommends working with aircraft during the course when possible.

CTS Guide Reference: CTS 1-2

Draft

Topic 5-8: Terminating an Incident

Terminal Learning Objective

At the end of this topic a student, given PPE specific to the incident, isolation barriers, and a tool cache, will be able to terminate an incident so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for; scene documentation is performed; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are conducted; and command is terminated.

Enabling Learning Objectives

1. Describe PPE characteristics
   - PPE requirements change in IDLH vs non-IDLH
   - Decontamination requirements
2. Identify hazard and risk identification
   - Reevaluate mitigated and ongoing hazards
   - Resources in transition
   - Complacency
   - Normalized deviance
   - Fatigue
3. Describe equipment/vessel removal procedures
   - When to leave in place
   - Systematic breakdown and removal
4. Describe isolation techniques
5. Identify statutory requirements
   - Determined by AHJ
6. Identify responsible parties
7. Describe accountability system use
   - PAR – personnel accountability report
8. Describe documentation and reporting methods
   - Determined by AHJ
9. Describe post-incident analysis techniques
   - Determined by AHJ
   - Critical incident stress debriefing
10. Select and use hazard-specific PPE
11. Decontaminate PPE
12. Use barrier protection techniques
13. Implement data collection and record-keeping/reporting protocols
14. Conduct post-incident analysis activities

Discussion Question

1. What hazards and risks can arise during incident termination?
2. Who are some examples of responsible parties that may assume responsibility for the scene when the incident terminates?

Draft

3. What critical incident stress management resources are available to you?

Application

1. Terminate an incident

Instructor Notes

1. None

CTS Guide Reference: CTS 2-18

Draft

Unit 6: Personal Rescue Watercraft Operations

Topic 6-1: Establishing PRWC Stability

Terminal Learning Objective

At the end of this topic a student, given a PRWC used by the AHJ, a rescue board and tubes, will be able to maintain PRWC stability so that the stability of the craft is not compromised, the possibility of a fall is minimized, and the rescuer is protected from harm.

Enabling Learning Objectives

1. Describe elements that affect PRWC stability
    - Mass
    - Center of gravity
    - Inflation and profile
        - Rescue board (decreases performance of watercraft)
        - Tubes (decreases performance of watercraft)
    - Weight distribution
    - Impact loads
    - Current
    - Wind and water conditions
2. Describe how to board a PRWC
3. Describe how to exit a PRWC
4. Board and exit a PRWC in a manner that prevents injury and minimizes impact on watercraft stability

Discussion Question

1. How does weight distribution affect stability for different types of PRWC?
2. How do weather and water conditions impact PRWC inflation and stability?

Application

1. Determined by instructor

Instructor Notes

1. Students will board and exit PRWC as part of the course, but this is not a testable skill on the Training Record.

CTS Guide Reference: CTS 1-4

Draft

Topic 6-2: Launching, Docking, and Recovering a PRWC

Terminal Learning Objective

At the end of this topic a student, given a PRWC, tools and equipment, an operator, and rescue swimmers will be able to launch, dock, and recover a PRWC from a pier, dock, slip, trailer, or other conveyance so that communication is maintained between operator and crew, current and wind are accounted for, mooring lines are rigged and managed, equipment is secured, damage to the dock, slips, and watercraft is prevented, and watercraft is positioned properly at the slip and secured from unintended movement.

Enabling Learning Objectives

1. Describe considerations for specialized tools or conveyances used to launch and recover PRWC
    - Trailers
    - Jet docks
    - Davits
    - Beach carts
2. Describe how environmental conditions affect PRWC movement
    - Environmental conditions
        - Wind
        - Weather
        - Water
        - Tide
        - Attitude
            - Positive (against dominant force)
            - Negative (with dominant force)
    - Watercraft location
        - Leaving the dock/slip
        - After deployment
        - Approaching the dock/slip
            - Left side (with and without rescue board)
            - Right side (with and without rescue board)
            - Stern (with and without the rescue board)
        - After being secured
3. Describe how PRWC type impacts launch operations
4. Describe how to launch a PRWC as the operator
    - Prevent damage and minimize undesired movement of the watercraft
        - Rig lines (launch)
        - Rig fenders (dock)
        - Tie knots, bends, and hitches
        - Secure equipment
    - Predict direction and speed of vessel based on watercraft operators' actions
    - Position bow in positive attitude for launch and docking
    - Maneuver and position watercraft using lines or other external systems
5. Describe how launch a PRWC as an operator

Draft

- Maneuver and position watercraft
- Predict direction and speed of departure based on conditions

Discussion Questions

1. How do environmental conditions influence PRWC launches?
2. What are the benefits of launching PRWC in positive attitude?

Application

1. Launch a PRWC in dynamic water
2. Dock a PRWC in dynamic water
   - Left side (with and without the rescue board)
   - Right side (with and without the rescue board)
   - Stern dock (with and without the rescue board)
3. Recover a PRWC from dynamic water

Instructor Notes

1. Students should practice launching, docking, and recovering in static water before launching, docking, and recovering in dynamic water for evaluation.

CTS Guide Reference: CTS 2-9, CTS 2-10, CTS 3-4, CTS 3-5

Draft

Topic 6-3: Operating a PRWC

Terminal Learning Objective

At the end of this topic a student, given a PRWC, navigation tools, and a plotted course, will be able to operate a PRWC so that the course is followed, obstacles and other vessels are avoided, wind and currents accounted for, awareness of position is maintained, and the destination is reached.

Enabling Learning Objectives

1. Describe crew positions
   - Operator
   - Rescue swimmer(s)
2. Identify operation of the controls relevant to the PRWC and how they affect speed and direction of the vessel
3. Describe how to operate and manipulate a PRWC
   - Start up
     - Lanyard
     - Battery switch
     - Water depth
       - 1 person (knee deep)
       - 2+ persons (waist deep)
     - Communication (“Clear”)
     - Coolant system
       - Open (stream)
       - Closed
   - Shifter
     - Forward
     - Reverse
     - Neutral
   - Throttle
     - Speed control
   - Trim
     - Manual
     - Hydraulic
4. Describe basic PRWC handling techniques
   - Orientation
     - Pitch
     - Camber
   - Posture
     - Planing
     - Plowing
     - Trolling
   - Control
     - Hovering
     - Backing

Draft

    - Ferrying
- Turns
    - Wide
    - J
    - Peel
    - Around objects
    - Stall turn (Johnny B)
- Approach
    - Stationary object
    - Person
- Crew transfer while underway

5. Describe how to paddle and/or maneuver a disabled PRWC
    - Forward paddle
    - Back paddle
    - Left turn
    - Right turn
6. Describe vessel-specific policies and procedures for operating a PRWC
7. Describe effects of local water, wind, and weather conditions on PRWC direction and speed
8. Describe how to mitigate safety issues and potential watercraft-related emergencies
    - Slip and fall
    - Person(s) overboard
    - Structural failure (puncture, leak, etc.)
    - Loss of power
        - Motor failure
        - Debris in pump
    - Flip
    - Collision
    - Wrap (around an object)
9. Describe how to board a PRWC from the water
    - Self-rescue
    - Crew assist
10. Describe how to conduct dewatering operations
    - Purpose
        - Reduce or eliminate undesired water
        - Maintain vessel stability
        - Prevent watercraft damage
    - Watercraft-specific dewatering plan
    - Tools and equipment
        - Drains
        - Hand bilge pump
11. Right a flipped boat
12. Paddle and/or maneuver a watercraft

Draft

13. Use paddle commands and signals
14. Manipulate, start, and operate a motor
15. Perform motor-up operations
16. Approach a stationary object
17. Operate onboard dewatering equipment

Discussion Questions

1. What are some methods for avoiding contact with the PRWC's propulsion elements?
2. What are considerations for shallow-water operations?
3. What are considerations when in close proximity to other vessels, docks, piers, and bridges while avoiding associated hazards?
4. What would be an operational situation requiring the transfer of members or victims?

Application

1. Maintain a stationary in-water PRWC's stability while walking its perimeter
2. Paddle and/or maneuver a disabled PRWC
3. Manipulate, start, and operate a motor
4. Perform basic PRWC handling techniques (wide turns, J turns, peel turns, turns around objects, stall turn, approach a stationary object, ferrying, hovering, and backing, transfer crew while underway)
5. Right a flipped PRWC
6. Board PRWC from the water (self-rescue)
    - Right side
    - Left side
    - Stern side
7. Dewater/drain a PRWC

Instructor Notes

1. Students should practice operating in static water before operating in dynamic water for evaluation.

CTS Guide Reference: CTS 2-8, CTS 2-17, CTS 3-2

Draft

Topic 6-4: Anchoring a PRWC

Terminal Learning Objective

At the end of this topic a student, given a PRWC, an operator, watercraft crewmember(s), and anchoring equipment, will be able to anchor a PRWC so that the anchor is deployed to prevent vessel movement; and anchor swing, weather, current and tide change are accounted for.

Enabling Learning Objectives

1. Identify techniques for setting anchor
   - Shore-based
   - Water-based
2. Describe requirements for anchor size, line length for the vessel, and weather conditions
3. Describe the effects of vessel movement while at anchor
   - Dominant force
   - Changing water conditions
4. Set an anchor to minimize the potential for drag
5. Pay out anchor line to ensure proper scope is achieved for weather and tide changes

Discussion Question

1. What is your AHJ's anchor policy?
2. What complications can arise from setting an anchor in dynamic water?
3. What type of shore-based anchor does your AHJ use?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-11, CTS 3-6

Draft

Topic 6-5: Performing PRWC-Based Victim Rescue

Terminal Learning Objective

At the end of this topic a student, given a PRWC available to the agency, in-water rescuers, a watercraft operator, a water rescue tool cache, a means of securement, and water rescue PPE, will be able to deploy and recover rescuers to perform PRWC-based victim rescue so that rescuers are deployed and recovered at the designated location, the watercraft is not broached (flipped), control of the watercraft is maintained, risks to victim and rescuers are minimized; and rescuers and victim are removed from the hazard and protected from injury.

Enabling Learning Objectives

1. Describe how PRWC type impacts rescuer deployment and victim rescue
   - Hull design
   - Construction (fiberglass vs. plastic)
2. Describe how to rig or configure PRWC components and equipment
   - Search equipment
   - Rescue equipment
   - Transport equipment
   - Body recovery equipment
3. Describe how conditions affect rescuer deployment and victim rescue operations
   - Hazards
   - Water conditions
   - Watercraft posture and attitude
4. Describe communication processes
   - Crew to crew
   - Crew to victim
     - Maintain visibility between operator and victim (to avoid injury)
     - Give clear direction to the victim about next steps
5. Describe safety consideration during PRWC entry or exit
   - Contact with watercraft propulsion elements
   - Uncontrolled falls
   - Entanglement
   - Flipping
   - Rescue boards
6. Describe how to rescue a conscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer
   - Coordinate vessel movement and location (operator)
   - Maneuver and control watercraft (operator)
   - Capture and control victim against PRWC (operator)
     - Apply flotation
   - Pull victim onto watercraft (operator)
     - Wrist grab
     - Hand grab

Draft

7. Describe how to rescue an unconscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer
    - Coordinate vessel movement and location (operator)
    - Maneuver and control watercraft (operator)
    - Capture and control victim against PRWC (operator)
        - Apply flotation
    - Pull victim onto watercraft (operator)
        - Operator on opposite side of seat from victim
    - Secure victim across seat (operator)
8. Describe how to rescue a victim from dynamic water using a PRWC with a rescue board and rescue swimmer
    - Operator on PRWC, rescue swimmer on board
    - Coordinate vessel movement and location (operator)
    - Maneuver and control watercraft (operator)
    - Deploy rescue swimmer near victim (rescue swimmer)
        - Swim to victim
        - Capture and control victim
        - Position victim for rescue (arm up)
            - Conscious victim
            - Unconscious victim
    - Position for pick up (operator)
        - Execute peel turn, go down river, J turn, hover
    - Grasp victim's hand or wrist and swing victim and rescuer toward board (operator)
    - Pull victim onto board (rescue swimmer)
    - Control victim on board (rescue swimmer)
9. Describe how to rescue a victim from a fixed object using a PRWC with a rescue board but without a rescue swimmer
    - Coordinate vessel movement and location (operator)
    - Maneuver and control watercraft (operator)
        - Execute stall turn swinging board toward victim location
    - Direct victim onto board (operator)
        - If possible, have victim transition to PWRC seat
    - Maneuver and control watercraft away from object (operator)
10. Describe how to rescue a victim using a throw bag from a PRWC with a rescue board and rescue swimmers
    - Coordinate vessel movement and location (operator and bowman)
    - Maneuver and control watercraft (operator)
    - Set up throw bag and position on board (on-board rescue swimmer)
    - Communicate with in-water person:
        - Victim (on-board rescue swimmer)
        - In-water rescue swimmer (on-board rescue swimmer)
    - Deploy throw bags:
        - To solo victim (on-board rescue swimmer)

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    - To rescue swimmer (on-board rescue swimmer)
  - Retrieve victim and/or rescue swimmer with throw bags (on-board rescue swimmer)
    - Rope management
    - Communications
  - Capture and control victim (on-board rescue swimmer)
  - Pull victim and/or rescuer into watercraft (on-board rescue swimmer)
  - Control victim on board (on-board rescue swimmer)
  - Climb onto board (in-water rescue swimmer)
  - Transitions to PWRC seat (either rescue swimmer)
11. Describe on-board victim care considerations
  - Apply flotation (if victim does not have already)
  - Limit care to immediate life threatening injuries
  - Manually immobilize victim (avoid strapping to backboard or stokes basket)

Discussion Question

1. Why is it important to establish communications between the operator, crew, and rescuers? How can you maintain that communication during the operation?
2. Should you deploy rescuers into a positive or negative attitude?
3. What complications can arise when deploying rope/throw bags from a PRWC?
4. What is the safest way to deploy from a rescue board?

Application

1. Rescue a conscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer
2. Rescue an unconscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer
3. Rescue a victim from dynamic water using a PRWC with a rescue board and rescue swimmer
4. Rescue a victim from a fixed object using a PRWC with a rescue board but without a rescue swimmer
5. Rescue a victim using a throw bag from a PRWC with a rescue swimmer

Instructor Notes

1. Students should practice deploying rescuers and rescuing victims in static water before deploying rescuers and rescuing victims in dynamic water for evaluation.

CTS Guide Reference: CTS 2-13, CTS 2-14, CTS 3-8, CTS 3-9

Draft

Topic 6-6: Operating at a Crew Overboard Event

Terminal Learning Objective

At the end of this topic a student, given a PRWC available to the agency, an operator, and rescue swimmer, will be able to operate at a crew overboard (COB/MOB) event so that the incident is communicated to the operator, visual location of the subject is maintained, the location is marked, and recovery of the subject is accomplished.

Enabling Learning Objectives

1. Describe PRWC procedures for crew/man overboard
2. Describe effects of immersion and hypothermia
3. Describe communication methods for a COB event between operator and rescue swimmer
4. Describe tactics for noting COB locations to assist with returning to event location
   - Object in the water (surface marker)
   - Mark waypoint
   - Landmark references
5. Describe how to recover a rescue swimmer during a COB event
   - Note location of COB event
   - Maneuver watercraft back to COB location
   - Approach target area to recover crewmember
   - Recover crewmember

Discussion Question

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. Any skill associated with this topic is already embedded in Topic 6-5: Performing PRWC-Based Victim Rescue

CTS Guide Reference: CTS 2-12, CTS 3-7

Draft

Topic 6-7: Towing a Rescue Watercraft

Terminal Learning Objective

At the end of this topic a student, given a PRWC available to the agency, an operator, and watercraft crewmember(s), will be able to tow a rescue watercraft so that the relative size of both watercraft is considered; neither vessel is broached (flipped); wind, weather, and water conditions are accounted for; lines are connected between the vessels; maneuverability and control are maintained; and both watercraft are protected from damage.

Enabling Learning Objectives

1. Describe safety considerations for towing watercraft
    - Environmental conditions
        - Wind
        - Water
        - Current
        - Weather
    - Size of towing boat versus size of boat to be towed
    - Towing equipment available
    - Connection points
2. Describe PRWC-specific procedures for taking a watercraft under tow
    - Rigging methods
    - Connection points
    - Chafe and impact protection
3. Describe towing methods
    - Stern tow
4. Describe PRWC handling dynamics while towing
    - Control movement and direction of watercraft and watercraft under tow
    - Monitor position and condition of watercraft under tow
    - Communicate with watercraft operator to maneuver watercraft
    - Maintain situational awareness
5. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both vessels
6. Demonstrate conducting a stern tow

Discussion Questions

1. What are some safety considerations for towing watercraft?
2. How are emergency and non-emergency towing different?
3. How do you configure tow lines?
4. What is shock loading and how do you prevent it?

Application

1. Conduct a stern tow using a PRWC

Instructor Notes

1. None

CTS Guide Reference: CTS 2-15, CTS 3-10

Draft

Drill Ground Activities and Evolutions

Activities and Evolutions

The following components must be covered in the drill ground activities and/or evolutions but can be combined and completed in the order that best suits the props available and AHJ policies and procedures.

Drill ground activities must incorporate the following learning objectives:

- Size up a PRWC rescue incident (Topic 5-1)
- Conduct an incident hazard assessment and isolate hazards (Topic 5-2)
- Support an operations- or technician-level incident (Topic 5-6)
- PPE
    - Inspect PPE (Topic 2-1)
    - Locate, identify, don, and doff PPE (Topic 2-1)
- Communication
    - Communicate using verbal commands (Topic 3-1)
    - Communicate using hand signals (Topic 3-1)
    - Communicate using whistle blasts (Topic 3-1)
    - Communicate using radios (Topic 3-1)
- Navigation
    - Plot a course (Topic 3-3)
    - Select heading and speed to follow an intended course (Topic 3-3)
- Terminate an incident (Topic 5-8)

Drill ground activities must address the following watercraft operations:

- Configuration
    - Configure a PRWC to meet a mission objective (Topic 4-2)
- Maintenance and Readiness
    - Perform pre- and post-op motor maintenance (Topic 4-3)
    - Dewater a motor (Topic 4-3)
    - Conduct a pre-operation check (Topic 4-5)
    - Conduct a post-operation check (Topic 4-5)
- Trailering
    - Conduct a pre-trip trailer inspection (Topic 4-4)
    - Load and secure a PRCW on a trailer (Topic 4-4)
    - Launch a PRWC from a trailer (Topic 4-4)
    - Recover a PRWC onto a trailer (Topic 4-4)
- Operating
    - Launch a PRWC in dynamic water (Topic 6-2)
    - Dock a PRWC in dynamic water on the left side with a rescue board (Topic 6-2)
    - Dock a PRWC in dynamic water on the left side without a rescue board (Topic 6-2)
    - Dock a PRWC in dynamic water on the right side with a rescue board (Topic 6-2)

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- Dock a PRWC in dynamic water on the right side without a rescue board (Topic 6-2)
- Complete a stern dock with a PRWC with a rescue board (Topic 6-2)
- Complete a stern dock with a PRWC without a rescue board (Topic 6-2)
- Recover a PRWC from dynamic water (Topic 6-2)
- Maintain a stationary in-water PRWC's stability while walking its perimeter (Topic 6-3)
- Paddle and/or maneuver a disabled PRWC (Topic 6-3)
- Manipulate, start, and operate a motor (Topic 6-3)
- Perform basic PRWC handling techniques (wide turns, J turns, peel turns, turns around objects, stall turn, approach a stationary object, ferrying, hovering, and backing, transfer crew while underway) (Topic 6-3)
- Right a flipped PRWC (Topic 6-3)
- Board PRWC from the water on the right side (self-rescue) (Topic 6-3)
- Board PRWC from the water on the left side (self-rescue) (Topic 6-3)
- Board PRWC from the water on the stern side (self-rescue) (Topic 6-3)
- Dewater/drain a PRWC (Topic 6-3)

Drill ground activities must incorporate the following rescue scenarios:

- Manage a simulated rescue incident from initiation through demobilization and termination (Topic 2-3)
- Search
  - Perform reconnaissance, hasty (rapid), primary, and secondary searches (Topic 5-5)
  - Perform a night search (Topic 5-5)
  - Communicate search actions to a shore-based incident commander (Topic 5-5)
  - Coordinate multivessel rescue activities (Topic 5-5)
  - Enter, maneuver in, and exit the search environment (Topic 5-5)
  - Provide for and perform self-escape and self-rescue (Topic 5-5)
- Rescue
  - Rescue a conscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer (Topic 6-5)
  - Rescue an unconscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer (Topic 6-5)
  - Rescue a victim from dynamic water using a PRWC with a rescue board and rescue swimmer (Topic 6-5)
  - Rescue a victim from a fixed object using a PRWC with a rescue board but without a rescue swimmer (Topic 6-5)
  - Rescue a victim using a throw bag from a PRWC with a rescue swimmer (Topic 6-5)
  - Conduct a stern tow using a PRWC (Topic 6-7)

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Safety Notes

Student Safety

Before conducting any in-water training you, as the instructor, are responsible for ensuring the safety of everyone involved in the training exercise.

Never put students in a position where they must act as the sole rescuer of other students. Their presence in the class implies that their knowledge and skill levels are not sufficient to operate without direct supervision.

Always be in a position from which you can rescue students. Drills, simulations, or training areas where students cannot be rapidly rescued are not suitable and must be avoided.

Site Selection

The body of water used for training should be no more complex than a Class III and should provide a means for safe and effective rescue of both students and instructors.

An ideal training area offers a variety of water features that provide opportunities to have students complete all skills.

Water depth and consistency should be suitable to perform all required tasks.

The bank of the body of water should provide a safe means of ingress and egress.

Be cautious when training in small waterways and creeks. These bodies of water don't usually carry heavy water flows and are often strainer choked and full of debris. Do a complete and comprehensive survey before training in these bodies of water.

Scrutinize irrigation canals and manmade dams. These structures often have debris such as rebar and rip rap in them that are hazardous to swimmers. They can also have rapidly changing water levels.

Low head dams are extremely hazardous and should never be used for training purposes. They offer no way out, and rescue is difficult at best. Training in and around them is inviting disaster.

Site Assessment and Safety

Be thoroughly familiar with the training area to identify and mitigate all hazards.

- Arrive early at the training site to assess conditions.
- Scout the training area for strainers, sweepers, exposed rebar, or other debris that could snag a student.
- Assess the area for foot and body entrapment hazards such as underwater ledges and submerged debris and logs.
- Anticipate projected water levels and know if the waterway is influenced by dam release or prone to sudden changes due to hydroelectric activities or precipitation.

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- The area may have a rapid current and with wave trains.
- Avoid areas with large holes or other dangerous currents.
- Monitor the weather for potential impact on water flows.
- Pre-plan the “no go” zone location.

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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.

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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.

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Personal Rescue Watercraft Rescue Technician (2021) Training Record

Name: _____

SFT ID Number: _____

Skill		Course Plan Topic	Evaluator Initials
1.	Inspect PPE	2-1	
2.	Locate, identify, don, and doff PPE	2-1	
3.	Manage a simulated rescue incident from initiation through demobilization and termination	2-3	
4.	Perform self-rescue and survival swimming skills	2-4	
5.	Communicate using verbal commands	3-1	
6.	Communicate using hand signals	3-1	
7.	Communicate using whistle blasts	3-1	
8.	Communicate using radios	3-1	
9.	Plot a course	3-3	
10.	Select heading and speed to follow an intended course	3-3	
11.	Configure a PRWC to meet a mission objective	4-2	
12.	Perform pre- and post-op motor maintenance	4-3	
13.	Dewater a motor	4-3	
14.	Conduct a pre-trip trailer inspection	4-4	
15.	Load and secure a PRWC on a trailer	4-4	
16.	Launch a PRWC from a trailer	4-4	
17.	Recover a PRWC onto a trailer	4-4	
18.	Conduct a pre-operation check	4-5	
19.	Conduct a post-operation check	4-5	
20.	Size up a PRWC rescue incident	5-1	
21.	Conduct an incident hazard assessment and isolate hazards	5-2	
22.	Perform reconnaissance, hasty (rapid), primary, and secondary searches	5-5	

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23.	Perform a night search	5-5	
24.	Communicate search actions to a shore-based incident commander	5-5	
25.	Coordinate multivessel rescue activities	5-5	
26.	Enter, maneuver in, and exit the search environment	5-5	
27.	Provide for and perform self-escape and self-rescue	5-5	
28.	Support an operations- or technician-level incident	5-6	
29.	Launch a PRWC in dynamic water	6-2	
30.	Dock a PRWC in dynamic water on the left side with a rescue board	6-2	
31.	Dock a PRWC in dynamic water on the left side without a rescue board	6-2	
32.	Dock a PRWC in dynamic water on the right side with a rescue board	6-2	
33.	Dock a PRWC in dynamic water on the right side without a rescue board	6-2	
34.	Complete a stern dock a PRWC with a rescue board	6-2	
35.	Complete a stern dock a PRWC without a rescue board	6-2	
36.	Recover a PRWC from dynamic water	6-2	
37.	Maintain a stationary in-water PRWC's stability while walking its perimeter	6-3	
38	Paddle and/or maneuver a disabled PRWC	6-3	
39	Manipulate, start, and operate a motor	6-3	
40.	Perform basic PRWC handling techniques (wide turns, J turns, peel turns, turns around objects, stall turn, approach a stationary object, ferrying, hovering, and backing, transfer crew while underway)	6-3	
41.	Right a flipped PRWC	6-3	
42.	Board PRWC from the water on the right side (self-rescue)	6-3	
43.	Board PRWC from the water on the left side (self-rescue)	6-3	
44.	Board PRWC from the water on the stern side (self-rescue)	6-3	
45.	Dewater/drain a PRWC	6-3	
46.	Rescue a conscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer	6-5	

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47.	Rescue an unconscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer	6-5	
48.	Rescue a victim from dynamic water using a PRWC with a rescue board and rescue swimmer	6-5	
49.	Rescue a victim from a fixed object using a PRWC with a rescue board but without a rescue swimmer	6-5	
50.	Rescue a victim using a throw bag from a PRWC with a rescue swimmer	6-5	
51.	Terminate an incident	5-8	

A candidate has successfully completed the skill when they perform it to the corresponding Terminal Learning Objective standard found in State Fire Training's Personal Rescue Watercraft Rescue Technician course.

SFT Course ID: _____

Course Delivery Date: _____

Instructor of Record: _____

Instructor SFT ID Number: _____

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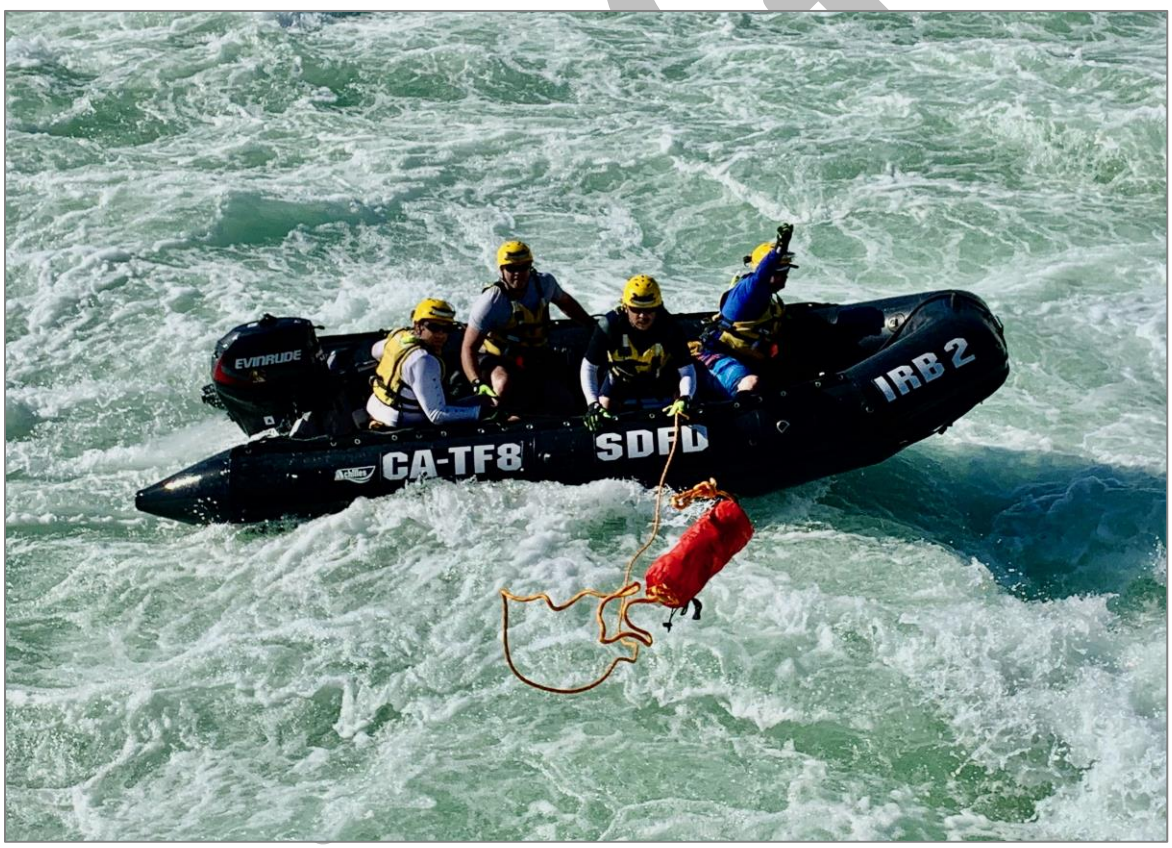
Motorized Watercraft Rescue Technician

(NFPA 1006: Watercraft Rescue Awareness/Operations/Technician)

Instructor Task Book (2021)



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 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

Published: Month Year

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

Cover photo courtesy of Aide Barbat, Battalion 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 a 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.

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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).

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A qualified evaluator is a Registered Motorized Watercraft Rescue Technician Instructor designated by the candidate's fire chief (or authorized designee). For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

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.

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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 Motorized Watercraft Rescue Technician (2021).

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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 one of the following prerequisites.

1. OSFM Fire and Emergency Services Instructor 1 (or equivalent) Certification
2. OSFM Registered Instructor

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. River and Flood Rescue Boat Technician (2017) **and** California Safe Boaters Safety (CBT – CA Boating and Waterways) **and** Urban Search and Rescue Boat Operator (CBT – FEMA)
   or
2. Motorized Watercraft Rescue Technician (2021)

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.

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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: _____

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Job Title: _____
Organization: _____
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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 gray shading.

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.
- In the tables, E1 represents the candidate's first evaluation and E2 represents their second evaluation.

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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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

Draft

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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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

Course Administration and Application

1. Course administration and orientation	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Complete and submit course scheduling request						
b. Order student textbooks (if applicable)						
c. Identify facility requirements						
d. Confirm facilities set up and safety						
e. Identify classroom requirements						
f. Confirm equipment (based on number of students)						
g. Complete instructor assignments						
h. Organize skill stations (location, equipment, timing, complexity)						
i. Confirm prop set up and safety						
j. Complete class rosters						
k. Review course syllabus						

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Water Rescue Review

2. Select and use personal protective equipment (Topic 2-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe hazards present on and near water and aboard watercraft used by AHJ (including those presented by weather, current, water conditions) and their capacities						
b. Describe types and uses of and selection criteria for PPE						
c. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices						
d. Identify manufacturer's recommendations for PPE						
e. Describe pre-operational checklists for PPE						
f. Describe how to don and doff PPE						
g. Describe distress signals						
h. Describe personal escape techniques						
i. Describe how to care for and maintain PPE						
j. Inspect PPE						
k. Use pre-operation checklists						
l. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment						
m. Locate, identify, don, and doff PPE (including water rescue helmets and water insulating garments)						
n. Communicate distress signals						
o. Use emergency escape procedures						

Draft

3. Describe dynamic hydrology and identify travel paths (Topic 2-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe the forces of dynamic water						
b. Describe how to calculate current speed						
c. Describe how to calculate water volume (cubic feet of water per second) in a river/channel						
d. Describe river orientation and where to place personnel						
e. Describe features created by moving water and how they impact water rescue operations						
f. Identify areas and features that are safe zones in dynamic water environments						
g. Identify river classifications						
h. Describe effects of hydrodynamic forces on rescuers and victims						
i. Describe criteria for selecting victim retrieval locations based on water environment and conditions						
j. Describe techniques used to navigate dynamic water and identify travel paths and hazards						
4. Manage a water rescue incident (Topic 2-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe water rescue scope of practice and standards						
b. Describe policies/procedures for rescue team activation						
c. Describe legal considerations and practices						
d. Describe the discipline-specific components of the Incident Command System						
e. Describe rescue priorities						

Draft

f. Describe how to recognize the need for technical rescue resources						
5. Perform self-rescue and survival swimming skills (Topic 2-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe effects of hypothermia and cold-water immersion						
b. Describe crew and passenger accountability						
c. Describe survival scenarios and skills						
d. Assess hydrology and hazards of environment prior to entering water						
e. Identify travel paths and hazards						
f. Float and move through water to reach a point of egress or await rescue while conserving body heat						

Communications and Navigation

6. Communicate between watercraft and rescuers (Topic 3-1)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe methods of communication available to rescuer						
b. Describe equipment limitations based on weather conditions, visibility, and distance from intended recipient						
c. Describe communication procedures specific to USCG						
d. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information						

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7. Interpret navigational aids and devices (Topic 3-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe navigation rules and regulations that govern vessel operation in navigable waters						
b. Describe how to use physical and app-based navigation devices						
c. Identify types of visual aids and navigation markers						
d. Describe how to interpret visual aids and navigation markers						
e. Describe how to use navigational aids						
f. Describe how to determine right of way for various types of vessels						
g. Describe how directional aids assist in navigation and determining right of way						
h. Interpret markers, lights, and signals to determine a course that will avoid other vessels						
8. Plot a course (Topic 3-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to operate conventional and electronic navigation tools used by the agency						
b. Describe how to plot a course						
c. Determine location, heading, and speed to achieve the desired outcome						

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Watercraft Components and Terminology

9. Identify types of watercraft (Topic 4-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Identify types of watercraft used by organization						
b. Identify hull design and watercraft components						
c. Identify propulsion (motor) components						
d. Describe factors that help determine watercraft selection and use						
e. Describe common types of rescue watercraft						
f. Identify watercraft characteristics that affect its selection for use in a specific environment for a specific mission						
10. Assemble and configure watercraft (Topic 4-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to assemble an IRM/MIRB watercraft						
b. Describe how to assemble a Jon boat						
c. Describe how to assemble a PRWC						
d. Describe watercraft equipment and components and where to place it in the vessel						
e. Describe rescue equipment to carry on watercraft						
f. Describe location of emergency equipment and how to operate and deploy it						
g. Describe how to configure a watercraft						
h. Identify fittings, portals, and other equipment						

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11. Perform watercraft maintenance (Topic 4-3)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe how water conditions impact motors						
b. Identify equipment needed to perform motor maintenance						
c. Describe maintenance requirements for general use						
d. Describe how to service an outboard motor						
e. Identify equipment needed to dewater an outboard motor						
f. Describe how to dewater an outboard motor						
12. Trailer a watercraft (Topic 4-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify trailers components						
b. Describe safety considerations associated with trailering operations						
c. Describe how to back up a trailered watercraft						
d. Describe trailer positioning						
e. Describe considerations for unimproved launches						
f. Conduct a pre-trip trailer inspection						
g. Load and secure a watercraft on a trailer						
h. Launch a watercraft from a trailer						
i. Recover a watercraft onto a trailer						

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13. Conduct watercraft pre- and post-operational checks (Topic 4-5)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe watercraft system operational procedures and readiness checks						
b. Identify components to inspect						
c. Check proper fluid levels, charges, connections, and lubrication of systems and connections						
14. Shut down a watercraft (Topic 4-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ procedures for watercraft shutdown operations						
b. Describe how to shut down a watercraft						

Initial Incident Actions

15. Size up a watercraft rescue incident (Topic 5-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe how to conduct a size up						
b. Describe types of reference materials and their uses						
c. Describe how to conduct a risk/benefit assessment						
d. Describe information-gathering techniques and how that information is used in the size-up process						
e. Describe elements of an incident action plan and related information						
f. Describe how size up relates to the incident management system						

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g. Describe basic search criteria for watercraft rescue incidents						
h. Read technical rescue reference materials						
i. Gather information						
j. Evaluate site conditions						
k. Relay information						
l. Use interview techniques						
m. Manage witnesses						
n. Use information-gathering sources						
16. Recognize incident hazards and initiate isolation procedures (Topic 5-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe hazards created by or associated with watercraft rescue, including risks to rescuers and victims						
b. Describe types of mitigation and isolation equipment and their use						
c. Describe operational requirement concerns						
d. Describe types of technical references (apps)						
e. Describe methods for controlling access to the scene						
f. Initiate mitigation and isolation procedures						
17. Identify when to contact local and federal authorities (Topic 5-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify conditions that require notification of local and federal authorities						
b. Identify organizations or authorities to contact						

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c. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies						
d. Describe methods of notification						
e. Describe required other actions						
f. Perform methods of notification						
18. Recognize the need for technical rescue resources (Topic 5-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe types of incidents common to the AHJ						
b. Describe how to recognize the need for technical rescue resources						
19. Initiate a discipline-specific search (Topic 5-5)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ policies and procedures						
b. Identify required resources for performing a search						
c. Describe how data collection and map applications can assist with victim searches						
d. Describe search fundamentals						
e. Describe witness management						
f. Identify different tools used for searches						
g. Describe general water search categories						
h. Describe search types						
i. Describe how to operate in the site-specific environment						
j. Describe how to transfer victims to responders						

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k. Perform reconnaissance, hasty (rapid), primary, and secondary searches						
l. Communicate actions to a shore-based incident commander						
m. Coordinate multivessel rescue activities						
n. Enter, maneuver in, and exit the search environment						
o. Provide for and perform self-escape and self-rescue						
20. Support an operations- or technician-level incident (Topic 5-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ operational protocols						
b. Describe scene support requirements						
c. Describe support procedures						
d. Identify how to avoid becoming a hazard or victim						
e. Execute basic support skills						
21. Perform ground support operations for helicopter activities (Topic 5-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe ground support operations relating to helicopter use and deployment						
b. Describe operation plans for helicopter service activities						
c. Describe type-specific PPE						
d. Describe aircraft familiarization and hazard areas specific to helicopters						
e. Describe scene control and landing zone requirements						
f. Describe aircraft safety systems						

Draft

g. Describe communication protocols						
h. Provide ground support operations						
i. Review standard operating procedures for helicopter operations						
j. Use PPE						
k. Establish and control landing zones						
l. Communicate with aircrews						
22. Terminate an incident (Topic 5-8)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe PPE characteristics						
b. Identify hazard and risk identification						
c. Describe equipment/vessel removal procedures						
d. Describe isolation techniques						
e. Identify statutory requirements						
f. Identify responsible parties						
g. Describe accountability system use						
h. Describe documentation and reporting methods						
i. Describe post-incident analysis techniques						
j. Select and use hazard-specific PPE						
k. Decontaminate PPE						
l. Use barrier protection techniques						

Draft

m. Implement data collection and record-keeping/reporting protocols						
n. Conduct post-incident analysis activities						

Motorized Watercraft Operations

23. Establish motorized watercraft stability (Topic 6-1)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe elements that affect motorized watercraft stability						
b. Describe how to board a motorized watercraft						
c. Describe how to exit a motorized watercraft						
d. Board and exit a motorized watercraft in a manner that prevents injury and minimizes impact on watercraft stability						
24. Launch, dock, and recover a motorized watercraft (Topic 6-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe considerations for specialized tools or conveyances used to launch and recover motorized watercraft						
b. Describe how environmental conditions affect motorized watercraft movement						
c. Describe how motorized watercraft type impacts launch operations						
d. Describe how to launch a motorized watercraft as a bowman						
e. Describe how launch a motorized watercraft as an operator						

Draft

25. Operate a motorized watercraft (Topic 6-3)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe crew positions						
b. Describe how to paddle and/or maneuver a motorized watercraft						
c. Describe paddle commands and signals						
d. Describe how to operate and manipulate a mechanized propulsion system						
e. Describe basic motorized watercraft handling techniques						
f. Describe vessel-specific policies and procedures for operating a motorized watercraft						
g. Describe effects of local water, wind, and weather conditions on motorized watercraft direction and speed						
h. Describe how to mitigate safety issues and potential motorized watercraft-related emergencies						
i. Describe how to enter a motorized watercraft from water (self-rescue and crew assist)						
j. Describe how to conduct dewatering operations						
k. Right a flipped motorized watercraft						
l. Paddle and/or maneuver a motorized watercraft						
m. Use paddle commands and signals						
n. Manipulate, start, and operate a motor						
o. Perform motor-up operations						
p. Approach a stationary object						
q. Select heading and speed to follow an intended course						

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r. Operate onboard dewatering equipment						
26. Anchor a motorized watercraft (Topic 6-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify techniques for setting anchor						
b. Describe requirements for anchor size, line length for the vessel, and weather conditions						
c. Describe the effects of watercraft movement while at anchor						
d. Set an anchor to minimize the potential for drag						
e. Pay out anchor line to ensure proper scope is achieved for weather and tide changes						
27. Perform motorized watercraft-based victim rescue (Topic 6-5)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how motorized watercraft type impacts rescuer deployment and victim rescue						
b. Describe how to rig or configure motorized watercraft components and equipment						
c. Describe how conditions affect rescuer deployment and victim rescue operations						
d. Describe communication processes						
e. Describe safety consideration during motorized watercraft entry or exit						
f. Describe how to rescue a victim from dynamic water using a motorized watercraft						
g. Describe how to rescue a victim from a fixed object using a motorized watercraft						

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h. Describe how to rescue a victim using a throw bag from a motorized watercraft						
i. Describe how to deploy a rescue swimmer from a motorized watercraft						
j. Describe on-board victim care considerations						
k. Describe how a retrieve a victim into a motorized watercraft						
28. Operate at a crew overboard event (Topic 6-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe motorized watercraft procedures for crew/man overboard						
b. Describe effects of immersion and hypothermia						
c. Describe communication methods for a COB event between operator and crew						
d. Describe tactics for noting COB locations to assist with returning to event location						
e. Describe how to support a COB event as a bowman						
f. Describe how to operate a motorized watercraft during a COB event						
29. Tow a rescue watercraft (Topic 6-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe safety considerations for towing watercraft						
b. Describe watercraft-specific procedures for taking another watercraft under tow						
c. Describe towing methods (stern and side)						
d. Describe watercraft handling dynamics while towing						

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e. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both watercraft						
f. Demonstrate conducting a stern tow						
g. Demonstrate conducting an alongside tow						

Application

30. Set up, demonstrate, and oversee drill ground operations and/or demonstrations	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Size up a motorized watercraft rescue incident						
b. Conduct an incident hazard assessment and isolate hazards						
c. Support an operations- or technician-level incident						
d. Manage a simulated rescue incident from initiation through demobilization and termination						
PPE						
e. Inspect PPE						
f. Locate, identify, don, and doff PPE						
Communication						
g. Communicate using verbal commands						
h. Communicate using hand signals						
i. Communicate using whistle blasts						
j. Communicate using radios						

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Navigation						
k. Plot a course						
l. Select heading and speed to follow an intended course						
Assembly and Configuration						
m. Assemble an inflatable rescue boat (IRB)						
n. Configure a motorized watercraft to meet a mission objective						
Maintenance and Readiness						
o. Perform pre- and post-op motor maintenance						
p. Dewater a motor						
q. Conduct a pre-operation check						
r. Conduct a post-operation check						
Trailering						
s. Conduct a pre-trip trailer inspection						
t. Load and secure a motorized watercraft on a trailer						
u. Launch a motorized watercraft from a trailer						
v. Recover a motorized watercraft onto a trailer						
Operating						
w. Launch a motorized watercraft in dynamic water						
x. Dock a motorized watercraft in dynamic water						
y. Recover a motorized watercraft from dynamic water						
z. Paddle and/or maneuver a motorized watercraft						

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aa. Use paddle commands and signals						
bb. Manipulate, start, and operate a motor						
cc. Perform motor-up operations						
dd. Perform basic motorized watercraft handling techniques (wide turns, J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)						
ee. Unwrap a motorized watercraft from an obstacle (at least as a simulation)						
ff. Right a flipped IRB						
gg. Enter motorized watercraft from the water (self-rescue)						
hh. Enter motorized watercraft from the water (crew assist)						
ii. Dewater/drain a motorized watercraft						
jj. Paddle to a safe location after power loss						
kk. Tie-off a motorized watercraft to a shore-based conveyance or object						
Search						
ll. Perform reconnaissance, hasty (rapid), primary, and secondary searches						
mm. Perform a night search						
nn. Communicate search actions to a shore-based incident commander						
oo. Coordinate multivessel rescue activities						
pp. Enter, maneuver in, and exit the search environment						
qq. Provide for and perform self-escape and self-rescue						

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Rescue						
rr. Rescue a victim from dynamic water using a motorized watercraft						
ss. Rescue a victim from a fixed object using a motorized watercraft						
tt. Rescue a victim using a throw bag from a motorized watercraft						
uu. Retrieve a non-responsive victim using a motorized watercraft						
vv. Perform self-rescue and survival swimming skills						
ww. Deploy and recover a free-swimming rescue swimmer from a motorized watercraft						
xx. Deploy and recover a tethered swimmer from a motorized watercraft						
yy. Conduct a stern tow from a motorized watercraft						
Termination						
zz. Terminate an incident						

Draft

Completion Requirements

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

Experience

The candidate meets the following experience requirements.

- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

Agency	Experience	Start Date	End Date

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

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

A candidate must complete a 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): _____

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Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Motorized Watercraft Rescue Technician. 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 Motorized Watercraft Rescue Technician. 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: _____

Draft

Personal Rescue Watercraft Rescue Technician

(NFPA 1006: Watercraft Rescue Awareness/Operations/Technician)

Instructor Task Book (2021)

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 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

Published: Month Year

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

Cover photo courtesy of Robert Stine, Fire Fighter/USAR Training Manager, San Bernardino County Fire.

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 a 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.

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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).

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A qualified evaluator is a Registered Personal Rescue Watercraft Rescue Technician Instructor designated by the candidate's fire chief (or authorized designee). For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

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.

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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 Personal Rescue Watercraft Rescue Technician (2021).

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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 one of the following prerequisites.

1. OSFM Fire and Emergency Services Instructor 1 (or equivalent) Certification
2. OSFM Registered Instructor

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 one of the following courses.

1. Personal Rescue Watercraft Rescue Technician (2021)

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.

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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: _____

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Job Title: _____
Organization: _____
Signature: _____

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Job Title: _____
Organization: _____
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Organization: _____
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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 gray shading.

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.
- In the tables, E1 represents the candidate's first evaluation and E2 represents their second evaluation.

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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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

Draft

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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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

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Course Administration and Application

1. Course administration and orientation	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Complete and submit course scheduling request						
b. Order student textbooks (if applicable)						
c. Identify facility requirements						
d. Confirm facilities set up and safety						
e. Identify classroom requirements						
f. Confirm equipment (based on number of students)						
g. Complete instructor assignments						
h. Organize skill stations (location, equipment, timing, complexity)						
i. Confirm prop set up and safety						
j. Complete class rosters						
k. Review course syllabus						

Draft

Water Rescue Review

2. Select and use personal protective equipment (Topic 2-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe hazards present on and near water and aboard watercraft used by AHJ (including those presented by weather, current, water conditions) and their capacities						
b. Describe types and uses of and selection criteria for PPE						
c. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices						
d. Identify manufacturer's recommendations for PPE						
e. Describe pre-operational checklists for PPE						
f. Describe how to don and doff PPE						
g. Describe distress signals						
h. Describe personal escape techniques						
i. Describe how to care for and maintain PPE						
j. Inspect PPE						
k. Use pre-operation checklists						
l. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment						
m. Locate, identify, don, and doff PPE (including water rescue helmets and water insulating garments)						
n. Communicate distress signals						
o. Use emergency escape procedures						

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3. Describe dynamic hydrology and identify travel paths (Topic 2-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe the forces of dynamic water						
b. Describe how to calculate current speed						
c. Describe how to calculate water volume (cubic feet of water per second) in a river/channel						
d. Describe river orientation and where to place personnel						
e. Describe features created by moving water and how they impact water rescue operations						
f. Identify areas and features that are safe zones in dynamic water environments						
g. Identify river classifications						
h. Describe effects of hydrodynamic forces on rescuers and victims						
i. Describe criteria for selecting victim retrieval locations based on water environment and conditions						
j. Describe techniques used to navigate dynamic water and identify travel paths and hazards						
4. Manage a water rescue incident (Topic 2-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe water rescue scope of practice and standards						
b. Describe policies/procedures for rescue team activation						
c. Describe legal considerations and practices						
d. Describe the discipline-specific components of the Incident Command System						
e. Describe rescue priorities						

Draft

f. Describe how to recognize the need for technical rescue resources						
5. Perform self-rescue and survival swimming skills (Topic 2-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe effects of hypothermia and cold-water immersion						
b. Describe crew and passenger accountability						
c. Describe survival scenarios and skills						
d. Assess hydrology and hazards of environment prior to entering water						
e. Identify travel paths and hazards						
f. Float and move through water to reach a point of egress or await rescue while conserving body heat						

Communications and Navigation

6. Communicate between watercraft and rescuers (Topic 3-1)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe methods of communication available to rescuer						
b. Describe equipment limitations based on weather conditions, visibility, and distance from intended recipient						
c. Describe communication procedures specific to USCG						
d. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information						

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7. Interpret navigational aids and devices (Topic 3-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe navigation rules and regulations that govern vessel operation in navigable waters						
b. Describe how to use physical and app-based navigation devices						
c. Identify types of visual aids and navigation markers						
d. Describe how to interpret visual aids and navigation markers						
e. Describe how to use navigational aids						
f. Describe how to determine right of way for various types of vessels						
g. Describe how directional aids assist in navigation and determining right of way						
h. Interpret markers, lights, and signals to determine a course that will avoid other vessels						
8. Plot a course (Topic 3-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to operate conventional and electronic navigation tools used by the agency						
b. Describe how to plot a course						
c. Determine location, heading, and speed to achieve the desired outcome						

Draft

Watercraft Components and Terminology

9. Identify types of watercraft (Topic 4-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Identify types of watercraft used by organization						
b. Identify hull design and watercraft components						
c. Identify propulsion (motor) components						
d. Describe factors that help determine watercraft selection and use						
e. Describe common types of rescue watercraft						
f. Identify watercraft characteristics that affect its selection for use in a specific environment for a specific mission						
10. Assemble and configure watercraft (Topic 4-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to assemble an IRM/MIRB watercraft						
b. Describe how to assemble a Jon boat						
c. Describe how to assemble a PRWC						
d. Describe watercraft equipment and components and where to place it in the vessel						
e. Describe rescue equipment to carry on watercraft						
f. Describe location of emergency equipment and how to operate and deploy it						
g. Describe how to configure a watercraft						
h. Identify fittings, portals, and other equipment						

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11. Perform watercraft maintenance (Topic 4-3)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe how water conditions impact motors						
b. Identify equipment needed to perform motor maintenance						
c. Describe maintenance requirements for general use						
d. Describe how to service an outboard motor						
e. Identify equipment needed to dewater an outboard motor						
f. Describe how to dewater an outboard motor						
12. Trailer a watercraft (Topic 4-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify trailers components						
b. Describe safety considerations associated with trailering operations						
c. Describe how to back up a trailered watercraft						
d. Describe trailer positioning						
e. Describe considerations for unimproved launches						
f. Conduct a pre-trip trailer inspection						
g. Load and secure a watercraft on a trailer						
h. Launch a watercraft from a trailer						
i. Recover a watercraft onto a trailer						

Draft

13. Conduct watercraft pre- and post-operational checks (Topic 4-5)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe watercraft system operational procedures and readiness checks						
b. Identify components to inspect						
c. Check proper fluid levels, charges, connections, and lubrication of systems and connections						
14. Shut down a watercraft (Topic 4-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ procedures for watercraft shutdown operations						
b. Describe how to shut down a watercraft						

Initial Incident Actions

15. Size up a watercraft rescue incident (Topic 5-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe how to conduct a size up						
b. Describe types of reference materials and their uses						
c. Describe how to conduct a risk/benefit assessment						
d. Describe information-gathering techniques and how that information is used in the size-up process						
e. Describe elements of an incident action plan and related information						
f. Describe how size up relates to the incident management system						

Draft

g. Describe basic search criteria for watercraft rescue incidents						
h. Read technical rescue reference materials						
i. Gather information						
j. Evaluate site conditions						
k. Relay information						
l. Use interview techniques						
m. Manage witnesses						
n. Use information-gathering sources						
16. Recognize incident hazards and initiate isolation procedures (Topic 5-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe hazards created by or associated with watercraft rescue, including risks to rescuers and victims						
b. Describe types of mitigation and isolation equipment and their use						
c. Describe operational requirement concerns						
d. Describe types of technical references (apps)						
e. Describe methods for controlling access to the scene						
f. Initiate mitigation and isolation procedures						
17. Identify when to contact local and federal authorities (Topic 5-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify conditions that require notification of local and federal authorities						
b. Identify organizations or authorities to contact						

Draft

c. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies						
d. Describe methods of notification						
e. Describe required other actions						
f. Perform methods of notification						
18. Recognize the need for technical rescue resources (Topic 5-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe types of incidents common to the AHJ						
b. Describe how to recognize the need for technical rescue resources						
19. Initiate a discipline-specific search (Topic 5-5)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ policies and procedures						
b. Identify required resources for performing a search						
c. Describe how data collection and map applications can assist with victim searches						
d. Describe search fundamentals						
e. Describe witness management						
f. Identify different tools used for searches						
g. Describe general water search categories						
h. Describe search types						
i. Describe how to operate in the site-specific environment						
j. Describe how to transfer victims to responders						

Draft

k. Perform reconnaissance, hasty (rapid), primary, and secondary searches						
l. Communicate actions to a shore-based incident commander						
m. Coordinate multivessel rescue activities						
n. Enter, maneuver in, and exit the search environment						
o. Provide for and perform self-escape and self-rescue						
20. Support an operations- or technician-level incident (Topic 5-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ operational protocols						
b. Describe scene support requirements						
c. Describe support procedures						
d. Identify how to avoid becoming a hazard or victim						
e. Execute basic support skills						
21. Perform ground support operations for helicopter activities (Topic 5-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe ground support operations relating to helicopter use and deployment						
b. Describe operation plans for helicopter service activities						
c. Describe type-specific PPE						
d. Describe aircraft familiarization and hazard areas specific to helicopters						
e. Describe scene control and landing zone requirements						
f. Describe aircraft safety systems						

Draft

g. Describe communication protocols						
h. Provide ground support operations						
i. Review standard operating procedures for helicopter operations						
j. Use PPE						
k. Establish and control landing zones						
l. Communicate with aircrews						
22. Terminate an incident (Topic 5-8)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe PPE characteristics						
b. Identify hazard and risk identification						
c. Describe equipment/vessel removal procedures						
d. Describe isolation techniques						
e. Identify statutory requirements						
f. Identify responsible parties						
g. Describe accountability system use						
h. Describe documentation and reporting methods						
i. Describe post-incident analysis techniques						
j. Select and use hazard-specific PPE						
k. Decontaminate PPE						
l. Use barrier protection techniques						

Draft

m. Implement data collection and record-keeping/reporting protocols						
n. Conduct post-incident analysis activities						

Personal Rescue Watercraft Operations

23. Establish PRWC watercraft stability (Topic 6-1)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe elements that affect PRWC stability						
b. Describe how to board a PRWC						
c. Describe how to exit a PRWC						
d. Board and exit a PRWC in a manner that prevents injury and minimizes impact on watercraft stability						
24. Launch, dock, and recover a PRWC (Topic 6-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe considerations for specialized tools or conveyances used to launch and recover PRWC						
b. Describe how environmental conditions affect PRWC movement						
c. Describe how PRWC type impacts launch operations						
d. Describe how to launch a PRWC as an operator						
e. Describe how launch a motorized watercraft as an operator						

Draft

25. Operate a PRWC (Topic 6-3)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe crew positions						
b. Identify operation of the controls relevant to the PRWC and how they affect speed and direction of the vessel						
c. Describe how to operate and manipulate a PRWC						
d. Describe basic PRWC handling techniques						
e. Describe how to paddle and/or maneuver a disabled PRWC						
f. Describe vessel-specific policies and procedures for operating a PRWC						
g. Describe effects of local water, wind, and weather conditions on PRWC direction and speed						
h. Describe how to mitigate safety issues and potential PRWC-related emergencies						
i. Describe how to board a PWRC from the water						
j. Describe how to conduct dewatering operations						
k. Right a flipped PRWC						
l. Paddle and/or maneuver a PRWC						
m. Use paddle commands and signals						
n. Manipulate, start, and operate a motor						
o. Perform motor-up operations						
p. Approach a stationary object						
q. Operate onboard dewatering equipment						

Draft

26. Anchor a PRWC (Topic 6-4)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Identify techniques for setting anchor						
b. Describe requirements for anchor size, line length for the vessel, and weather conditions						
c. Describe the effects of watercraft movement while at anchor						
d. Set an anchor to minimize the potential for drag						
e. Pay out anchor line to ensure proper scope is achieved for weather and tide changes						
27. Perform motorized watercraft-based victim rescue (Topic 6-5)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how PRWC type impacts rescuer deployment and victim rescue						
b. Describe how to rig or configure PRWC components and equipment						
c. Describe how conditions affect rescuer deployment and victim rescue operations						
d. Describe communication processes						
e. Describe safety consideration during PRWC entry or exit						
f. Describe how to rescue a conscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer						
g. Describe how to rescue an unconscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer						

Draft

h. Describe how to rescue a victim from dynamic water using a PRWC with a rescue board and rescue swimmer						
i. Describe how to rescue a victim from a fixed object using a PRWC with a rescue board but without a rescue swimmer						
j. Describe how to rescue a victim using a throw bag from a PRWC with a rescue board and rescue swimmers						
k. Describe on-board victim care considerations						
28. Operate at a crew overboard event (Topic 6-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe PRWC procedures for crew/man overboard						
b. Describe effects of immersion and hypothermia						
c. Describe communication methods for a COB event between operator and rescue swimmer						
d. Describe tactics for noting COB locations to assist with returning to event location						
e. Describe how to recover a rescue swimmer during a COB event						
29. Tow a rescue watercraft (Topic 6-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe safety considerations for towing watercraft						
b. Describe PRWC-specific procedures for taking another watercraft under tow						
c. Describe towing methods						
d. Describe PRWC handling dynamics while towing						

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e. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both vessels						
f. Demonstrate conducting a stern tow						

Application

30. Set up, demonstrate, and oversee drill ground operations and/or demonstrations	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Size up a PRWC rescue incident						
b. Conduct an incident hazard assessment and isolate hazards						
c. Support an operations- or technician-level incident						
d. Manage a simulated rescue incident from initiation through demobilization and termination						
PPE						
e. Inspect PPE						
f. Locate, identify, don, and doff PPE						
Communication						
g. Communicate using verbal commands						
h. Communicate using hand signals						
i. Communicate using whistle blasts						
j. Communicate using radios						

Draft

Navigation						
k. Plot a course						
l. Select heading and speed to follow an intended course						
Configuration						
m. Configure a PRWC to meet a mission objective						
Maintenance and Readiness						
n. Perform pre- and post-op motor maintenance						
o. Dewater a motor						
p. Conduct a pre-operation check						
q. Conduct a post-operation check						
Trailering						
r. Conduct a pre-trip trailer inspection						
s. Load and secure a PRWC on a trailer						
t. Launch a PRWC from a trailer						
u. Recover a PRWC onto a trailer						
Operating						
v. Launch a PRWC in dynamic water						
w. Dock a PRWC in dynamic water on the left side with a rescue board						
x. Dock a PRWC in dynamic water on the left side without a rescue board						
y. Dock a PRWC in dynamic water on the right side with a rescue board						

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z. Dock a PRWC in dynamic water on the right side without a rescue board						
aa. Complete a stern dock with a PRWC with a rescue board						
bb. Complete a stern dock with a PRWC without a rescue board						
cc. Recover a PRWC from dynamic water						
dd. Maintain a stationary in-water PWRC's stability while walking its perimeter						
ee. Paddle and/or maneuver a PRWC						
ff. Manipulate, start, and operate a motor						
gg. Perform basic PRWC handling techniques (wide turns, J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)						
hh. Right a flipped PRWC						
ii. Board PRWC from the water on the right side (self-rescue)						
jj. Board PRWC from the water on the left side (self-rescue)						
kk. Board PRWC from the water on the stern side (self-rescue)						
ll. Dewater/drain a motorized watercraft						
Search						
mm. Perform reconnaissance, hasty (rapid), primary, and secondary searches						
nn. Perform a night search						
oo. Communicate search actions to a shore-based incident commander						

Draft

pp. Coordinate multivessel rescue activities						
qq. Enter, maneuver in, and exit the search environment						
rr. Provide for and perform self-escape and self-rescue						
Rescue						
ss. Rescue a conscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer						
tt. Rescue an unconscious victim from dynamic water using a PRWC without a rescue board or rescue swimmer						
uu. Rescue a victim from dynamic water using a PRWC with a rescue board and rescue swimmer						
vv. Rescue a victim from a fixed object using a PRWC with a rescue board but without a rescue swimmer						
ww. Rescue a victim using a throw bag from a PRWC with a rescue swimmer						
xx. Conduct a stern tow from a motorized watercraft						
Termination						
yy. Terminate an incident						

Draft

Completion Requirements

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

Experience

The candidate meets the following experience requirements.

- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

Agency	Experience	Start Date	End Date

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

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

A candidate must complete a 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): _____

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Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Personal Rescue Watercraft Rescue Technician. 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 Personal Rescue Watercraft Rescue Technician. 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.

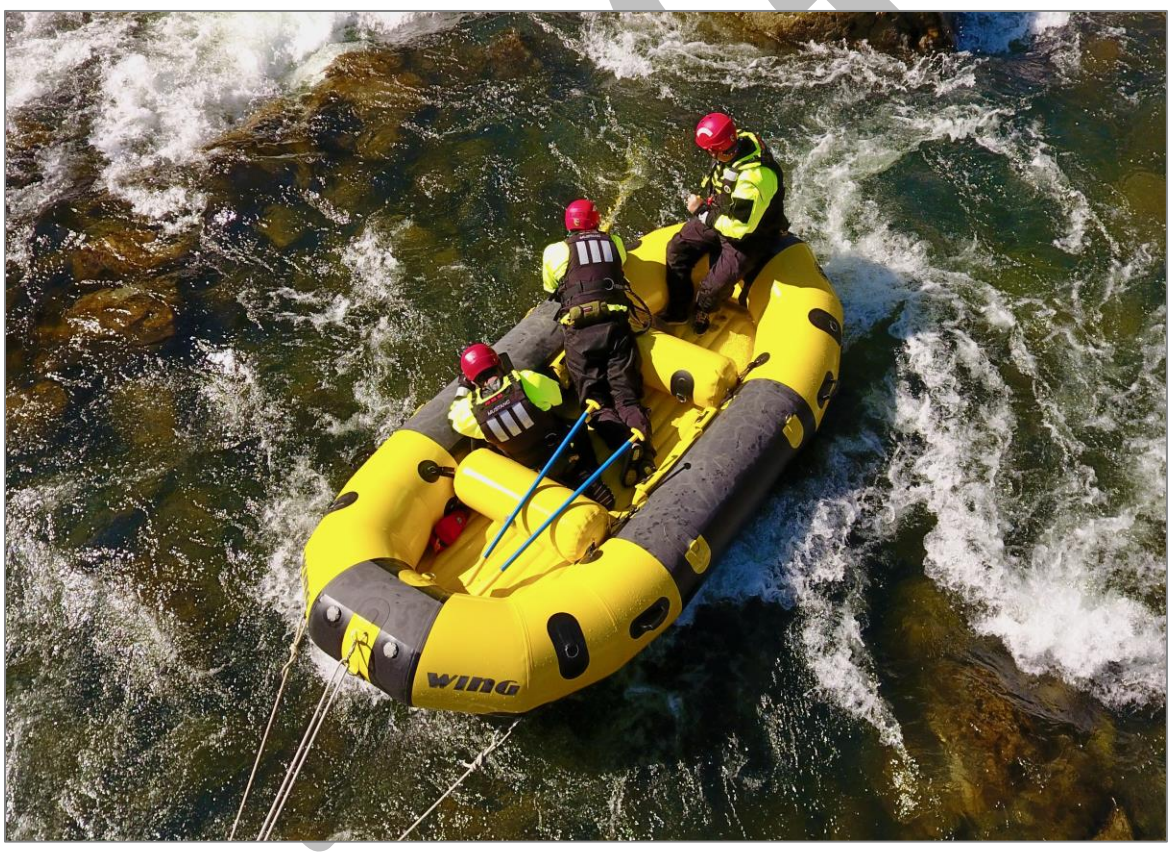
Signature: _____ Date: _____

Draft

Non-Motorized Watercraft Rescue Technician

(NFPA 1006: Watercraft Rescue Awareness/Operations/Technician)

Instructor Task Book (2021)



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 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

Published: Month Year

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

Cover photo courtesy of Sean Norman, Division Chief, CAL FIRE.

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 a 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.

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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).

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A qualified evaluator is a Registered Non-Motorized Watercraft Rescue Technician Instructor designated by the candidate's fire chief (or authorized designee). For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

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.

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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 Non-Motorized Watercraft Rescue Technician (2021).

Draft

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 one of the following prerequisites.

1. OSFM Fire and Emergency Services Instructor 1 (or equivalent) Certification
2. OSFM Registered Instructor

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 one of the following courses.

1. Non-Motorized Watercraft Rescue Technician (2021)

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.

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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: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

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Organization: _____
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Draft

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 gray shading.

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.
- In the tables, E1 represents the candidate's first evaluation and E2 represents their second evaluation.

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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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

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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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
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

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Course Administration and Application

1. Course administration and orientation	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Complete and submit course scheduling request						
b. Order student textbooks (if applicable)						
c. Identify facility requirements						
d. Confirm facilities set up and safety						
e. Identify classroom requirements						
f. Confirm equipment (based on number of students)						
g. Complete instructor assignments						
h. Organize skill stations (location, equipment, timing, complexity)						
i. Confirm prop set up and safety						
j. Complete class rosters						
k. Review course syllabus						

Draft

Water Rescue Review

2. Select and use personal protective equipment (Topic 2-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe hazards present on and near water and aboard watercraft used by AHJ (including those presented by weather, current, water conditions) and their capacities						
b. Describe types and uses of and selection criteria for PPE						
c. Describe capabilities and limitations of hazard-specific PPE and personal flotation devices						
d. Identify manufacturer's recommendations for PPE						
e. Describe pre-operational checklists for PPE						
f. Describe how to don and doff PPE						
g. Describe distress signals						
h. Describe personal escape techniques						
i. Describe how to care for and maintain PPE						
j. Inspect PPE						
k. Use pre-operation checklists						
l. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment						
m. Locate, identify, don, and doff PPE (including water rescue helmets and water insulating garments)						
n. Communicate distress signals						
o. Use emergency escape procedures						

Draft

3. Describe dynamic hydrology and identify travel paths (Topic 2-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe the forces of dynamic water						
b. Describe how to calculate current speed						
c. Describe how to calculate water volume (cubic feet of water per second) in a river/channel						
d. Describe river orientation and where to place personnel						
e. Describe features created by moving water and how they impact water rescue operations						
f. Identify areas and features that are safe zones in dynamic water environments						
g. Identify river classifications						
h. Describe effects of hydrodynamic forces on rescuers and victims						
i. Describe criteria for selecting victim retrieval locations based on water environment and conditions						
j. Describe techniques used to navigate dynamic water and identify travel paths and hazards						
4. Manage a water rescue incident (Topic 2-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe water rescue scope of practice and standards						
b. Describe policies/procedures for rescue team activation						
c. Describe legal considerations and practices						
d. Describe the discipline-specific components of the Incident Command System						
e. Describe rescue priorities						

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f. Describe how to recognize the need for technical rescue resources						
5. Perform self-rescue and survival swimming skills (Topic 2-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe effects of hypothermia and cold-water immersion						
b. Describe crew and passenger accountability						
c. Describe survival scenarios and skills						
d. Assess hydrology and hazards of environment prior to entering water						
e. Identify travel paths and hazards						
f. Float and move through water to reach a point of egress or await rescue while conserving body heat						

Communications and Navigation

6. Communicate between watercraft and rescuers (Topic 3-1)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe methods of communication available to rescuer						
b. Describe equipment limitations based on weather conditions, visibility, and distance from intended recipient						
c. Describe communication procedures specific to USCG						
d. Select and utilize available communication tools such as radios, hand signals, lights, audible signals, and loud hailers for the specific environment to communicate information						

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7. Interpret navigational aids and devices (Topic 3-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe navigation rules and regulations that govern vessel operation in navigable waters						
b. Describe how to use physical and app-based navigation devices						
c. Identify types of visual aids and navigation markers						
d. Describe how to interpret visual aids and navigation markers						
e. Describe how to use navigational aids						
f. Describe how to determine right of way for various types of vessels						
g. Describe how directional aids assist in navigation and determining right of way						
h. Interpret markers, lights, and signals to determine a course that will avoid other vessels						
8. Plot a course (Topic 3-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to operate conventional and electronic navigation tools used by the agency						
b. Describe how to plot a course						
c. Determine location, heading, and speed to achieve the desired outcome						

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Watercraft Components and Terminology

9. Identify types of watercraft (Topic 4-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Identify types of watercraft used by organization						
b. Identify hull design and watercraft components						
c. Identify propulsion (motor) components						
d. Describe factors that help determine watercraft selection and use						
e. Describe common types of rescue watercraft						
f. Identify watercraft characteristics that affect its selection for use in a specific environment for a specific mission						
10. Assemble and configure watercraft (Topic 4-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to assemble an IRM/MIRB watercraft						
b. Describe how to assemble a Jon boat						
c. Describe how to assemble a PRWC						
d. Describe watercraft equipment and components and where to place it in the vessel						
e. Describe rescue equipment to carry on watercraft						
f. Describe location of emergency equipment and how to operate and deploy it						
g. Describe how to configure a watercraft						
h. Identify fittings, portals, and other equipment						

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11. Trailer a watercraft (Topic 4-3)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Identify trailers components						
b. Describe safety considerations associated with trailering operations						
c. Describe how to back up a trailered watercraft						
d. Describe trailer positioning						
e. Describe considerations for unimproved launches						
f. Conduct a pre-trip trailer inspection						
g. Load and secure a watercraft on a trailer						
h. Launch a watercraft from a trailer						
i. Recover a watercraft onto a trailer						
12. Conduct watercraft pre- and post-operational checks (Topic 4-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe watercraft system operational procedures and readiness checks						
b. Identify components to inspect						
c. Check proper fluid levels, charges, connections, and lubrication of systems and connections						
d. Describe AHJ procedures for watercraft shutdown operations						
e. Describe how to shut down a watercraft						

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Initial Incident Actions

13. Size up a watercraft rescue incident (Topic 5-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe how to conduct a size up						
b. Describe types of reference materials and their uses						
c. Describe how to conduct a risk/benefit assessment						
d. Describe information-gathering techniques and how that information is used in the size-up process						
e. Describe elements of an incident action plan and related information						
f. Describe how size up relates to the incident management system						
g. Describe basic search criteria for watercraft rescue incidents						
h. Read technical rescue reference materials						
i. Gather information						
j. Evaluate site conditions						
k. Relay information						
l. Use interview techniques						
m. Manage witnesses						
n. Use information-gathering sources						

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14. Recognize incident hazards and initiate isolation procedures (Topic 5-2)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe hazards created by or associated with watercraft rescue, including risks to rescuers and victims						
b. Describe types of mitigation and isolation equipment and their use						
c. Describe operational requirement concerns						
d. Describe types of technical references (apps)						
e. Describe methods for controlling access to the scene						
f. Initiate mitigation and isolation procedures						
15. Identify when to contact local and federal authorities (Topic 5-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify conditions that require notification of local and federal authorities						
b. Identify organizations or authorities to contact						
c. Describe laws, regulations, and standards that identify conditions that require notification of outside agencies						
d. Describe methods of notification						
e. Describe required other actions						
f. Perform methods of notification						
16. Recognize the need for technical rescue resources (Topic 5-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe types of incidents common to the AHJ						

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b. Describe how to recognize the need for technical rescue resources						
17. Initiate a discipline-specific search (Topic 5-5)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ policies and procedures						
b. Identify required resources for performing a search						
c. Describe how data collection and map applications can assist with victim searches						
d. Describe search fundamentals						
e. Describe witness management						
f. Identify different tools used for searches						
g. Describe general water search categories						
h. Describe search types						
i. Describe how to operate in the site-specific environment						
j. Describe how to transfer victims to responders						
k. Perform reconnaissance, hasty (rapid), primary, and secondary searches						
l. Communicate actions to a shore-based incident commander						
m. Coordinate multivessel rescue activities						
n. Enter, maneuver in, and exit the search environment						
o. Provide for and perform self-escape and self-rescue						

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18. Support an operations- or technician-level incident (Topic 5-6)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe AHJ operational protocols						
b. Describe scene support requirements						
c. Describe support procedures						
d. Identify how to avoid becoming a hazard or victim						
e. Execute basic support skills						
19. Perform ground support operations for helicopter activities (Topic 5-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe ground support operations relating to helicopter use and deployment						
b. Describe operation plans for helicopter service activities						
c. Describe type-specific PPE						
d. Describe aircraft familiarization and hazard areas specific to helicopters						
e. Describe scene control and landing zone requirements						
f. Describe aircraft safety systems						
g. Describe communication protocols						
h. Provide ground support operations						
i. Review standard operating procedures for helicopter operations						
j. Use PPE						
k. Establish and control landing zones						

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l. Communicate with aircrews						
20. Terminate an incident (Topic 5-8)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe PPE characteristics						
b. Identify hazard and risk identification						
c. Describe equipment/vessel removal procedures						
d. Describe isolation techniques						
e. Identify statutory requirements						
f. Identify responsible parties						
g. Describe accountability system use						
h. Describe documentation and reporting methods						
i. Describe post-incident analysis techniques						
j. Select and use hazard-specific PPE						
k. Decontaminate PPE						
l. Use barrier protection techniques						
m. Implement data collection and record-keeping/reporting protocols						
n. Conduct post-incident analysis activities						

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Non-Motorized Watercraft Operations

21. Establish non-motorized watercraft stability (Topic 6-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe elements that affect non-motorized watercraft stability						
b. Describe how to board a non-motorized watercraft						
c. Describe how to exit a non-motorized watercraft						
d. Board and exit a non-motorized watercraft in a manner that prevents injury and minimizes impact on watercraft stability						
22. Launch, dock, and recover a non-motorized watercraft (Topic 6-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe considerations for specialized tools or conveyances used to launch and recover non-motorized watercraft						
b. Describe how environmental conditions affect non-motorized watercraft movement						
c. Describe how non-motorized watercraft type impacts launch operations						
d. Describe how to launch a non-motorized watercraft as a bowman						
e. Describe how launch a non-motorized watercraft as an operator						
23. Operate a non-motorized watercraft (Topic 6-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe crew positions						

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b. Describe how to paddle and/or maneuver a non-motorized watercraft						
c. Describe paddle commands and signals						
d. Describe basic non-motorized watercraft handling techniques						
e. Describe vessel-specific policies and procedures for operating a non-motorized watercraft						
f. Describe effects of local water, wind, and weather conditions on non-motorized watercraft direction and speed						
g. Describe how to mitigate safety issues and potential non-motorized watercraft-related emergencies						
h. Describe how to enter a non-motorized watercraft from water (self-rescue and crew assist)						
i. Right a flipped non-motorized watercraft						
j. Paddle and/or maneuver a non-motorized watercraft						
k. Use paddle commands and signals						
l. Approach a stationary object						
m. Select heading and speed to follow an intended course						
24. Tying off a non-motorized watercraft (Topic 6-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify techniques for tying off						
b. Describe requirements for line length						
c. Describe the effects of watercraft movement while tied off						
d. Tie off a non-motorized watercraft						

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25. Perform non-motorized watercraft-based victim rescue (Topic 6-5)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe how non-motorized watercraft type impacts rescuer deployment and victim rescue						
b. Describe how to rig or configure non-motorized watercraft components and equipment						
c. Describe how conditions affect rescuer deployment and victim rescue operations						
d. Describe communication processes						
e. Describe safety consideration during non-motorized watercraft entry or exit						
f. Describe how to rescue a victim from dynamic water using a non-motorized watercraft						
g. Describe how to rescue a victim from a fixed object using a non-motorized watercraft						
h. Describe how to rescue a victim using a throw bag from a non-motorized watercraft						
i. Describe how to deploy a rescue swimmer from a non-motorized watercraft						
j. Describe on-board victim care considerations						
k. Describe how a retrieve a victim into a no-motorized watercraft						
26. Operate at a crew overboard event (Topic 6-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe non-motorized watercraft procedures for crew/man overboard						
b. Describe effects of immersion and hypothermia						

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c. Describe communication methods for a COB event between operator and crew						
d. Describe tactics for noting COB locations to assist with returning to event location						
e. Describe how to support a COB event as a captain/guide						
f. Describe how to operate a non-motorized watercraft during a COB event						
27. Tow a rescue watercraft (Topic 6-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe safety considerations for towing watercraft						
b. Describe non-motorized watercraft-specific procedures for taking another watercraft under tow						
c. Describe towing methods (stern and side)						
d. Describe non-motorized watercraft handling dynamics while towing						
e. Describe propulsion capacities and impact of wind, weather, and water conditions on combined mass and surface area of both vessels						
f. Demonstrate conducting a stern tow						

Application

28. Set up, demonstrate, and oversee drill ground operations and/or demonstrations	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Size up a non-motorized watercraft rescue incident						
b. Conduct an incident hazard assessment and isolate hazards						

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c. Support an operations- or technician-level incident						
d. Manage a simulated rescue incident from initiation through demobilization and termination						
PPE						
e. Inspect PPE						
f. Locate, identify, don, and doff PPE						
Communication						
g. Communicate using verbal commands						
h. Communicate using hand signals						
i. Communicate using whistle blasts						
j. Communicate using radios						
Navigation						
k. Plot a course						
l. Select heading and speed to follow an intended course						
Assembly and Configuration						
m. Assemble a raft						
n. Configure a non-motorized watercraft to meet a mission objective						
Maintenance and Readiness						
o. Conduct a pre-operation check						
p. Conduct a post-operation check						

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Trailering						
q. Conduct a pre-trip trailer inspection						
r. Load and secure a non-motorized watercraft on a trailer						
s. Launch a non-motorized watercraft from a trailer						
t. Recover a non-motorized watercraft onto a trailer						
Operating						
u. Launch a non-motorized watercraft in dynamic water						
v. Recover a non-motorized watercraft from dynamic water						
w. Paddle and/or maneuver a non-motorized watercraft						
x. Use paddle commands and signals						
y. Perform basic non-motorized watercraft handling techniques (J turns, peel turns, turns around objects, approach a stationary object, pinning, ferrying, hovering, and backing, transfer crew while underway)						
z. Unwrap a non-motorized watercraft from an obstacle (at least as a simulation)						
aa. Right a flipped non-motorized watercraft						
bb. Enter a non-motorized watercraft from the water (self-rescue)						
cc. Enter a non-motorized watercraft from the water (crew assist)						
dd. Tie-off a non-motorized watercraft						
Search						
ee. Perform reconnaissance, hasty (rapid), primary, and secondary searches						

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ff. Perform a night search						
gg. Communicate search actions to a shore-based incident commander						
hh. Coordinate multivessel rescue activities						
ii. Enter, maneuver in, and exit the search environment						
jj. Provide for and perform self-escape and self-rescue						
Rescue						
kk. Rescue a victim from dynamic water using a non-motorized watercraft						
ll. Rescue a victim from a fixed object using a non-motorized watercraft						
mm. Rescue a victim using a throw bag from a non-motorized watercraft						
nn. Retrieve a non-responsive victim using a non-motorized watercraft						
oo. Perform self-rescue and survival swimming skills						
pp. Deploy and recover a free-swimming rescue swimmer from a non-motorized watercraft						
qq. Deploy and recover a tethered swimmer from a non-motorized watercraft						
rr. Conduct a stern tow from a non-motorized watercraft						
Termination						
ss. Terminate an incident						

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Completion Requirements

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

Experience

The candidate meets the following experience requirements.

- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

Agency	Experience	Start Date	End Date

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

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

A candidate must complete a 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): _____

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Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Non-Motorized Watercraft Rescue Technician. 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 Non-Motorized Watercraft Rescue Technician. 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: _____

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Watercraft Rescue Technician (2021) Interim Procedures

Issued: Month 2024

Procedure Changes

Edition:	May 2020 edition of the State Fire Training Procedures Manual
Effective Date:	September 1, 2024 (anticipated)
Section Changes:	Modify and update the following sections: • 6.7.9: FIRE FIGHTING AND RESCUE INSTRUCTOR
Justification:	Following approval by the State Board of Fire Services (SBFS), the new Water Rescue (2021) curriculum will go into effect on September 1, 2024. The new curriculum provides directive for instructor qualifications.
SFT Contact:	SFT Staff assigned to instructor registration.
Note:	All new text appears in underline. All deleted text appears in ~~strikeout~~.

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6.7.9: FIRE FIGHTING AND RESCUE INSTRUCTOR

6.7.9.1: Eligible Courses

Table 6.7.9.1: Fire Fighting and Rescue Instructor Eligible Courses

CFSTES Courses	FSTEP Courses
• None	• Command and Control of the RIC Deployment • Confined Space Rescue Awareness • Emergency Response to Alternative Fuels • Fire Fighter Survival • Fireline Safety for the Hired Vendor • Large Animal Rescue Operational • Low Angle Rope Rescue Operational (LARRO) • Motorized Watercraft Rescue Technician (2021) • Non-Motorized Watercraft Rescue Technician (2021) • Open Water Rescuer – Basic • Personal Rescue Watercraft ~~Operations~~ Rescue Technician (2021) • Rapid Intervention Crew (RIC) Operations • ~~Rescue Boat Operations~~ • River and Flood Water Rescue • Tire Fire Prevention and Suppression • Trench Rescue • Vehicle Extrication

6.7.9.2: General Qualifications

A. A Registered ~~Primary~~ Instructor for a Fire Service Training and Education Program (FSTEP) Fire Fighting and Rescue course shall meet the qualifications required of all State Fire Training (SFT) Registered ~~Primary~~ Instructors.
   1. See **6.2.1: Qualifications**.

6.7.9.3: Course Work

A. Attending and passing SFT's Confined Space Rescue Technician course meets the requirements for attending and passing Confined Space Rescue Awareness.

B. Registered Low Angle Rope Rescue Operational Instructors must have attended and passed ICS-200: Basic ICS.

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C. Attending and passing SFT's Auto Extrication (1996) course meets the requirement for attending and passing Vehicle Extrication.

6.7.9.4: Teaching Experience

A. In order to teach Command and Control of the RIC Deployment, the Registered Instructor must have previously assisted another Registered Instructor in teaching the course at least once.
    1. The Registered Instructor applicant shall submit to SFT a letter from a Registered Instructor verifying this requirement.

6.7.9.5: Professional Experience

A. A Registered ~~Primary~~ Instructor for an FSTEP Fire Fighting and Rescue course shall meet the professional experience qualifications listed below.
    1. Performing in an "acting" capacity does not qualify.

Table 6.7.9.5: Fire Fighting and Rescue Instructor Professional Experience

FSTEP Course	Experience
• Confined Space Rescue Awareness • Low Angle Rope Rescue Operational • ~~Personal Watercraft Operations~~ • ~~Rescue Boat Operations~~ • ~~River and Flood Water Rescue~~ • Trench Rescue	• Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of two years
• Emergency Response to Alternative Fuels • Fireline Safety for the Hired Vendor • Large Animal Rescue Operational • Open Water Rescuer – Basic • Tire Fire Prevention and Suppression	• Held the rank of Fire Fighter and/or performing suppression/rescue duties within a recognized fire agency in California for a minimum of two years
• Command and Control of RIC Deployment	One of the following: • Held the rank of Suppression Officer within a recognized fire agency in California for a minimum of three years • Worked as a volunteer Suppression Officer or paid Call Officer within a recognized fire agency in California for a minimum of five years
• Rapid Intervention Crew (RIC) Operations	• Have five years suppression/rescue experience, of which two years must be while holding the

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FSTEP Course	Experience
• Fire Fighter Survival	rank of Fire Fighter performing suppression/rescue duties within a recognized fire agency in California
• Vehicle Extrication	• Have three years' suppression/rescue experience performing suppression/rescue duties within a recognized fire agency in California
• Motorized Watercraft Rescue Technician (2021) • Non-Motorized Watercraft Rescue Technician (2021)	• Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

6.7.9.6: Task Book

A. Fire Fighter Survival
   1. An Instructor applicant for Fire Fighter Survival shall complete the appropriate instructor trainee task book.
   2. A Registered Fire Fighter Survival Primary Instructor must sign off on the applicant's task book within two years of its initiation.

B. Low Angle Rope Rescue Operational
   1. An Instructor applicant for Low Angle Rope Rescue Operational (LARRO) shall complete the appropriate instructor trainee task book.
   2. A Registered LARRO Primary Instructor must sign off on the applicant's task book within two years of its initiation.

C. Rapid Intervention Crew Operations
   1. An Instructor applicant for Rapid Intervention Crew Operations shall complete the appropriate instructor trainee task book.
   2. A Registered Rapid Intervention Crew Operations Primary Instructor must sign off on the applicant's task book within two (2) years of its initiation.

D. Watercraft Rescue
   1. An Instructor applicant for Motorized Watercraft Rescue Technician (2021), Non-Motorized Watercraft Rescue Technician (2021), or Personal Rescue Watercraft Rescue Technician (2021) shall complete the appropriate instructor task book.
   2. An Instructor applicant must complete their task book within three (3) years of its initiation date.

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