



# Instructor: Live Fire Training – Acquired Structure

## Course Plan

### Course Details

<b>Description:</b>	This course provides the knowledge and skills that prepare an instructor to teach fire fighters how to locate, control, and extinguish an interior structure fire using an acquired structure. Key learning areas include an overview of the Fire Control 3: Structural Fire Fighting course plan; an introduction to acquired structure live fire training; preburn planning; fire dynamics; set up and walk through; live fire training evolutions; and postburn procedures.
<b>Designed For:</b>	Individuals who wish to conduct NFPA-compliant live fire training in an acquired structure or qualify to teach State Fire Training's Fire Control 3: Structural Fire Fighting course
<b>Authority:</b>	NFPA 1403: Standard on Live Fire Training Evolutions (2018) California Health and Safety Code 41801(b) Cal/OSHA (Title 8 CCR 3395)
<b>Prerequisites:</b>	Fire Control 3: Structural Fire Fighting (2018), or Fire Control 3A (2009), or Fire Control 3B (2009) Instructor: Live Fire Training – Fixed Facility (2018) Authorization to attend training from fire agency or ALA/ARTP Verification of meeting NFPA 1403 (2018 / 4.3.1) live fire training prerequisite requirements (SFT Fire Fighter 1 certification waives this requirement) Current SCBA fit test documentation Cal/OSHA compliant structural PPE Completed release of liability form
<b>Standard:</b>	Attend all class sessions and complete all mandatory activities and skills
<b>Hours:</b>	32 hours (8 lecture / 24 application) (AHJ determines practice and assessment times)
<b>Maximum Class Size:</b>	20
<b>Instructor Level:</b>	Primary instructor
<b>Instructor/Student Ratio:</b>	Two primary instructors at all times

Additional requirements (per NFPA 1403)

- One instructor for each functional crew of five students
- One instructor for each backup line
- One additional instructor for each additional functional assignment

**Restrictions:**

See Facilities, Equipment, and Personnel requirements (page 5)

**SFT Designation:**

FSTEP

---

## Table of Contents

Required Resources.....	4
Instructor Resources .....	4
Online Instructor Resources.....	4
Student (Instructor Trainee) Resources .....	5
Facilities, Equipment, and Personnel .....	5
Time Table .....	7
Time Table Key .....	8
Unit 1: Introduction .....	9
Topic 1-1: Orientation and Administration .....	9
Unit 2: Review of Fire Control 3: Structural Fire Fighting .....	10
Unit 3: Introduction to Live Fire Training .....	12
Topic 3-1: NFPA Standards and Legal Considerations .....	12
Topic 3-2: Cardiovascular and Thermal Strain of Fire Fighting .....	13
Topic 3-3: Developing an Incident Within an Incident (IWI) Plan .....	14
Unit 4: Preburn Planning.....	15
Topic 4-1: Conducting an Initial Site Evaluation.....	15
Topic 4-2: Developing a Comprehensive Burn Plan (“Burn Book”).....	17
Topic 4-3: Conducting Preburn Preparations .....	19
Topic 4-4: Preparing an Acquired Structure.....	21
Topic 4-5: Fire Behavior in an Acquired Structure .....	23
Unit 5: Set Up and Walk Through.....	26
Topic 5-1: Implementing an Incident Action Plan.....	26
Topic 5-2: Securing a Water Supply.....	27
Topic 5-3: Conducting an Instructor Briefing and Preburn Walk Through.....	28
Topic 5-4: Building Fuel Packages.....	30
Topic 5-5: Conducting a Student Preburn Walk Through.....	31
Unit 6: Delivering Live Fire Training Evolutions in an Acquired Structure .....	32
Topic 6-1: Operating as Instructor in Charge (Command and Control) .....	32
Topic 6-2: Safety Operations .....	33
Topic 6-3: Igniting Fuel Packages .....	35
Topic 6-4: Reviewing Required Fire Control 3 Skills Exercises in an Acquired Structure .....	36
Topic 6-5: Reviewing Optional Fire Control 3 Skills Exercises in an Acquired Structure .....	37
Unit 7: Postburn Procedures.....	38
Topic 7-1: Postburn Procedures .....	38
Acknowledgments.....	39
How to Read a Course Plan .....	40

## Required Resources

### Instructor Resources

To teach this course, instructors need:

- *Live Fire Training: Principles and Practice*  
(Jones & Bartlett Learning, 1<sup>st</sup> ed. revised, ISBN: 978-1-284-04123-1)
- *3D Fire Fighting: Training, Techniques, and Tactics*  
(Fire Protection Publications, Oklahoma State University, 1<sup>st</sup> ed., ISBN: 0-87939-258-4)

Additional recommended resources:

- *Enclosure Fires* (Lars-Göran Bengtsson)  
Available for download at: <https://www.msb.se/en/Products/Publications/Publications-from-the-SRSA/Enclosure-fires/>

### Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/divisions/state-fire-training/instructor-registration/>

- Fire Control 3: Structural Fire Fighting course plan (and supporting documentation)
  - Instructor Demonstration 1 – Dust Explosion
  - Instructor Demonstration 2 – Combustion
  - Instructor Demonstration 3 – Pyrolysis
  - Props and Structures – Matrix
  - Props and Structures – Acquired Structure
  - Props and Structures – Container (Class A)
  - Props and Structures – Fixed Facility (Class A)
  - Props and Structures – Gas-Fired Prop
  - Props and Structures – Scalable Burn Prop
  - Skills Exercise 1 – Combustion
  - Skills Exercise 2 – Risk Assessment and Door Entry
  - Skills Exercise 3 – Stretching, Flaking, and Advancing and Attack Line
  - Skills Exercise 4 – Water Application
  - Skills Exercise 5 – Fire Attack
  - Skills Exercise 6 – Transitional Fire Attack
  - Skills Exercise 7 – Interior Attic Fire Attack
  - Skills Exercise 8 – Below Grade (Basement) Fire Attack
  - Skills Exercise 9 – VEIS
  - Skills Exercise 10 – Ventilation
  - Skills Exercise 11 – Portable Water Extinguisher Attack
- Documents
  - Cal/OSHA Employer Sample Procedures for Heat Illness Prevention
  - FIRESCOPE – ICS 910: Firefighter Incident Safety and Accountability Guidelines
  - ILFT-AS - Live Fire Training Burn Plan Outline

- Videos
  - Normalisation of Deviance – IAFF – Part I (Mike Mullane)
  - Normalisation of Deviance – IAFF – Part II (Mike Mullane)
- Activities
  - Activity 5-4: Building Fuel Packages for Fire Behavior Evolutions
  - Activity 5-4: Building Fuel Packages for Fire Attack Evolutions

## Student (Instructor Trainee) Resources

To participate in this course, all instructor trainees need:

- NFPA 1403: Standard on Live Fire Training Evolutions (current edition)
- *Live Fire Training: Principles and Practice* (Jones & Bartlett Learning, 1<sup>st</sup> Edition Revised, ISBN: 978-1-284-04123-1)
- A copy of his or her agency's heat and illness prevention plan
- Full structural PPE and SCBA

Instructor trainees participating in this course through their academy or agency in-house training will have all documentation, PPE, and SCBA verification provided by the AHJ.

Instructor trainees participating in this course through open enrollment must provide:

- Authorization to attend the training, including a statement of insurance for participant
  - Submit a letter verifying demonstrated competency in donning SCBA, donning PPE, and hose handling skills
  - If the class will be coordinated through a community college, the college may provide additional insurance for participants and instructional staff
- Current SCBA fit test documentation
- A minimum of Cal/OSHA compliant PPE in good repair (provided by the participant's agency)
- Release of liability

## Facilities, Equipment, and Personnel

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

### Equipment\*

- **Apparatus:** A minimum of one fully outfitted NFPA compliant engine (type I or type 3)
- **Appliances and tools:** Thermal imager (optional); nozzle selection (determined by AHJ) capable of flowing a minimum 95 gallons per minute (GPM)
- **Extinguishers:** Pressurized water extinguisher; water-pressurized garden sprayer
- **Fuels:** Class A materials (non-gas-fired props)
- **Hose:** 1", 1½", or 1¾" fire hose; 2½" or 3" fire hose
- **Hand tools:** Flat head axe; Halligan tool; hydrant wrench; pick head axe; long handle tool (pike pole, roof hook, rubbish hook); sledgehammer; flashlight

- **Ladders:** 10' folding ladder; 14' roof ladder; 24' extension ladder
- **Power tools:** Blower; chainsaw; generator; air compressor with fittings (or equivalent)
- **Protective equipment/clothing:** Full set of protective clothing for structural fire fighting for each student, including: bunker pants, coat, and boots; gloves and helmet; flash hood; face piece; self-contained breathing apparatus (SCBA), two fully-charged air cylinders, and manufacturer-approved SCBA sanitizing agent and cleaning agent; personal alert safety system (PASS)
- **Salvage equipment/materials:** Salvage covers or Visqueen; brooms; scoop shovels; buckets; tubs
- **Simulation equipment/materials:** Live fire training structure compliant with NFPA 1403 (2018); smoke-generating equipment (synthetic/Class A); burn barrels (modified for smoke or crib set)
- **Other supplies/equipment:** Radios; fuel and supplies for power equipment; cleaning and decontamination supplies and equipment; handheld propane torch; dumpster; power cords; lights; hammer; nails; staple gun; nail gun (optional); circular saw; reciprocating saw; fuses/road flares; construction spray paint; tape measure; drill, bits, and screws
- **Rehabilitation:** Shade; water; chairs; SCBA refill capabilities (extra cylinders or refill as needed); decontamination body wipes; soap and water; brushes
- **Water supply:** Adequate water supply per NFPA 1403 (2018) requirements

\* See NFPA 1403 (2018 or current edition) for additional equipment and tool requirements.

### Facilities

- Standard classroom equipped for 20 students
- Whiteboards or easel pads with appropriate writing implements
- Projector with appropriate laptop connections
- Wi-Fi/Internet access (recommended)
- An acquired structure capable of meeting all learning objectives
  - Structure must be clean, free of biohazards, and structurally sound

### Personnel\*

- Two primary instructors at all times
- Additional requirements (per NFPA 1403)
  - One instructor for each functional crew of five students
  - One instructor for each backup line
  - One additional instructor for each additional functional assignment

\* See NFPA 1403 (2018) paragraph 4.7 for additional information about required personnel.

## Time Table

Segment	Lecture	Application	Unit Total
<b>Unit 1: Introduction</b>			
Topic 1-1: Orientation and Administration	0.5	0.0	
<b>Unit 1 Totals</b>	<b>0.5</b>	<b>0.0</b>	<b>0.5</b>
<b>Unit 2: Review of Fire Control 3: Structural Fire Fighting</b>			
Topic 2-1: Key Elements of Delivering Fire Control 3: Structural Fire Fighting	1.0	0.0	
<b>Unit 2 Totals</b>	<b>1.0</b>	<b>0.0</b>	<b>1.0</b>
<b>Unit 3: Introduction to Live Fire Training</b>			
Topic 3-1: NFPA Standards and Legal Considerations	0.25	0.0	
Topic 3-2: Cardiovascular and Thermal Strain of Fire Fighting	0.25	0.0	
Topic 3-3: Developing and Incident within an Incident (IWI) Plan	0.25	0.25	
<b>Unit 3 Totals</b>	<b>0.75</b>	<b>0.25</b>	<b>1.0</b>
<b>Unit 4: Preburn Planning</b>			
Topic 4-1: Conducting an Initial Site Evaluation	0.5	1.0	
Topic 4-2: Developing a Comprehensive Burn Plan ("Burn Book")	1.5	1.0	
Topic 4-3: Conducting Preburn Preparations	0.5	2.0	
Topic 4-4: Preparing an Acquired Structure	0.5	8.0	
Topic 4-5: Fire Behavior in an Acquired Structure	0.5	2.0	
<b>Unit 4 Totals</b>	<b>3.5</b>	<b>14.0</b>	<b>17.5</b>
<b>Unit 5: Set Up and Walk Through</b>			
Topic 5-1: Implementing an Incident Action Plan	0.25	0.25	
Topic 5-2: Securing a Water Supply	0.25	1.0	
Topic 5-3: Conducting an Instructor Briefing and Preburn Walk Through	0.25	1.0	
Topic 5-4: Building Fuel Packages	0.25	1.0	
Topic 5-5: Conducting a Student Preburn Walk Through	0.25	1.0	
<b>Unit 5 Totals</b>	<b>1.25</b>	<b>4.25</b>	<b>5.5</b>
<b>Unit 6: Delivering Live Fire Training Evolutions in an Acquired Structure</b>			
Topic 6-1: Operating as Instructor in Charge (Command and Control)	0.25	0.0	
Topic 6-2: Safety Operations	0.25	0.5	
Topic 6-3: Igniting Fuel Packages	0.0	0.25	
Topic 6-4: Reviewing Required Fire Control 3 Skills Exercises in an Acquired Structure	0.0	2.75	

Segment	Lecture	Application	Unit Total
Topic 6-5: Reviewing Optional Fire Control 3 Skills Exercises in an Acquired Structure	0.0	1.0	
<b>Unit 6 Totals</b>	<b>0.5</b>	<b>4.5</b>	<b>5.0</b>
<b>Unit 7: Postburn Procedures</b>			
Topic 7-1: Postburn Procedures	0.5	1.0	
<b>Unit 7 Totals</b>	<b>0.5</b>	<b>1.0</b>	<b>1.5</b>
<b>Summative Assessment</b>			
Determined by AHJ or educational institution	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>
<b>Skills Practice (Lab / Sets and Reps)</b>			
Determined by AHJ or educational institution	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>
<b>Course Totals</b>	<b>8.0</b>	<b>24.0</b>	<b>32.0</b>

### 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 and the acquired structure selected for training. 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 an instructor trainee will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements.

#### **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. Determined by instructor

#### **Instructor Notes**

1. None

## Unit 2: Review of Fire Control 3: Structural Fire Fighting

### Topic 2-1: Key Elements of Delivering Fire Control 3: Structural Fire Fighting

#### Terminal Learning Objective

At the end of this topic an instructor trainee, given a course plan and requirements, will be able to identify the goals and objectives for students enrolled in the State Fire Training (SFT) Fire Control 3: Structural Fire Fighting course and the requirements for instructor training and student participation.

#### Enabling Learning Objectives

1. Identify the key elements and training objectives of the Fire Control 3: Structural Fire Fighting course plan
  - Course Details
  - Required Resources
  - Units and Topics
  - Props and Structures documents
  - Instructor Demonstrations
  - Skills Exercises
2. Identify desirable traits of a live fire training instructor
  - Intrinsic motivation
  - Lifelong learner
  - Humility
  - Good listener
  - Respected by peers
  - Communication skills
  - Problem-solving skills
  - Aptitude for science
3. Identify SFT requirements for Fire Control 3: Structural Fire Fighting instructors
4. Identify requirements for student participation in Fire Control 3: Structural Fire Fighting
  - Authorization to attend training from fire agency or ALA/ARTP
  - Verification of meeting prerequisite requirements
    - SFT Fire Fighter I certification waives this requirement
  - Current SCBA fit test documentation
  - Cal/OSHA compliant structural PPE
    - Components
    - Required use
    - Capabilities and limitations
  - Completed release of liability form

#### Discussion Questions

1. How does a terminal learning objective differ from an enabling learning objective?
2. Are there any circumstances under which you would let a student who does not meet the course prerequisites participate in live fire training?
3. What must a student have to participate in Fire Control 3: Structural Fire Fighting?

**Application**

1. Determined by instructor

**Instructor Notes**

1. This topic is intended to be a brief review of the content found in Unit 2 of the Instructor: Live Fire Training – Fixed Facility course. For complete content, please reference that course plan.
2. Distribute a copy of the Fire Control 3: Structural Fire Fighting course plan and all supporting documents to all instructor trainees.

## Unit 3: Introduction to Live Fire Training

### Topic 3-1: NFPA Standards and Legal Considerations

#### Terminal Learning Objective

At the end of this topic an instructor trainee, given laws, standards, policies, and procedures, will be able to implement live fire training in an acquired structure in accordance with NFPA 1403, Cal/OSHA, and authority having jurisdiction (AHJ) requirements.

#### Enabling Learning Objectives

1. Identify the significance of NFPA standards
2. Describe the contents of NFPA 1403
3. Describe how to apply NFPA 1403 to Fire Control 3: Structural Fire Fighting
  - Instructor preparation
  - Student qualifications
  - Site requirements
  - Safety requirements
  - Inspections and notifications
4. Identify legal requirements associated with live fire training
  - Cal/OSHA
  - Property owner
  - AHJ
  - Local air pollution control district (APCD) or air quality management district (AQMD)

#### Discussion Questions

1. What portions of NFPA 1403 address live fire training in an acquired structures?
2. What additional staffing roles are required by NFPA 1403 for live fire training in an acquired structure?
3. What legal requirements need to be considered when conducting live fire training with acquired structures?

#### Application

1. Given a copy of NFPA 1403 and a specific chapter assignment, have instructor trainees break into small groups, review their assigned chapter, and report back to group on the key paragraphs.

#### Instructor Notes

1. Use the activity to have students direct the learning for ELO 2.

## Topic 3-2: Cardiovascular and Thermal Strain of Fire Fighting

### Terminal Learning Objective

At the end of this topic an instructor trainee, given PPE, a live fire training evolution, and an acquired structure, will be able to minimize thermal and cardiovascular strain during live fire training.

### Enabling Learning Objectives

1. Describe cardiovascular and thermal responses to fire fighting
2. Describe how different components impact cardiovascular and thermal strain
  - Fire fighting activity
  - Turnout gear
  - Weather
3. Describe warning signs for heat illnesses that may occur during live fire activity
4. Describe how to prevent injuries and heat illness during fire fighting training and activity
5. Describe the importance of modifiable risk factors for cardiovascular disease and ways to decrease those factors
6. Describe the dangers associated with exposure to smoke and particulate matter
7. Describe the importance of proper on-site decontamination, hygiene, gear cleaning, and showers

### Discussion Questions

1. What are some signs of rhabdomyolysis or other heat-related injuries/illnesses on the training ground?
2. What strategies can prevent thermal insult during live fire training?
3. What cooling activities can you perform to reduce thermal insult during live fire training?

### Application

1. Determined by instructor

### Instructor Notes

1. This topic is intended to be a brief review of the content found in Topic 3-2 of the Instructor: Live Fire Training – Fixed Facility course. For complete content, please reference that course plan.
2. See the current editions of NFPA 1582: Standard on Comprehensive Occupational Medical Programs for Fire Departments, NFPA 1583: Standard on Health-Related Fitness Programs for Fire Department Members (current edition), NFPA 1584: Rehabilitation Process for Members During Emergency Operations and Training Exercises (current edition), Title 8 California Code of Regulations (T8 CCR) Section 3395 – Heat Illness Prevention Standard for content.
3. Give students a copy of Cal/OSHA’s Employer Sample Procedures for Heat Illness Prevention (current edition).
  - See Online Instructor Resources
4. Use instructor trainee agency heat and illness prevention plans as examples.

## Topic 3-3: Developing an Incident Within an Incident (IWI) Plan

### Terminal Learning Objective

At the end of this topic an instructor trainee, given a proposed live fire training evolution, will be able to develop and communicate an incident within an incident (IWI) plan for a live fire training evolution in an acquired structure in accordance with NFPA standards and the policies and procedures of the authority having jurisdiction (AHJ).

### Enabling Learning Objectives

1. Identify factors that contribute to an IWI, line of duty injury, or death during live fire training
2. Describe how to mitigate common factors that can lead to line of duty injury and death during live fire training
3. Describe the purpose of the IWI plan
4. Describe how respond to an IWI, serious injury, or line of duty death

### Discussion Questions

1. How has a line of duty injury or death impacted you or your agency?
2. Why is it important to have an IWI plan in place before live fire training?
3. How does your agency handle cell phones and helmet cameras during an IWI?
4. What actions and events need to be documented during and after an IWI?

### Application

1. Given a line of duty injury or death report from *Live Fire Training: Principles and Practice*, NIOSH, or another source, have instructor trainees work in small groups to analyze the report and identify the factors that contributed to the injury or death. Have instructor trainees create a presentation to share with the group (on that day or as a homework assignment to present the next day).

### Instructor Notes

1. This topic is intended to be a brief review of the content found in Topic 3-3 of the Instructor: Live Fire Training – Fixed Facility course. For complete content, please reference that course plan.
2. Have instructor trainee watch all or portions of the following videos to demonstrate why avoiding complacency and lowered standards is crucial to safety:
  - Normalisation of Deviance – IAFF - Part I (Mike Mullane)
  - Normalisation of Deviance – IAFF – Part II (Mike Mullane)
3. Supporting documentation for ELO 5
  - FIRESCOPE – ICS 910: Firefighter Incident Safety and Accountability Guidelines

## Unit 4: Preburn Planning

### Topic 4-1: Conducting an Initial Site Evaluation

#### Terminal Learning Objective

At the end of this topic an instructor trainee, given a proposed live fire training evolution, will be able to evaluate an acquired structure in order to determine if the site fulfills the training objectives with minimal mitigation requirements in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

#### Enabling Learning Objectives

1. Identify the requirements of a viable live fire training site
  - Water supply
  - Structural integrity
    - Maintenance and structural stability
    - Visual damage inspection
    - Free of biohazards
  - Site preparation and cleanup
  - Space for logistics
    - Staging area
    - Burn area
    - Rehabilitation area
    - Parking
2. Describe conditions that could impact site use
  - Inadequate water supply
  - Exposure concerns
  - Hazards
  - Weather
  - Public or political impact
  - Environmental impact
    - Smoke mitigation
    - Run off plan
  - Location or proximity
    - Sensitive populations
      - Schools
      - Child care facilities
      - Elder care facilities
    - Protected buildings
    - Transportation corridors
      - Highways
      - Public transit
  - Burn impact and anticipated outcomes
  - Burn project timeline
  - Property owner responsibilities

- Grant deed
  - Title search
  - Proof of cancellation of fire insurance
  - Demolition permit with AHJ
  - Environmental mitigation
  - AHJ hold harmless agreement
3. Identify site evaluation communication and notification needs
    - Determined by AHJ
    - Vary by structure and location
  4. Identify site evaluation documentation needs
    - Determined by AHJ
    - Vary by structure and location

#### **Discussion Questions**

1. Why is it important to conduct an initial site evaluation?
2. What conditions might deter you from using a live fire training site?
  - What solutions might mitigate these conditions?
3. In your jurisdiction, who needs to be notified before you conduct a live fire training evolution in an acquired structure?

#### **Application**

1. Given an acquired structure burn site and a proposed training assignment, have students conduct a site evaluation to answer the following questions.
  - Does it meet the requirements of a viable live fire training site for the assignment?
  - Are there any concerns?
  - What solutions could mitigate these concerns?

#### **Instructor Notes**

1. ELO 1: NFPA 1403 has a “Site Inspection Worksheet – Residential Properties” document to use for evaluating a building’s structural integrity and potential hazards.
2. The proposed training assignments for the instructor trainee activity should come from the Instructor Demonstrations or Skills Exercises from Fire Control 3: Structural Fire Fighting.



## Topic 4-2: Developing a Comprehensive Burn Plan (“Burn Book”)

### Terminal Learning Objective

At the end of this topic an instructor trainee, given a live fire training evolution, will be able to assemble a comprehensive burn plan (often referred to as a “burn book”) that contains all documentation necessary to conduct a live fire training evolution in an acquired structure in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).

### Enabling Learning Objectives

1. Describe the purpose of a live fire burn plan
  - Ensures that no part of the training process is overlooked
  - Promotes fire and life safety
  - Fulfills NFPA, SFT, and AHJ requirements
  - Demonstrates due diligence
  - Limits liability
2. Identify the components of a live fire burn plan (“burn book”)
  - SFT course-related documents
  - Burn information
  - Written plans
    - Incident Action Plan (IAP)
    - Incident Within an Incident (IWI) (emergency plan)
    - Preburn
    - Smoke
    - Rehabilitation
  - Visual plans
    - Property/site
    - Structure
  - Permits
  - Notifications
  - Insurance
  - Permissions/approvals
  - Checklists
  - Maps
  - Policies
  - Reports
  - Critical correspondence
3. Identify records-retention requirements for burn plans
  - SFT policies
  - AHJ policies
  - Exposure
    - Time of employment + 30 years (Title 8 CCR Section 3204)
    - Medical records = 30 years (OSHA)
  - Injury / Line of duty death

- Cal/OSHA 300 Log = 5 years
- Cal/OSHA 301 Incident Report = 5 years
- Medical records = 30 years (OSHA)

**Discussion Questions**

1. What is the purpose of a comprehensive burn plan?
2. What should you include in a burn plan?
3. How long are you required to keep the burn plan after training?

**Application**

1. Determined by instructor and acquired structure site selection

**Instructor Notes**

1. Use the Live Fire Training Burn Plan Outline document as an example. Distribute it to the students to use as a checklist when developing their own burn book.
2. ELO 3: OSHA recordkeeping requirements (29 CFR 1904)
3. Bring sample burn books for instructor trainees to review

## Topic 4-3: Conducting Preburn Preparations

### Terminal Learning Objective

At the end of this topic an instructor trainee, given an acquired structure and a live fire training evolution, will be able to develop a preburn plan and conduct preburn planning requirements in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

### Enabling Learning Objectives

1. Identify basic components of a preburn plan
  - Site plan drawings including all exposures
  - Floor plan detailing all rooms, hallways, exterior openings
  - Command post location
  - Apparatus positions
  - Hose and backup line positions
  - Emergency escape route locations
  - Emergency evacuation assembly area location
  - Ingress and egress routes for emergency vehicles
2. Describe preburn planning requirements
  - Develop preburn plan
  - Identify required number of instructors
  - Identify proper fuel loads
  - Determine available water supply
    - Additional requirements per NFPA 1142
      - Percentage involved
      - Exposure calculation
      - Additional floors
  - Determine required fire flow for the acquired structure and exposure buildings
    - National Fire Academy (NFA) fire flow calculation =  $(\text{length} \times \text{width})/3 \times \text{percent involvement}$
    - Iowa rate of flow formula =  $(\text{length} \times \text{width} \times \text{height})/100$
  - Determine required reserve flow (50 percent of fire flow)
  - Obtain apparatus pumps that meet or exceed required fire flow for building and exposures
  - Establish separate water sources for attack and backup hose lines
  - Obtain weather reports and update with changes
  - Designate and mark parking areas
  - Establish communication plan and obtain radios
  - Establish medical plan
  - Establish decontamination plan
  - Complete any other AHJ requirements

### Discussion Questions

1. How do you determine appropriate water supply?

2. How do you determine the appropriate instructor numbers for a live fire training evolution in an acquired structure?

**Application**

1. Determined by instructor and acquired structure site selection

**Instructor Notes**

1. Most of the ELO content comes from “Preburn Planning” on the “Live Fire Evolution Sample Checklist” from NFPA 1403.

## Topic 4-4: Preparing an Acquired Structure

### Terminal Learning Objective

At the end of this topic an instructor trainee, given a live fire training evolution, will be able to prepare an acquired structure for live fire training in order to fulfill training objectives in accordance with NFPA standards and the policies and procedures of the authority having jurisdiction (AHJ).

### Enabling Learning Objectives

2. Describe how to prepare an acquired structure for live fire training
  - Complete visual damage inspection
  - Secure utilities and have meters pulled by utility company
  - Check and operate windows and doors, open or close as needed
  - Check and operate other training structure components
  - Implement Cal/OSHA fall protection requirements
  - Eliminate or mitigate hazards
    - Biohazards, hives, and vermin
    - Exterior hazards
      - Trash
      - Trees and brush
      - Surrounding vegetation
      - Chimney
      - Fuel tanks and closed vessels
      - Cisterns, wells, and cesspools/septic systems
      - Porches and outside steps
    - Interior Hazards
      - Wall, window, and ceiling coverings
      - Furniture and appliances
      - HVAC, dead loads, and chimneys
      - Glass (including windows)
      - Staircases
    - Toxic materials
    - Any other exterior and interior hazards
  - Protect structural members by covering holes in walls and ceilings
  - Place erosion control measures (if applicable)
  - Provide site markings for visual communication and hazard identification
    - Photo document all interior and exterior prep and markings prior to burn
  - Identify building features
    - Flow paths
    - Extension avenues
    - Attic extension
    - Wind impact
    - Stairwell control
  - Identify ventilation profiles
  - Prepare fuel package

- Size at approved locations
- Complete any other AHJ requirements
- Complete required documentation

**Discussion Questions**

1. How much time does it take to prepare an acquired structure in your AHJ?
2. Who approves fuel packages in your AHJ?
  - How do you document a fuel package?
3. What type of structural integrity issues need to be mitigated before qualifying an acquired structure?

**Application**

1. Determined by instructor and acquired structure site selection

**Instructor Notes**

1. Most of the ELO content comes from the acquired structure requirements and worksheets in NFPA 1403.

## Topic 4-5: Fire Behavior in an Acquired Structure

### Terminal Learning Objective

At the end of this topic an instructor trainee, given knowledge of fire chemistry and physics, a live fire training evolution, and an acquired structure, will be able to anticipate how fire will move through an acquired structure in order to plan appropriate safety and suppression tactics and know when a fire has grown beyond the scope of the training evolution.

### Enabling Learning Objectives

1. Describe how physical states of matter influence fire behavior
  - Gases
  - Solids
  - Liquids
2. Identify products of combustion
  - Heat
  - Smoke
3. Identify methods of heat transfer
  - Conduction
  - Convection
  - Radiation
4. Describe the impact of oxygen concentration on life safety and fire growth
5. Identify the components of the fire triangle and fire tetrahedron
6. Describe the stages of fire
  - Traditional/legacy (time vs. temperature curve)
  - Ventilation-limited (time vs. temperature curve)
7. Identify factors that influence fire behavior
  - Fuel
  - Air
  - Weather
  - Fire compartment
  - Burn regime
8. Describe hostile fire events
  - Fire gas ignition
  - Black fire
9. Describe the composition of smoke
  - Particulates
  - Gases
  - Aerosols
10. Describe the attributes of smoke
  - Volume
  - Velocity
  - Density
  - Color
11. Identify the hazards of smoke

- Cold smoke
  - Black fire
  - Smoke as fuel
  - Smoke as poison
12. Identify concepts associated with water as an extinguishing agent
- Heat
  - Specific heat of water
  - Specific heat of steam
13. Describe how water and steam impact the fire tetrahedron
- Removes (transfers) heat (heat)
  - Stops pyrolysis (fuel)
  - Reduces oxygen percentage (oxygen)
  - Interrupts chemical chain reaction (chemical chain reaction)
14. Describe gas cooling
- Droplet size
  - Hang time
  - Flow rate
  - Attack angle
  - Cone angle
  - Application duration
15. Describe surface cooling
- Stop pyrolysis
  - Extinguish smoldering combustion
16. Describe cooling capacity
- Raising water to vaporization temperature
  - Vaporization of water
17. Describe gas expansion and contraction
- Fire gas/smoke
  - Steam

### **Discussion Questions**

1. What actions can you take to minimize heat transfer?
2. How do different construction techniques, materials, furnishings, and interiors impact fire behavior?
3. How can recognizing the attributes of smoke assist in tactical decision making?
4. How do you avoid exposure to CO and HCN?
5. Can you push fire with water application?
  - Why or why not?
6. What value does steam production have in fire attack?

### **Application**

1. Determined by instructor and acquired structure site selection

### **Instructor Notes**

1. This topic is intended to be a brief review of the content found in Unit 5 of the Instructor: Live Fire Training – Fixed Facility course. Direct the content toward



anticipating fire behavior in an acquired facility. For in-depth fire behavior content, please reference that course plan.

## Unit 5: Set Up and Walk Through

### Topic 5-1: Implementing an Incident Action Plan

#### Terminal Learning Objective

At the end of this topic an instructor trainee, given ICS forms and live fire training evolutions, will be able to develop and implement an incident action plan (IAP) for a live fire training course in an acquired structure in accordance with the policies and the procedures of the authority having jurisdiction (AHJ).

#### Enabling Learning Objectives

1. Describe how to complete the ICS forms that make up an IAP
  - ICS 201: Incident Briefing
  - ICS 204: Assignment List
  - ICS 205: Incident Radio Communications Plan
  - ICS 206: Medical Plan
  - ICS 215: Operational Planning Worksheet
  - ICS 215A: Incident Action Plan Safety Analysis

#### Discussion Questions

1. How does the complexity of an acquired structure impact an IAP?
2. How does the IAP differ from the comprehensive burn plan (“burn book”)

#### Application

1. Given a proposed live fire training course with multiple evolutions and an acquired structure, divide the class into groups and have each group complete one ICS form. Have students share their results with the group.

#### Instructor Notes

1. None

## **Topic 5-2: Securing a Water Supply**

### **Terminal Learning Objective**

At the end of this topic an instructor trainee, given an acquired structure and a live fire training evolution, will be able to secure a water supply with sufficient rate and duration for control and extinguishment of the training fire, backup lines to protect personnel, and protection of exposed property.

### **Enabling Learning Objectives**

1. Describe minimum water supply requirements for live fire training evolutions including water for:
  - Control and extinguishment of fire
  - Exposure control
  - Backup line(s) to protect personnel
  - Protecting utilities at property lines
  - Dust abatement
2. Identify hose line placement for live fire training evolutions based on:
  - Training objectives
  - Fuel package
  - Number of evolutions/training stations running simultaneously
  - Exposure protection
  - Unforeseen situations

### **Discussion Questions**

1. Who is responsible for the ensuring adequate water supply?

### **Application**

1. Determined by instructor and acquired structure site selection

### **Instructor Notes**

1. None

## Topic 5-3: Conducting an Instructor Briefing and Preburn Walk Through

### Terminal Learning Objective

At the end of this topic an instructor trainee, given a live fire training evolution and an acquired structure, will be able to conduct an instructor briefing and a preburn walk through with all instructors and personnel supporting the live fire training evolution in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

### Enabling Learning Objectives

1. Describe the instructor walkthrough process
  - Identify crew and instructor assignments
    - Incident commander
    - Safety officer
      - Medical team
      - “2 in/2 out”
      - Smoke mitigation plan/impact
    - Instructor in charge
      - Instructor(s)
      - Instructor trainee(s)
    - Fire control team
      - Ignition officer
    - Water supply officer
      - Pump operator(s)
    - Logistics
  - Instructor in charge briefs all participating instructors
    - Incident action plan (IAP)
    - Incident within an incident plan (IWI)
    - Structure layout
      - Extension avenues
      - Attic extension
      - Wind impact
      - Stairwell control
    - Crew and instructor assignments
    - Participant rotations
  - Safety officer briefs all participating instructors
    - Safety plan
    - Current and anticipated weather
    - Evacuation signal and procedures
    - Review final “Go/No-Go Checklist”
    - Check PPE
    - Check training communications channels
    - Review decontamination plan
  - Initiate site plan
    - Command post
    - Logistics

- Food/water
- SCBA air
- Restrooms/hand washing
- Apparatus
  - Position vehicles
  - Deploy hose lines
- Rehabilitation/medical
  - Shade/hydration
- Decontamination
- Issue final notifications and approvals
  - Communications center
  - Adjoining jurisdictions (if applicable)
  - Law enforcement (if applicable)
  - Impacted populations

**Discussion Questions**

1. What types of weather would impact the decision to burn?
2. When do you make the final “go/no-go” decision?
3. What considerations go into a smoke mitigation plan for live burns in an acquired structure?

**Application**

1. Determined by instructor and acquired structure site selection

**Instructor Notes**

1. None

## **Topic 5-4: Building Fuel Packages**

### **Terminal Learning Objective**

At the end of this topic an instructor trainee, given fuel materials, an acquired structure, and a live fire training evolution, will be able to build a fuel load that is sufficient in material, size, and scale for the structure and meets the objectives of the live fire training evolution.

### **Enabling Learning Objectives**

1. Identify authorized fuel materials per NFPA 1403
2. Identify unauthorized fuel materials per NFPA 1403
3. Identify factors (openings, building materials, room size, etc.) that impact fire growth development and spread
  - Select fuel loads to avoid uncontrolled flashover or backdraft conditions
4. Identify appropriate locations for fuel packages
5. Describe how to build fuel packages that are the appropriate type, orientation, and size to meet live fire training evolution objectives

### **Discussion Questions**

1. How do fuel packages used for an acquired structure differ from fuel packages used for a fixed facility or prop?
2. What factors impact the type and size of fuels used to make fuel packages?

### **Application**

1. Activity 5-4: Building Fuel Packages for Fire Behavior Evolutions
2. Activity 5-4: Building Fuel Packages for Fire Attack Evolutions

### **Instructor Notes**

1. For ELO 5, consider breaking the class into groups to address fuel packages appropriate for different rooms in an acquired structure.

## **Topic 5-5: Conducting a Student Preburn Walk Through**

### **Terminal Learning Objective**

At the end of this topic an instructor trainee, given a live fire training evolution and an acquired structure, will be able to conduct a preburn walk through with all students participating the live fire training evolution in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

### **Enabling Learning Objectives**

1. Describe preburn “walkthrough” procedures
2. Identify NFPA 1403 standards related to playing the role of a victim during live fire training
  - No person shall be inside without a partner/buddy system
  - Rescue mannequins in fire fighter PPE shall be specially marked

### **Discussion Questions**

1. Who is responsible for performing PPE checks on Fire Control 3: Structural Fire Fighting students prior to entry into a live fire training?
2. Under what circumstances can you use people as victims during live fire training?
3. What is your AHJ’s evacuation signal?

### **Application**

1. Determined by instructor and acquired structure site selection

### **Instructor Notes**

1. Most of the ELO content comes from “Preburn Procedures” from NFPA 1403.

## Unit 6: Delivering Live Fire Training Evolutions in an Acquired Structure

### Topic 6-1: Operating as Instructor in Charge (Command and Control)

#### Terminal Learning Objective

At the end of this topic an instructor trainee, given an incident action plan, live fire training evolutions, and an acquired structure, will be able to operate as the “instructor in charge” of a live fire training course, supervising instructors and maintaining unity of command and span of control.

#### Enabling Learning Objectives

1. Describe the qualifications of an instructor in charge
  - NFPA 1403
2. Describe the roles and responsibilities of an instructor in charge
  - Assign instructors to functional crews, backup lines, and functional assignments
  - Rest and rehabilitation of participants and instructors
  - Medical monitoring of participants and instructors
  - Instructor assignments and rotation schedule
  - Verify instructor qualifications to deliver live fire training in acquired structures
  - Assign extra instructors to mitigate extreme weather, large class size, or long class duration
  - Maintain awareness of weather conditions
  - Perform final weather check before ignition
  - Additional requirements for conducting live fire training evolutions with flow path and ventilation-controlled conditions
3. Describe the roles and responsibilities of an instructor
  - Verify PPE is worn according to manufacturers instructions
  - Monitor and supervise students during live fire evolutions

#### Discussion Questions

1. What are the roles and responsibilities of the instructor in charge?
2. Is the instructor in charge also the incident commander?
3. What is the difference between an instructor and an instructor in charge?

#### Application

1. Determined by instructor and acquired structure site selection

#### Instructor Notes

1. None



## Topic 6-2: Safety Operations

### Terminal Learning Objective

At the end of this topic an instructor trainee, given an incident action plan laws and regulations, and a live fire training evolution, will be able to operate as the safety officer; plan, communicate, and oversee student rotations; and be able to implement the “2 in/2 out” or rapid intervention crew/company (RIC) requirement for a live fire training evolution so that hazards and associated risks are identified, unsafe acts are prevented, and unsafe conditions are mitigated and the training evolution provides the greatest opportunity for meeting objectives while minimizing student risk.

### Enabling Learning Objectives

1. Describe how to operate as a safety officer during a live fire training evolution
  - Qualifications
  - Roles and responsibilities
  - Specialized training
2. Describe how to plan, communicate, and oversee student rotations
  - Planning is impacted by:
    - Number of students
    - Training objectives
    - Structure
  - When to communicate rotations
    - Prior to IDLH conditions
  - What to communicate
    - Timing
    - Tasks
    - Travel routes
    - Primary and secondary egress
    - Order of operations
    - Emergency plans
    - Emergency assembly point
    - Hazards and risks
    - Postburn procedures
    - Meeting location
    - Decontamination
  - Conditions to watch for
    - Panic
    - PPE malfunction or failure
    - Low air alarms
    - Excessive heat release
    - Unintended fire conditions
3. Identify legislation and operations pertaining to “2 in/2 out” requirements
  - 29 CFR 1910.134(g)(4)(i)
  - Conditions that require a “2 out” team
  - Roles and responsibilities of the “2 out” team

- Type of PPE worn by the “2 out” team
- Appropriate staging locations for the “2 out” team

**Discussion Questions**

1. Can a safety officer have other assignments during live fire training?
2. When would it be appropriate to have more than one safety officer during live fire training?
3. Under what conditions should an instructor interrupt a live fire training evolution?
4. Under what conditions would you activate the “2 out” team?
5. How are RIC and “2 out” teams similar or different?

**Application**

1. Determined by instructor and acquired structure site selection

**Instructor Notes**

1. This topic is intended to be a brief review of the content found in Topics 7-2, 7-3, and 7-4 of the Instructor: Live Fire Training – Fixed Facility course. For complete content, please reference that course plan.
2. Although there is no formal activity for this learning objective, the instructor trainees can practice to implement the “2 in/2 out” or rapid intervention crew/company (RIC) requirement during any live fire activities or demonstrations conducted as part of this course.

## **Topic 6-3: Igniting Fuel Packages**

### **Terminal Learning Objective**

At the end of this topic an instructor trainee, given NFPA 1403, fuel materials, and an ignition source, will be able to ignite, maintain, and control a live fire and verbally describe the roles and responsibilities of an ignition officer.

### **Enabling Learning Objectives**

1. Identify the members of a fire control team
2. Describe the role and responsibilities of an ignition officer
3. Describe the roles and responsibilities of the other members of a fire control team
4. Describe required PPE for the fire control team
5. Describe hose line requirements for the fire control team
6. Identify who makes the decision to ignite
7. Identify who ignites the fuel package
8. Describe how to light fuel packages based on:
  - Characteristics of room finishes
  - Fuel type
  - Physical arrangement/path of least resistance
  - Lighting sequence
  - Training objectives
9. Identify safety considerations associated with ignition
  - Ensure flame area is clear of personnel prior to ignition
  - Alternate ignition officer responsibilities after each ignition

### **Discussion Questions**

1. To whom does the ignition officer report?
2. What is the minimum number of members for a fire control team?

### **Application**

1. Have students practice ignition using the fuel packages developed during Activity 5-4: Building Fuel Packages for Fire Behavior Evolutions and Activity 5-4: Building Fuel Packages for Fire Attack Evolutions.

### **Instructor Notes**

1. None

## **Topic 6-4: Reviewing Required Fire Control 3 Skills Exercises in an Acquired Structure**

### **Terminal Learning Objective**

At the end of this topic an instructor trainee, given demonstrations of Fire Control 3: Structural Fire Fighting course plan Skills Exercises and associated equipment and materials, will be able to set up and evaluate students completing the required Fire Control 3: Structural Fire Fighting Skills Exercises in an acquired structure in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

### **Enabling Learning Objectives**

1. Identify the objectives a student must meet in order to successfully complete Skills Exercise 2: Risk Assessment and Door Entry
2. Describe how to set up Skills Exercise 2: Risk Assessment and Door Entry
3. Identify the objectives a student must meet in order to successfully complete Skills Exercise 3: Stretching, Flaking, and Advancing an Attack Line
4. Describe how to set up Skills Exercise 3: Stretching, Flaking, and Advancing an Attack Line
5. Identify the objectives a student must meet in order to successfully complete Skills Exercise 4: Water Application
6. Describe how to set up Skills Exercise 4: Water Application
7. Identify the objectives a student must meet in order to successfully complete Skills Exercise 5: Fire Attack
8. Describe how to set up Skills Exercise 5: Fire Attack

### **Discussion Questions**

1. Determined by instructor

### **Application**

1. Determined by instructor and acquired structure site selection

### **Instructor Notes**

1. Demonstrate how to set up and teach each required Fire Control 3: Structural Fire Fighting student skills exercise.
2. Allow time for a question and answer session after each demonstration.

## **Topic 6-5: Reviewing Optional Fire Control 3 Skills Exercises in an Acquired Structure**

### **Terminal Learning Objective**

At the end of this topic an instructor trainee, given demonstrations of Fire Control 3: Structural Fire Fighting course plan Skills Exercises and associated equipment and materials, will be able to set up and evaluate students completing the optional Fire Control 3: Structural Fire Fighting Skills Exercises in an acquired structure in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

### **Enabling Learning Objectives**

1. Identify the objectives a student must meet in order to successfully complete Skills Exercise 6: Transitional Fire Attack
2. Describe how to set up Skills Exercise 6: Transitional Fire Attack
3. Identify the objectives a student must meet in order to successfully complete Skills Exercise 7: Interior Attic Fire Attack
4. Describe how to set up Skills Exercise 7: Interior Attic Fire Attack
5. Identify the objectives a student must meet in order to successfully complete Skills Exercise 8: Below Grade (Basement) Fire Attack
6. Describe how to set up Skills Exercise 8: Below Grade (Basement) Fire Attack
7. Identify the objectives a student must meet in order to successfully complete Skills Exercise 9: VEIS
8. Describe how to set up Skills Exercise 9: VEIS
9. Identify the objectives a student must meet in order to successfully complete Skills Exercise 10: Ventilation
10. Describe how to set up Skills Exercise 10: Ventilation
11. Identify the objectives a student must meet in order to successfully complete Skills Exercise 11: Portable Water Extinguisher Attack
12. Describe how to set up Skills Exercise 11: Portable Water Extinguisher Attack

### **Discussion Questions**

1. Determined by instructor

### **Application**

1. Determined by instructor and acquired structure site selection

### **Instructor Notes**

1. Demonstrate how to set up and teach each optional Fire Control 3: Structural Fire Fighter student skills exercise.
2. Allow time for a question and answer session after each demonstration.

## Unit 7: Postburn Procedures

### Topic 7-1: Postburn Procedures

#### Terminal Learning Objective

At the end of this topic an instructor trainee, given a live fire training evolution and an acquired structure, will be able to conduct postburn procedures in accordance with NFPA 1403 and the policies and procedures of the authority having jurisdiction (AHJ).

#### Enabling Learning Objectives

1. Describe postburn procedures
  - Account for all personnel
  - Overhaul remaining fires and confirm extinguishment
  - Decontaminate, inspect, and rehabilitate
    - Personnel
    - PPE
    - Equipment
  - Inspect training facilities for stability and hazards
  - Secure training facilities
  - Conduct training critique (after action review/AAR)
  - Complete records and reports
    - Photo document interior and exterior after each training evolution and again after clean up procedures prior to releasing property to owners
  - Demobilize resources and personnel
  - Complete any other AHJ requirements
  - Release property to owner
  - Close out notifications

#### Discussion Questions

1. Why is it important to check the students' gear before and after live fire training?
2. How do you document an injury acquired during training?
3. What steps can you take to minimize exposure during decontamination?
4. What records and reports are required after a burn in an acquired structure?

#### Application

1. Determined by instructor and acquired structure site selection

#### Instructor Notes

1. Most of the ELO content comes from "Postburn Procedures" on the "Live Fire Evolution Sample Checklist" from NFPA 1403.

## Acknowledgments

State Fire Training gratefully acknowledges the following individuals and organizations for their diligent efforts and contributions that made the development and publication of this document possible.

### Cadre Leadership

- Jonathan Black, Cadre Lead, Battalion Chief, Santa Clara County Fire Department
- Kevin Conant, Cadre Lead, Battalion Chief, San Jose Fire Department (retired); Training Specialist III, California Department of Forestry and Fire Prevention
- Allison L. Shaw, Cadre Editor, California State University, Sacramento

### Cadre Participants

- Tim Adams, Battalion Chief, Anaheim Fire and Rescue; Past President, California Training Officer's Association-South
- Norman Alexander, Fire Captain/Paramedic, Yocha Dehe Fire Department
- David Baldwin, Battalion Chief, Sacramento Fire Department
- Timothy Beard, Fire Captain/Paramedic, Sacramento Metropolitan Fire District
- John Flatebo, Fire Fighter, Corona Fire Department
- Josh Janssen, Battalion Chief, CAL FIRE/San Bernardino; Second Vice President, California Training Officer's Association-South
- James Mendoza, Fire Captain, San Jose Fire Department
- Jake Pelk, Battalion Chief, Central County Fire Department; Area Director, California Training Officer's Association-North
- Jeff Seaton, Fire Captain, San Jose Fire Department
- Mike Taylor, Assistant Chief, Sacramento Fire Department; Area Director, California Training Officer's Association-North
- Kevin Tidwell, Fire Captain, Turlock Fire Department

### Partners

State Fire Training also extends special acknowledgement and appreciation to the Conference and Training Services Unit with the College of Continuing Education at California State University, Sacramento, for its ongoing meeting logistics and curriculum development support, innovative ideas, and forward-thinking services. This collaboration is made possible through an interagency agreement between CAL FIRE and Sacramento State.

## 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 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 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.