Water Tender Operations (2024)

Course Plan

Course Details

Certification: Water Tender Driver/Operator (2024)

CTS Guide: Fire Apparatus Driver/Operator (2024)

Description: This course provides the knowledge and skills needed to perform preventive maintenance on and operate a water tender. Topics include routine tests, inspections, and servicing functions unique to a water tender; maneuvering and positioning a water tender at a water shuttle fill site; filling a pumping apparatus; and establishing, maneuvering, and positioning at a water shuttle dump site.

Designed For: Personnel who drive and operate a water tender

Course Prerequisites: OSFM certified Fire Fighter 1 or certified Fire Fighter 2 tenured path (Appointment to the rank of Officer (Lieutenant or higher) waives this prerequisite. Appointment to the CAL FIRE rank of Fire Apparatus Engineer is equivalent to Officer level. Performing in an "acting" capacity does not fulfill this requirement.)

FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)

FADO 1B: Pumping Apparatus Operations (2017 or newer)

One of the following driver's licenses: Class C fire fighter endorsed, Commercial A, or Commercial B

Standard: Complete all activities, skills, and tests

Complete all summative tests with a minimum score of 80%

Hours (Total): 32 hours (7 lecture / 24 application / 1 testing)

Maximum Class Size: 30

Instructor Level: SFT Water Tender Driver/Operator Registered Instructor

Instructor/Student Ratio: 1:30 (lecture) / 1:6 (application)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Water Tender Driver/Operator Registered Instructors

Sufficient fire apparatus and space to accommodate classroom and skills training

SFT Designation: CFSTES

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- One of the following textbooks
  - *Fire Apparatus Driver/Operator: Pump, Aerial, Tiller, and Mobile Water Supply* (Jones & Bartlett, current edition)
  - *Pumping and Aerial Apparatus Driver/Operator Handbook* (IFSTA, current edition)
- Maintenance and inspection forms
- Manufacturer's specifications and requirements

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/professional-certifications:

- Water Tender Operations required activities
  - Activity 3-1(a): Operating a Water Tender on Pavement
  - Activity 3-1(b): Operate a Water Tender off Pavement
  - Activity 3-2: Maneuver and Position a Water Tender at a Water Shuttle Fill Site
  - Activity 3-4: Establish a Water Shuttle Dump Site
  - Activity 3-5: Maneuver and Position a Water Tender at an Established Water Shuttle Dump Site

Student Resources

To participate in this course, students need:

- Textbook selected by instructor
- Personal protective equipment (minimum = long pants, wildland jacket, gloves, helmet, footwear with toe protection)

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
  - Writing board or paper conference pads
  - Markers and erasers
  - Computer or tablet with presentation or other viewing software
  - Amplification devices
  - Projector and screen
- Sufficient water tenders to accommodate the students in the class
  - Recommend at least 30 minutes of drive time per student across Topics 3-1 through 3-5
- Pumping apparatus

- Adequate space to accommodate the required skills
- Tools and equipment for inspection and testing
- Fill site location
- Dump site location
- Fire hose
- Soft and hard suction supply hose
- Portable water tanks
- Low-level strainers
- Personal protective equipment (students)

Timetable

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Topic 1-2: Water Tender Driver/Operator Certification	0.5	0.0	
Unit 1 Totals	**1.0**	**0.0**	**1.0**
Unit 2: Preventive Maintenance			
Topic 2-1: Performing and Documenting Visual and Operational Checks	1.0	1.0	
Unit 2 Totals	**1.0**	**1.0**	**2.0**
Unit 3: Operations			
Topic 3-1: Operating a Water Tender	2.0	*	
Topic 3-2: Maneuvering and Positioning a Water Tender at a Water Shuttle Fill Site	1.0	*	
Topic 3-3: Filling a Pumping Apparatus	0.5	*	
Topic 3-4: Establishing a Water Shuttle Dump Site	1.0	*	
Topic 3-5: Maneuvering and Positioning a Water Tender at a Water Shuttle Dump Site	0.5	*	
Unit 3 Totals	**5.0**	**23.0**	**28.0**
Summative Assessment			
Determined by AHJ or educational institution	**0.0**	**1.0**	**1.0**
Skills Practice (Lab / Sets and Reps)			
Determined by AHJ or educational institution	**0.0**	**0.0**	**0.0**
Course Totals:	**7.0**	**25.0**	**32.0**

* Individual application time determined by instructor for a total of 23 hours for Unit 3. Recommend at least 30 minutes of drive time per student across Topics 3-1 through 3-5.

Timetable Key

1. The Timetable 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. = 0.25 hours
   - 30 min. = 0.50 hours
   - 45 min. = 0.75 hours
   - 60 min. = 1.00 hours

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

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

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

Enabling Learning Objectives

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

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 1-2: Water Tender Driver/Operator Certification

Terminal Learning Objective

At the end of this topic a student will be able to identify the requirements for the Water Tender Driver/Operator certification and be able to describe the certification task book and examenation process.

Enabling Learning Objectives

1. Identify different levels of certification in the Fire Apparatus Driver/Operator certification track
   - Pumping Apparatus
   - Aerial Apparatus
   - Tillered Apparatus
   - Wildland Fire Apparatus
   - Water Tender
2. Identify the prerequisites for certification
   - One of the following:
     - OSFM Fire Fighter 1 certification **or**
     - Appointment to the rank of Officer (Lieutenant or higher) or CAL FIRE rank of Fire Apparatus Engineer (Performing in an "acting" capacity does not fulfill this requirement.) **and**
   - Valid Class C Firefighter Endorsed **or** Commercial A **or** Commercial B driver's license (per California Vehicle Code, Section 12804.11)
3. Identify the courses required for certification
   - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
   - FADO 1B: Pumping Apparatus Operations (2017 or newer)
   - FADO 1F: Water Tender Operations (2017 or newer)
4. Identify the exams required for certification
   - No exams outside of class formative and summative testing
5. Identify the task book requirements for certification
   - Pumping Apparatus Certification Task Book (2024)
   - Water Tender Certification Task Book (2024)
6. Identify the experience requirements for certification (both required)
   - A minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Pumping Apparatus Driver/Operator **and**
   - A minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a driver/operator on the apparatus for which the candidate seeks certification
7. Identify the position requirements for certification
   - The position requirement is met when the applicant fulfills the role of the specific duties as defined by the fire chief
8. Describe the certification task book process
9. Describe the certification testing process

- Not applicable

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 2: Preventive Maintenance

Topic 2-1: Performing and Documenting Visual and Operational Checks

Terminal Learning Objective

At the end of this topic a student, given a water tender, tools and equipment, manufacturer specifications and requirements, maintenance and inspection forms, and AHJ policies and procedures, will be able to perform and document visual and operational checks on the water tank and other extinguishing agent levels (if applicable), pumping system (if applicable), rapid dump system (if applicable), and foam system (if applicable) in addition to those in 11.2.1 in NFPA 1010 (2024), so that the operational readiness of the water tender is verified.

Enabling Learning Objectives

1. Describe water tender systems and components
   - Foam system
   - Pumping system
   - Rapid dump system
   - Water tank and other extinguishing agent levels
   - Drop tank
   - Hydraulic lift assist system for portable tanks
2. Identify manufacturer specifications and requirements
3. Identify AHJ policies and procedures including documentation requirements
4. Use tools and equipment
5. Inspect a water tender
6. Recognize system or component problems and out-of-service criteria
7. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

Discussion Questions

1. What equipment or components are unique to a water tender?
2. What should be inspected on a rapid dump system?
3. What extinguishing agents may exist on a water tender?

Application

1. Given a water tender, manufacturer specifications and requirements, tools and equipment, and inspection forms, divide students into small groups and have each group perform a water tender inspection and present their findings.

Instructor Notes

1. None

CTS Guide Reference: CTS 16-1

Unit 3: Operations

Topic 3-1: Operating a Water Tender

Terminal Learning Objective

At the end of this topic a student, given a water tender, a predetermined route off of a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations, applicable laws and regulations, and AHJ policies and procedures, will be able to operate a water tender so that the water tender is operated in compliance with all applicable AHJ rules and regulations and operational limitations of the water tender.

Enabling Learning Objectives

1. Recognize water tender resource typing
2. Identify water tender uses
   - Fill engines (water shuttle fill sites)
   - Nurse tender operations
   - Fill stationary water sources (dump sites)
   - Water roads (dust control and powdering out)
3. Explain the effects of braking reaction time and load factors on vehicle control
   - On road
   - Off road
4. Explain the effects of high center of gravity on:
   - Roll-over potential
   - General steering reactions
   - Speed
   - Centrifugal force
5. Identify AHJ policies and procedures
6. Describe the principles of:
   - Skid avoidance
   - Night driving
   - Solo driving
   - Shifting
   - Gear patterns
   - Following/braking distance
   - Water surge, tank structure, and baffles
7. Describe how to negotiate:
   - Intersections
   - Railroad crossings
   - Soft shoulders
   - Grade changes
   - Bridges
   - Turns
8. Identify weight and height limitations for both roads and bridges

9. Describe automotive gauges and their operation
10. Explain operational limits
11. Identify communication needs between water tender driver operator and:
    - Crew
    - Water supply/shuttle operator
12. Identify off-pavement water tender emergencies
13. Describe potential causes of water tender accidents
14. Operate passenger restraint devices
15. Maintain safe following distances
16. Maintain control of the water tender while accelerating, decelerating, and turning, given road, weather, and traffic conditions
17. Operate the water tender under adverse environmental or driving surface conditions
18. Use automotive gauges and controls

Discussion Questions

1. How do you determine if a bridge is safe to cross?
2. What are some ways to estimate slope in the field?
3. When should you inhibit exhaust regeneration?
4. When should you engage your front axle?
5. When do you lock your rear axle?
6. How does the use of the auxiliary brake differ between:
    - On- and off-pavement driving?
    - Flat and incline or decline driving?
    - Fair and adverse weather conditions?
7. What tactics can you use to maintain control when encountering uneven road surface?
8. What is the safe following distance on a mid-slope road?

Application

1. Given sample water tender incidents, divide students into small groups and have each group identify and discuss hazards and mitigation techniques and present their findings to the class.
2. Activity 3-1(a): Operate a Water Tender on Pavement
3. Activity 3-1(b): Operate a Water Tender off Pavement

Instructor Notes

1. None

CTS Guide Reference: CTS 17-1

Topic 3-2: Maneuvering and Positioning a Water Tender at a Water Shuttle Fill Site

Terminal Learning Objective

At the end of this topic a student, given a water tender, fill site location, and one or more supply hoses, will be able to maneuver and position a water tender at a water shuttle fill site so that the water teender is positioned, supply hoses are attached to the intake connections without having to stretch additional hose, and no objects are struck at the fill site.

Enabling Learning Objectives

1. Describe local procedures for establishing a water shuttle fill site
2. Identify obstacles frequently encountered at fill sites
   - Ground saturation
   - Animals
   - Diminished clearance
   - Limited egress and espace routes
   - Overhangs or trees
3. Describe how to correctly position a water tender at a water shuttle fill site
4. Describe how to mark the stopping position of the water tender
5. Describe how to locate the water tank intakes on the water tender
6. Describe how to attach supply hose(s) to the intake connector
7. Describe efficient water transfer from water fill site to water tender
   - Single water tender
   - Multiple water tenders operating independently
   - Multiple water tenders operating in coordination
8. Determine a correct position for the water tender
9. Maneuver the water tender into the correct position
10. Avoid obstacles to operations

Discussion Questions

1. What are some obstacles that you might encounter at a water shuttle fill site?
2. Why do you need to complete a walk-around before leaving the fill site?
3. How do you determine apparatus reference points when positioning at a fill site and what is the advantage of doing so?

Application

1. Given pictures of potential water shuttle fill site locations, have students discuss the pros and cons of each site.
2. Activity 3-2: Maneuver and Position a Water Tender at a Water Shuttle Fill Site

Instructor Notes

1. None

CTS Guide Reference: CTS 17-2

Topic 3-3: Filling a Pumping Apparatus

Terminal Learning Objective

At the end of this topic a student, given a water tender, a pumping apparatus, tools and equipment, and one or more supply hoses, will be able to fill a pumping apparatus so that fire flow is managed to meet incident demand.

Enabling Learning Objectives

1. Describe communication requirements between water tender operator and other resources
   - Turnaround time
   - Water levels
   - Capacity (GPM)
   - Additional resource needs
2. Describe how to correctly position a water tender at a pumping apparatus
   - Access for other units and keeping roadways clear
   - Securing equipment and tools
3. Describe how to locate the water tank discharges on the water tender
4. Describe how to pump water to the pumping apparatus
   - Appropriate pressure
   - Appropriate GPM
   - Hose diameter
5. Describe water tender operations at a pumping apparatus
   - Shuttling operations
   - Nursing operations
6. Determine correct position for water tender
7. Maneuver water tender into correct position
8. Pump to an apparatus

Discussion Questions

1. How do you determine water supply to meet fire flow needs?
2. When is it appropriate to use a nursing tender?
3. What are some limitations of nursing tender operations?
4. What is an appropriate pressure to pump to an engine?

Application

1. Given a water tender, a pumping apparatus, tools and equipment, and one or more supply hoses, have students fill a pumping apparatus so that fire flow is managed to meet incident demand.

Instructor Notes

1. Students will have previous experience with relay pumping from FADO 1B. Use your application activity to explore different water transfer scenarios.

CTS Guide Reference: CTS 17-5

Topic 3-4: Establishing a Water Shuttle Dump Site

Terminal Learning Objective

At the end of this topic a student, given one or more water tenders, two or more portable water tanks, low-level strainers, hard suction hose, water transfer equipment, fire hose, and pumping apparatus, will be able to establish a water shuttle dump site so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and the water is transferred from one tank to the next.

Enabling Learning Objectives

1. Describe local procedures for establishing a water shuttle dump site
2. Describe principles of water transfer between multiple portable water tanks
3. Deploy portable water tanks
4. Connect and operate water transfer equipment
5. Connect a strainer and suction hose to the fire pump

Discussion Questions

1. What should you consider when setting up the traffic pattern for a dump site?
2. What types of surfaces should be avoided for a dump site?
3. What are the consequences of ground saturation?
4. What are the consequences of using muddy/contaminated water?
5. What are the considerations for a long-term dump site?
6. What are some considerations for refilling dip tanks during helicopter operations?

Application

1. Given a map, divide students into small groups and have each group select a location, diagram a dump site, and share their diagram with the class.
2. Activity 3-4: Establish a Water Shuttle Dump Site

Instructor Notes

1. None

CTS Guide Reference: CTS 17-4

Topic 3-5: Maneuvering and Positioning a Water Tender at an Established Water Shuttle Dump Site

Terminal Learning Objective

At the end of this topic a student, given a water tender, dump site, and portable water tank, will be able to maneuver and position a water tender at an established water shuttle dump site so that all of the water being discharged from the water tender enters the portable tank and no objects are struck at the dump site.

Enabling Learning Objectives

1. Describe local procedures for operating a water tender at a water shuttle dump site
2. Identify and locate water tank discharges on the water tender
3. Describe correct positioning of a water tender at a water shuttle dump site
4. Determine correct position for the water tender
5. Maneuver water tender into the correct position
6. Avoid obstacles to operations
7. Operate fire pump or rapid water dump system

Discussion Questions

1. What are some safety considerations for using a rapid dump (non-pump) system?

Activities

1. Activity 3-5: Maneuver and Position a Water Tender at an Established Water Shuttle Dump Site

Instructor Notes

1. None

CTS Guide Reference: CTS 17-3

How to Read a Course Plan

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

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

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

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

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

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

Operate a Water Tender on Pavement

Activity 3-1(a)

Format: Individual

Time Frame: Open (based on a total of 23 hours for skills practice and completion)

Description
This activity provides students with an opportunity to operate a water tender on pavement in compliance with all applicable AHJ rules and regulations and operational limitations of the apparatus.

Standard of Completion
Operate a water tender, given a water tender, a predetermined route on a paved public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operation, applicable laws and regulations, and AHJ policies and procedures, so that the water tender is operated in compliance with all applicable jurisdictional rules and regulations and operational limitations of the water tender. (OSFM)

Materials
- Water tender
- Designated area for on-pavement driving (driving course requirements are listed below)
- Spotter
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes
1. The on-pavement driving course shall include the following driving situations essential to driver/operator skills:
   - Navigating tight turns
   - Merging onto the freeway
   - Dealing with overpasses
   - Turn radius
   - Stopping distance and braking techniques
2. Demonstrate for the students before they practice and complete each skill.

Operate a Water Tender off Pavement

Activity 3-1(b)

Format: Individual

Time Frame: Open (based on a total of 23 hours for skills practice and completion)

Description
This activity provides students with an opportunity to operate a water tender off pavement in compliance with all applicable AHJ rules and regulations and operational limitations of the apparatus.

Standard of Completion
Operate a water tender, given a water tender, a predetermined route off of a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operation, applicable laws and regulations, and AHJ policies and procedures, so that the water tender is operated in compliance with all applicable jurisdictional rules and regulations and operational limitations of the water tender. (OSFM)

Materials
- Water tender
- Designated area for off-pavement driving (driving course requirements are listed below)
- Spotter
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes
1. The off-pavement driving course shall include the following driving situations essential to driver/operator skills:
    - Loose or wet soil
    - Steep grades (40%; not to exceed manufacturer's recommendation fore and aft)
    - Limited sight distance
    - Blind curve and mid-slope in-turns
    - Vehicle clearance obstacles (height, width, undercarriage [break-over], angle of approach, angle of departure, gates and fences)
    - Limited space for turnaround
    - Side slopes (15% side to side; not to exceed manufacturer's recommendation fore and aft)
    - Varying types of road surface (washboard, heavy silt, gravel, and transitioning from gravel to pavement)
    - Stopping distance and braking techniques
2. Demonstrate for the students before they practice and complete each skill.

Maneuver and Position a Water Tender at a Water Shuttle Fill Site

Activity 3-2

Format: Individual

Time Frame: Open (based on a total of 23 hours for skills practice and completion**)**

Description
This activity provides students with an opportunity to maneuver and position a water tender at a water shuttle fill site.

Standard of Completion
Maneuver and position a water tender at a water shuttle fill site, given a water tender, fill site location, and one or more supply hose, so that the water tender is positioned, supply hoses are attached to the intake connections without having to stretch additional hose, and no objects are struck at the fill site. (NFPA 1010 (2024) / Paragraph 17.4.1)

Materials
- Water tender
- Fill site location
- One (1) or more supply hose
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes
1. Demonstrate the skill for the students before they practice and complete each skill.

Establish a Water Shuttle Dump Site

Activity 3-4

Format: Individual

Time Frame: Open (based on a total of 23 hours for skills practice and completion)

Description
This activity provides students with an opportunity to establish a water shuttle dump site.

Standard of Completion
Establish a water shuttle dump site, given one or more water tenders, two or more portable water tanks, low-level strainers, hard suction hose, fire hose, and a fire apparatus equipped with a fire pump, so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and the water is transferred from one tank to the next. (NFPA 1010 (2024) / Paragraph 17.4.3)

Materials
- Water tender
- Two (2) or more portable tanks
- Low-level strainers
- Water transfer equipment
- Fire hose
- Pumping apparatus
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes
1. Demonstrate the skill for the students before they practice and complete each skill.

Maneuver and Position a Water Tender at an Established Water Shuttle Dump Site

Activity 3-5

Format: Individual

Time Frame: Open (based on a total of 23 hours for skills practice and completion)

Description
This activity provides students with an opportunity to maneuver and position a water tender at an established water shuttle dump site.

Standard of Completion
Maneuver and position a water tender at a water shuttle dump site, given a water tender, a dump site and a portable water tank, so that all of the water being discharged from the water tender enters the portable tank and no objects are struck at the dump site. (NFPA 1010 (2024) / Paragraph 17.4.2)

Materials
- Water tender
- Established water shuttle dump site
- Portable water tank
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes
1. Demonstrate the skill for the students before they practice and complete each skill.

Water Tender Driver/Operator

(NFPA 1010: Standard on Professional Qualifications for Firefighters)

Certification Task Book (2024)

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

Overview

Authority

This certification task book includes the certification training standards set forth in the Fire Apparatus Driver/Operator Certification Training Standards Guide (2024) which is based on NFPA 1010: Standard on Professional Qualifications for Firefighters (2024).

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

Cover photo courtesy of Name, Job Title, Organization.

Purpose

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

Assumptions

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

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

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

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

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

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

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

Roles and Responsibilities

Candidate

The candidate is the individual pursuing certification.

Initiation

The candidate shall:

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

Completion

The candidate shall:

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

Submission

The candidate shall:

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

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

Evaluator

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

An evaluator may verify satisfactory execution through the following methods:

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

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

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

A certification task book may have more than one evaluator.

All evaluators shall:

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

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

Fire Chief

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

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

Initiation

The fire chief shall:

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

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

Completion

The fire chief shall:

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

Submission and Review

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

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

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

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

State Fire Training reviews all submitted task books.

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

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

Initiation Requirements

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

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Prerequisites

The candidate meets the following prerequisites.

- OSFM Fire Fighter 1 certification
  or
- Appointment to the rank of Officer (Lieutenant or higher) **or** CAL FIRE rank of Fire Apparatus Engineer waives this certification prerequisite. (*Performing in an acting capacity does not fulfill this requirement.*)

Rank	Appointment Date

- OSFM Pumping Apparatus Driver/Operator certification

- Valid Class C Firefighter Endorsed **or** Commercial A **or** Commercial B driver's license (per California Vehicle Code, Section 12804.11). *Submit a copy of the license.*

License or Permit	Granting Agency/Institution	License/Permit #	Expiration Date

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

Education

The candidate has completed the following course(s).

- FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
- FADO 1B: Pumping Apparatus Operations (2017 or newer)
- FADO 1F: Water Tender Operations (2017 or newer)

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

Fire Chief Approval

Candidate's Fire Chief (please print): _____

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

Signature: _____ Date: _____

Signature Verification

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

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

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

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

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

Job Performance Requirements

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

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

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

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

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

Water Tender

Preventative Maintenance

1. Perform and document visual and operational checks on the systems and components specified in the following list (water tank and other extinguishing agent levels (if applicable), pumping system (if applicable), rapid dump system (if applicable), foam system (if applicable)) in addition to those specified in 11.2.1 in NFPA 1010 (2024), given a water tender, tools and equipment, manufacturer specifications and requirements, maintenance and inspection forms, and policies and procedures of the AHJ, so that the operational readiness of the water tender is verified. (NFPA 17.3.1) (CTS 16-1)

   Evaluator Signature: _____ Date Verified: _____

Operations

2. Operate a water tender, given a water tender, a predetermined route off of a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operation, applicable laws and regulations, and AHJ policies and procedures, so that the water tender is operated in compliance with all applicable jurisdictional rules and regulations and operational limitations of the water tender. (OSFM) (CTS 17-1)

   Evaluator Signature: _____ Date Verified: _____

3. Maneuver and position a water tender at a water shuttle fill site, given a water tender, fill site location, and one or more supply hose, so that the water tender is positioned, supply hoses are attached to the intake connections without having to stretch additional hose, and no objects are struck at the fill site. (NFPA 17.4.1) (CTS 17-2)

   Evaluator Signature: _____ Date Verified: _____

4. Maneuver and position a water tender at a water shuttle dump site, given a water tender, a dump site, and a portable water tank, so that all the water being discharged from the water tender enters the portable tank and no objects are struck at the dump site. (NFPA 17.4.2) (CTS 17-3)

   Evaluator Signature: _____ Date Verified: _____

5. Establish a water shuttle dump site, given one or more water tenders, two or more portable water tanks, low-level strainers, hard suction hose, fire hose, and a fire apparatus equipped with a fire pump, so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and the water is transferred from one tank to the next. (NFPA 17.4.3) (CTS 17-4)

   Evaluator Signature: _____ Date Verified: _____

6. Fill a pumping apparatus, given a water tender, a pumping apparatus, tools and equipment, and one or more supply hoses, so that fire flow is managed to meet incident demand. (OSFM) (CTS 17-5)

   Evaluator Signature: _____ Date Verified: _____

Completion Requirements

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

Experience

The candidate meets the following experience requirements.

- Have a minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Pumping Apparatus Driver/Operator
- A minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Wildland Fire Apparatus Driver/Operator

Agency	Experience	Start Date	End Date

Position

The candidate meets the position qualifications for this level of certification. The position requirement is met when the applicant fulfills the role of the specific duties as defined by the fire chief.

Updates

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

Number of enclosed updates: _____

Completion Timeframe

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

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

Review and Approval

Candidate

Candidate (please print): _____

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

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief (please print): _____

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

Signature: _____ Date: _____