



Incident Safety Awareness for Hired Vendors Course Plan

Course Details

- Description:** This course provides an awareness of fireline and incident safety to hired vendors who plan to engage in wildland fire suppression and other incident support activities. It includes an overview of hazards and safety issues, entrapment avoidance, incident organization, fire shelter deployment, and current issues.
- Designed For:** Hired vendors working with the California Department of Forestry and Fire Protection (CAL FIRE) or the United States Forest Service (USFS) on any active incident, including water tender operators, heavy equipment drivers or operators, crew bus drivers, vehicles with a driver, mechanics, fallers, and swampers
- Authority:** California Department of Forestry and Fire Protection (CAL FIRE) and United State Forest Service (USFS) agreements
- Prerequisites:** ICS-100 – Introduction to Incident Command System (recommended)
S-130 – Firefighter Training (recommended)
S-190 – Introduction to Wildland Fire Behavior (recommended)
L-180 – Human Factors in the Wildland Fire Service (recommended)
- Corequisites:** None
- Standard:** State Fire Training (SFT) requires every student to attend the entire course, participate in classroom and group discussions, complete and pass all activities, and complete an oral evaluation.
- Hours:** Lecture: 7:00
Activities/Skills Exercises: 1:00
- Hours (Total):** 8:00
- Maximum Class Size:** 40
- Instructor Level:** Primary instructor

Incident Safety Awareness for Hired Vendors

Instructor/Student Ratio: 1/40 (Lecture)
1/5 (During Activity 5-1: Deploying a “New Generation” Fire Shelter, a single instructor may evaluate students in groups of five or bring in additional skill evaluators to test multiple groups of five simultaneously)

Restrictions: Course completion card is valid for one year from date of issue

SFT Designation: FSTEP

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Incident Response Pocket Guide* (current edition)
 - National Wildfire Coordinating Group (NWCG), NFES, 1077

Demonstrations and Activities

- Topic 2-6
 - An assortment of radios for students to handle and practice using
- Topic 2-8
 - Complete set of wildland PPE to demonstrate proper wear and care
- Topic 4-1
 - CAL FIRE and USFS shift tickets for students to fill out
 - Sample Incident Action Plan (IAP)
- Topic 5-1
 - One Activity 5-1 sheet (page 1) per student
 - One Activity 5-1 sheet (page 2) per evaluator
 - One Activity 5-1 performance evaluation sheet (page 3) per five students
 - One training fire shelter per five students
 - Clipboard
 - Stopwatch
 - Pen

Key Incident Resources

To keep curriculum current, please use the following incidents (or anything more current) as primary learning resources during student discussions:

- Hurricane Katrina (2005, New Orleans, LA)
- Esperanza Fire (2006, California)
- Yarnell Fire (2013, Arizona)
- Beaver Incident (2014, California)
- Soberanes Fire (2016, California)

Incident Safety Awareness for Hired Vendors

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/>

- Handout 2-7: Basic Regulations Related to Association with Prison Inmates
- Handout 3-1: Parts of a Basic Vegetation Fire (Instructor Copy)
- Handout 3-1: Parts of a Basic Vegetation Fire (Student Copy)
- Activity 5-1: Deploying a “New Generation” Fire Shelter
- Handout 5-1: Shelter Deployment Notes from the Field

Student Resources

To participate in this course, students need:

- *Incident Response Pocket Guide* (current edition)
 - National Wildfire Coordinating Group (NWCG), NFES, 1077
 - Provided by instructor

Facilities, Equipment, and Personnel

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

Facilities

- Standard classroom equipped for 40 students
- Conference board/pads with markers/erasers
- Appropriate audiovisual equipment

Equipment

- Minimum of five “new generation” practice fire deployment shelters

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, 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 requirements
 - Student evaluation process
 - Assignments
 - Activities
 - Required student resources
 - Class participation requirements
4. Review course objectives
 - Provides fireline safety awareness training to vendors and operators of private hired equipment
 - Required annually prior to dispatch
 - Provides basic fire behavior and safety information to assist in recognizing potentially unsafe situations
 - Entering unsafe locations
 - Survival standards
 - Does not assist in completing a USFS or CAL FIRE contract
 - Contact a local USFS Contracting Officer and/or local CAL FIRE Unit for more information
 - Does not train in the operation of private hired equipment

Discussion Questions

1. Determined by instructor

Incident Safety Awareness for Hired Vendors

Activities

1. Determined by instructor

Topic 1-2: Course Completion Card

Terminal Learning Objective

At the end of this topic, a student, given course completion card information, will be able to identify course completion validity timeframes and display requirements in accordance with CAL FIRE Office of the State Fire Marshal (OSFM) standards.

Enabling Learning Objectives

1. Identify course completion card validity period
 - Valid for one year from date of issue
2. Identify when individuals are required to show a valid course completion card
 - Upon arrival at an incident
 - Failure to provide a valid OSFM course completion card may result in rejection from the incident
 - Rejection from incident may result in loss of pay for any incurred expenses

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. None

Unit 2: Hazards and Safety Issues

Topic 2-1: Introduction to the Incident Response Program Guide

Terminal Learning Objective

At the end of this topic, a student, given an *Incident Response Program Guide (IRPG)*, will be able to identify the content and layout of the *IRPG* so that the student can utilize appropriate sections to the instructor's satisfaction.

Enabling Learning Objectives

1. Identify the purpose of the *IRPG*
 - A fire job aid and training reference for operational personnel assigned to an incident
 - A secondary application for all-hazard incident response
 - Does not take the place of individual judgment and expertise
 - Must improve those skills through extensive training, practice, and on-the-job experience
 - A collection of best practices for a limited number of incident situations
 - Not intended to provide a solution to all situations that may incur on an incident
2. Identify the contents and purpose of the "White – Table of Contents" section
 - Operational leadership

Incident Safety Awareness for Hired Vendors

- Essential element
 - Confidence
 - Competent
- Provides purpose, direction, and motivation to accomplish difficult tasks under dangerous and stressful situations
- Duty, respect, integrity
 - Bullet points to provide direction and motivation
 - For your crew
 - For yourself
- Communication responsibilities
 - Five responsibilities
 - Brief others
 - Debrief your actions
 - Communicate hazards
 - Acknowledge messages
 - Ask if you don't know
- Leader's intent
 - Must ensure you have a clear understanding of their intent for your assignment
- Human factor barriers to situational awareness
 - Low experience level with local factors
 - Distractions from primary task
 - Fatigue
 - Stress reactions
 - Hazardous attitudes
- After Action Review (AAR)
 - Participants openly and honestly discuss what transpired
 - Focus on lessons learned
 - Keep comments positive and constructive
- 3. Identify the contents and purpose of the "Green – Operational Engagement" section
 - Risk management
 - Provides a checklist for awareness and control
 - Situation awareness
 - Hazard assessment
 - Hazard control
 - Decision point
 - Evaluate
 - Look up, down, and around
 - Provides a table to quickly reference fire environment indicators
 - Fuel characteristics
 - Fuel moisture
 - Relative humidity (RH)

Incident Safety Awareness for Hired Vendors

- Fuel temperature
 - Terrain
 - Wind
 - Atmospheric instability
 - Fire behavior
- Four significant common denominators of fire behavior on tragedy fires
 - Often occur on small fires or quiet areas of large fires
 - Often occur in relatively light fuel
 - Often occur with unexpected shifts in wind direction or speed
 - Often occur when responding to topographical conditions and uphill runs
- Common tactical hazards
 - Position
 - Situation
- LCES
 - Lookouts
 - Communications
 - Escape routes
 - Safety zones
- Downhill checklist
 - Downhill fireline construction is hazardous
 - Steep terrain
 - Fast-burning fuels
 - Rapidly changing weather
- Wildland/urban interface firefighting
 - Fire behavior
 - Size-up
 - Triage
 - Tactics
- 4. Identify the contents and purpose of the “Gold – Specific Hazards” section
 - Refusing risk
 - You have the right to refuse the risk if you feel an assignment is unsafe
 - You also have the obligation to identify safe alternatives for completing the assignment
 - Specific hazards guidelines for situational awareness and hazard control
 - Thunderstorm safety
 - Hazardous tree safety
 - Power line safety
 - Mandatory notifications to supervisor for down power lines
 - Roadside response
 - Unexploded ordinance safety
 - Oil and gas site safety
 - Last report survival

Incident Safety Awareness for Hired Vendors

5. Identify the contents and purpose of the “Pink – First Aid” section
 - First aid guidelines
 - Know your location at all times for reporting medical emergencies
 - Do ONLY what you know how to do
 - Keep records of what you do
 - Topics for guidance you may need in a incident situation:
 - CPR
 - Heat-related injuries
 - Burn injuries
6. Identify the contents and purpose of the back cover
 - Inside
 - Briefing checklist
 - Operational vendors must attend briefings to obtain information needed to complete operational assignments
 - Provides a checklist to ensure vendors don’t miss critical details in the briefings
 - Bring questions or concerns to your supervisor
 - Outside
 - The 10 Standard Firefighting Orders and 18 “Watch Out” Situations are so important to survival that the *IRPG* has a quick reference for ease of review

Discussion Questions

1. Determined by instructor

Activities

1. Given an *IRPG*, verbally quiz students on where to find specific items within the *IRPG*.

Instructor Notes

1. Provide each student with a copy of the *IRPG* to keep.
2. Most of the content touched on during the *IRPG* overview is covered in more detail elsewhere in this course. The goal of this topic is to familiarize students with the *IRPG*'s structure and content, not to deal with specifics.

Topic 2-2: Fire Behavior and Fire Weather

Terminal Learning Objective

At the end of this topic, a student, given an overview of fuels, topography, and weather, will be able to identify different types of fire environmental hazards and indicators of hazardous conditions when implementing the risk management process.

Enabling Learning Objectives

1. Describe fuel characteristics
 - Continuous fine fuels
 - Rapid rate of spread
 - A common denominator of fire behavior on tragedy fires
 - Heavy loading of dead and downed fuels
 - Intense burning conditions

Incident Safety Awareness for Hired Vendors

- Ladder fuels
 - Potential for surface fires to move up into trees (torching and/or crown fire)
- Tight crown spacing
 - Potential for fire to carry from crown to crown
- Special conditions
 - Firebrand sources
 - Snags
 - Preheated canopy
 - Frost and bug kill
 - Unusually fine fuels
 - High dead-to-live fuel ratio
- 2. Describe fuel moisture
 - A measure of the amount of water in fuel vegetation available to a fire
 - Determines if fuels are ready to burn and spread rapidly
 - Fuel moisture changes throughout the 24-hour daily cycle
 - Fuel moisture changes throughout the season
 - Drought conditions vary in different geographical areas over time
 - Relative humidity (RH)
 - Plays a key role in fuel moistures and fire behavior
 - Low RH = dryer fuels
 - Fine fuels are more rapidly influenced than other fuels
 - Be aware when atmospheric conditions are getting hotter and drier
- 3. Describe fuel temperature
 - Effects fuel flammability and potential for rate of spread
 - Varies with the 24-hour daily cycle and topographic changes
 - Slope, aspect, and direct sunlight influence fuel temperature and flammability
- 4. Describe how topography impacts fire behavior
 - Steep slopes
 - Rapid rates of fire spread
 - Rollouts and ignition of fuels below
 - Chutes
 - V-shaped ravines where hot air and gases travel rapidly
 - Potential for very rapid rates of fire spread
 - Chimneys
 - Continuous topographic features that create turbulent updrafts causing a “chimney effect”
 - Potential for very rapid rates of fire spread
 - Box canyons
 - Deep-sided dead-end canyons with little chance of escape
 - Potential for very rapid rates of fire spread
 - Saddles

Incident Safety Awareness for Hired Vendors

- Rapid rates of fire spread
 - Fires are often accelerated through saddles because of wind channeling and less topographic resistance
 - Narrow canyons
 - Rapid rates of fire spread and/or erratic fire behavior
 - Radiant or convective spotting can cause multiple spot fires
 - Slope reversal can cause rapid upslope runs on opposite slopes
 - Ridges
 - A chain of mountains or hills that form a continuous elevated crest
 - Can experience more wind due to elevation above surrounding land
5. Describe how wind impacts fire behavior
- Winds can change frequently and are difficult to predict
 - Primary factor that influences fire spread in both rate and direction
 - A very common denominator of fire behavior on tragedy fires
 - Know what your fire behavior and winds are doing at all times
 - Pay attention to weather forecasts
 - Throw dust in the air or tie a piece of flagging to your equipment to determine wind direction
6. Describe types of wind
- Strong surface wind
 - Usually ≥ 10 mph
 - Rapid rates of fire spread
 - Spotting
 - Sudden calm
 - Wind shifts or other changes in weather can increase potential for hazardous fire conditions
 - Battling or shifting winds
 - Potential wind reversals
 - Expect these winds if you see
 - Wavering smoke column
 - A cold front passage
 - Wind blowing through saddles
 - Wind at a drainage confluence
 - Local wind effects
 - Winds specific to local regions
 - Foehn
 - Local geographic
7. Describe how atmospheric instability impacts fire behavior
- Unstable air mass indicators
 - Vertical air movement
 - Smoke rising straight up
 - Good visibility

Incident Safety Awareness for Hired Vendors

- Approaching cold front
 - Winds will shift and increase
 - Expect dangerous conditions due to stronger winds and changing wind direction
 - Possible thunderstorm approaching
- Unstable air masses create potential for rapid rates of fire spread/fire growth
- Stable air mass indicators
 - No vertical air movement
 - Smoke traveling horizontally
 - Thermal belt
 - Hot air sandwiched between two cold air masses
 - Inversion layer
 - Hot air trapped underneath cold air
 - A lifting/breaking inversion layer indicates transition from stable to unstable conditions
- 8. Describe fire behavior
 - Leaning smoke column
 - Rapid rates of fire spread
 - Spotting
 - Sheared column
 - Strong winds aloft
 - Spotting
 - Increase in fire behavior
 - Avoid working under a sheared column
 - Well-developed column
 - Intense burning and unpredictable fire spread
 - Can create a plume-dominated fire
 - Changing column
 - Column changing to a darker color
 - Rotating or splits indicates fire behavior
 - Strong downburst (collapsing columns)
 - Increasing fire intensity
 - Tree torching
 - Possible transition from a surface fire to a crown fire
 - Expect extreme fire behavior conditions if single-tree torching progresses to groups of trees torching
 - Smoldering fire
 - Will become more active
 - Changes in fire's environmental influences
 - Possible increased flame lengths and rate of fire spread
 - Fire whirls
 - Indicate changes in fire environment

Incident Safety Awareness for Hired Vendors

- Fire is developing vertically and building intensity
- Expect increased fire activity
- Potential for fire to move from a surface fire to a crown fire
- Spotting
- Frequent spot fires
 - Indicate changes in fire environment
 - Increase in fire spread and complexity
 - Anticipate increased fire behavior hazards

Discussion Questions

1. What will a well-developed column do?
2. What is a Foehn wind?
3. How does an inversion layer impact fire behavior?

Activities

1. Determined by instructor

Instructor Notes

1. ELO 6 – Reference the “Beaufort Scale for Estimating Wind Speed” in the *IRPG*

Recommended Resources

1. *Incident Response Pocket Guide*, NWCG, NFES 1077, current edition
2. *Look Up, Look Down, Look Around Student Workbook*, NWCG, NFES 1611, 2009 edition, pages 0.2-8.3
3. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 4-7

Topic 2-3: The 10, 18, and LCES

Terminal Learning Objective

At the end of this topic, a student, given an *Incident Response Pocket Guide*, will be able to identify the 10 Standard Firefighting Orders, the 18 Situations that Shout “Watch Out”, and lookouts, communications, escape routes, and safety zones (LCES) according to the information contained in the *IRPG*.

Enabling Learning Objectives

1. Identify the purpose of the 10 Standard Firefighting Orders
 - Guidelines to identify, communicate, and avoid hazardous fire situations
 - Must understand and follow these orders
 - Don’t bend them; don’t break them
 - Indicative of the most common dangers to fire personnel
 - Developed through studies of firefighter fatalities
 - In every wildland firefighter line-of-duty death (LODD), one or more of these orders was ignored
2. Identify the 10 Standard Firefighting Orders
 - Fire behavior
 - 1: Keep informed on fire weather conditions and forecasts
 - 2: Know what your fire is doing at all times
 - 3: Base all actions on current and expected behavior of the fire

Incident Safety Awareness for Hired Vendors

- Fireline safety
 - 4: Identify escape routes and safety zones and make them known
 - 5: Post lookouts when there is possible danger
 - 6: Be alert; keep calm; think clearly; act decisively
- Organizational control
 - 7: Maintain prompt communication with your forces, your supervisor, and adjoining forces
 - 8: Give clear instructions and be sure they are understood
 - 9: Maintain control of your forces at all times
- After following 1-9
 - 10: Fight fire aggressively, having provided for safety first
- 3. Identify the purpose of the 18 Situations that Shout “Watch Out”
 - Describe situations that expand the 10 Standard Firefighting Orders
 - Indicate that fire potential may be changing
 - Describe personnel actions that increase risk
- 4. Identify the 18 Situations that Shout “Watch Out”
 - 1: Fire not scouted and sized-up
 - 2: In country not seen in daylight
 - 3: Safety zones and escape routes not identified
 - 4: Unfamiliar with weather and local factors influencing fire behavior
 - 5: Uninformed on strategy, tactics, and hazards
 - 6: Instructions and assignments not clear
 - 7: No communication link with crew members or supervisor
 - 8: Constructing line without safe anchor point
 - 9: Building fireline downhill with fire below
 - 10: Attempting frontal assault on fire
 - 11: Unburned fuel between you and fire
 - 12: Cannot see main fire; not in contact with someone who can
 - 13: On a hillside where rolling material can ignite fuel below
 - 14: Weather becoming hotter and drier
 - 15: Wind increases and/or changes direction
 - 16: Getting frequent spot fires across line
 - 17: Terrain and fuels make escape to safety zones difficult
 - 18: Taking a nap near the fireline
- 5. Identify the purpose of LCES
 - Acronym is used by fire personnel to reference critical survival components
 - A compilation of the 10 orders and 18 situations
 - Applies to all firefighters and personnel on the fireline, including private vendors
 - Must be established and known to all personnel before it is needed
- 6. Identify the components of LCES
 - Lookouts

Incident Safety Awareness for Hired Vendors

- Communications
- Escape routes
- Safety zones

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. None

Recommended Resources

1. *Incident Response Pocket Guide*, NWCG, NFES 1077, current edition
2. *Essentials of Firefighting*, ISFTA, 5th edition, page 806
3. *Field Operations Guide ICS 420-1*, FIRESCOPE, July 2007, inside front and back covers
4. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 10-14 and inside back cover
5. *Glossary of Wildland Fire Terminology*, NWCG, 2008 edition, pages 67, 115, 151
6. *CAL FIRE Training Handbook*, Section 4300

Topic 2-4: Risk Management

Terminal Learning Objective

At the end of this topic, a student, given hazards and risk management tools, will be able to implement the risk management process as outlined in the *Incident Response Pocket Guide*.

Enabling Learning Objectives

1. Describe the components of the *IRPG* Risk Management checklist
 - Identify Hazards (Situation Awareness)
 - Gather information about factors and indicators to increase situational awareness
 - When an indicator reaches a critical level, look for additional indicators
 - Indicators usually accumulate and compound
 - Assess Hazards
 - Use these indicators to estimate potential fire behavior hazards
 - Maintain good situational awareness
 - Always look up, look down, and look around for factors and indicators
 - Develop Controls and Make Risk Decisions
 - 10 orders
 - 18 watch-out situations
 - LCES
 - Anchor point
 - Implement Controls
 - Controls in place for identified hazards and being implemented by personnel
 - Controls integrated into operational plan
 - Controls understood at all levels

Incident Safety Awareness for Hired Vendors

- Supervise and Evaluate
 - Human factors
 - Continually evaluate the situation
 - Monitor the indicators to determine what is changing
 - Indicators can signal dangers or opportunities
 - Significant changes can restart Risk Management process
- 2. Describe decision points
 - Any pre-identified condition that may change operational strategies and tactics

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. None

Recommended Resources

1. *Incident Response Pocket Guide*, NWCG, NFES 1077, current edition
2. *Look Up, Look Down, Look Around Student Workbook*, NWCG, NFES 1611, 2009 edition, pages 0.2-8.3
3. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 4-7

Topic 2-5: Fireline Hazards

Terminal Learning Objective

At the end of this topic, a student, given an overview of fireline hazards, will be able to identify fireline hazards and strategies that potentially impact hired vendors on an incident.

Enabling Learning Objectives

1. Describe fireline hazard terminology
 - Life hazard
 - The existence of a situation or condition that would likely cause serious injury or death to exposed persons
 - Life Hazard Zone
 - An area within the fire perimeter identified as life threatening and hazardous to emergency responders
 - Usually isolated by barriers
 - Life Hazard Lookout
 - A person assigned to safely observe a Life Hazard Zone
2. Identify hazard-related responsibilities of all individuals
 - Always make safety a priority
 - “Mark and notify”
 - Flag any encountered hazard
 - Immediately communicate hazard to fireline supervisor and coworkers
 - Do not enter hazard zones
3. Identify terrain and vegetation hazards

Incident Safety Awareness for Hired Vendors

- Falling materials
- Dead snags and live trees
 - Environmental conditions
 - Hazard tree indicators
- Rocks and other rolling materials
 - Personnel or equipment should not work directly above or below one another or in close intervals when working on steep slopes
 - Post a lookout to watch for falling or rolling materials
 - Heavy material supported by combustible material can become dislodged
- Other vegetation hazards
 - Poison oak
 - Nettles
 - Thorns
 - Branches or roots
 - Burned out stumps
- 4. Identify potentially hazardous insects and reptiles
- 5. Identify hole and drop-off hazards
 - Mine shafts
 - Wells, cisterns, septic tanks, cesspools
 - Gullies, washouts, cliffs, drop-offs
- 6. Identify procedures for working with down or sagging power lines
 - Initial steps
 - Immediately notify fireline supervisor
 - Identify
 - Always treat down power lines as live until confirmed dead and grounded by utility company
 - Smoke may become charged and conduct electrical current
 - Isolate the area
 - Deny entry
 - Working around power lines
 - Minimize operations under power lines
 - Metal fences can energize for a long distance
 - Ground can be energized by downed electrical lines
 - Down line on a vehicle
 - Stay in vehicle if possible
 - If you must exit the vehicle:
 - Jump clear
 - Don't hang on
 - Shuffle or hop to safety
- 7. Identify hazardous materials
 - Encountered more and more frequently on wildland fires

Incident Safety Awareness for Hired Vendors

- Can be industrial, agricultural, drug labs, explosives, ordnance, etc.
 - Chemical or ammunition storage
 - Ordnance
 - Most likely found on military and former military sites, shooting ranges
 - Building or vehicle components
 - Illegal drug labs
 - Meth labs, honey oil labs, marijuana
 - Radioactive materials
 - Asbestos
 - Fuels
 - Gasoline, diesel, LPG, etc.
- 8. Identify procedures for working with hazardous materials
 - Immediately notify supervisor
 - Stay up wind, up hill, and avoid breathing smoke
 - Isolate area and deny entry
 - Warn others in the immediate area
- 9. Identify procedures for working around heavy equipment
 - Stay at least 100 feet in front or 50 feet behind equipment
 - Only operator should ride on equipment
 - Avoid working below equipment where rolling material could jeopardize safety
 - Working at night can increase the risk due to reduced visibility
 - Establish visual and radio communications prior to engaging operator or approaching equipment
 - Equipment operators have difficulty seeing ground personnel
- 10. Identify hazards associated with aerial retardant and helibucket operations
 - Safety precautions for retardant and/or water drops from aircraft
 - May dislodge rocks and other heavy materials
 - Creates slippery surfaces and reduced traction
 - Safety precautions for rotary-wing aircraft
 - Safety precautions for fixed-wing aircraft
- 11. Identify ways to reduce incident-related driving hazards
 - Always drive defensively
 - All occupants will ALWAYS wear seatbelts
 - Reduce speed to prevent rollovers and/or loss of vehicle control
 - Drive slowly and cautiously on dangerous or blind curves and narrow roadways
 - Evaluate road surface and weather conditions
 - Use caution while driving in smoke
 - Utilize safe backing precautions
 - Be aware of load limits on bridges and roads

Discussion Questions

1. Determined by instructor

Incident Safety Awareness for Hired Vendors

Activities

1. Determined by instructor

Instructor Notes

1. None

Recommended Resources

1. *Incident Response Pocket Guide*, NWCG, NFES 1077, current edition, pages 9-10 and 17-29
2. *CAL FIRE Health and Safety Handbook 1700*, Section 1738
3. *Essentials of Firefighting*, IFSTA, 5th edition, pages 805-806
4. *Field Operations Guide ICS 420-1*, FIRESCOPE, July 2007, pages 21-4 - 21-6
5. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 19, 25, 54-59, 61-69, 73-74, 78, 106-107
6. *Glossary of Wildland Fire Terminology*, NWCG, 2008 edition, page 157
7. *Life Hazard Zones*, FIRESCOPE, <http://firescope.caoes.ca.gov/whats-new/life-hazards-zones.htm>

Topic 2-6: Radio Operations and Maintenance

Terminal Learning Objective

At the end of this topic, a student, given a radio, will be able to appropriately operate a radio using the correctly frequencies and proper radio communication protocol.

Enabling Learning Objectives

1. Identify the purpose of radio communication
 - Understanding radio use, the communications plan, and assigned frequencies helps operators safely accomplish incident objectives
 - Essential to firefighter safety
 - A key component to LCES
2. Identify radio requirements
 - Operator contract determines whether or not radios are required
 - Read and understand contract
 - When radios are required, operator is responsible for programming and operating hand-held or mobile radio while assigned to an incident
 - Radios must be programmable
 - Radios must be narrow-band capable and operate in the 138 MHz to 174 MHz range
 - Any noncompliant radio equipment used on narrow band channels may present a life safety hazard for all users
3. Describe radio frequencies commonly used on an incident
 - Communications Unit Leader provides the Incident Communications Plan (ICS-205) found in the Incident Action Plan (IAP) and specifies the frequencies to be used on the incident
 - Frequency types
 - Tactical channels (Simplex Channel)
 - Single frequency to transmit and receive

Incident Safety Awareness for Hired Vendors

- Used for tactical functions, groups, divisions, etc.
 - Line-of-sight only
 - Command channels (Repeater Channel)
 - Pair of frequencies (one transmits and one receives)
 - Used for overhead and emergency communication
 - Repeater has to receive and transmit at the same time
 - Air frequencies
 - Air guard is an emergency-only channel
 - Air-to-ground can be used in an emergency
- 4. Identify appropriate radio protocol
 - Observe strict radio procedures and discipline when using any communication equipment
 - Listen first
 - Don't "cover" someone
 - Restrict radio communication to official business
 - Use only authorized frequencies and only in authorized areas
- 5. Identify appropriate radio procedures
 - When transmitting
 - Key microphone and pause for approximately two seconds
 - Hesitation allows radios to link properly
 - Key up, pause, talk
 - Listen for other traffic
 - When receiving
 - If using "Scan" feature, turn it off and switch to the correct channel
 - Answer calling station with call sign
 - Speak clearly and hold microphone a couple of inches from mouth
 - Talk across microphone rather than directly at it
 - Speak in a normal voice, don't shout
 - Keep conversations brief and to the point
 - 30-second rule
 - Speak professionally
 - Remember everyone is listening
 - Use clear text only
 - No "10" or "12" codes
 - Never use profanity or obscene language
 - Don't use first names or jargon
 - Acknowledge each transmission
 - End with identifier or call sign
 - Sample transmission: Water Tender E-43 calling Division B
 - First transmission: "Division B, Water Tender E-43 on TAC 3"
 - First reply: "Division B"

Incident Safety Awareness for Hired Vendors

- Second transmission: "I've completed filling the engines at the end of the Smith Road. What are your wishes?"
 - Second reply: "Copy. Report to DP-13 for further assignments."
 - End transmission: "Water Tender E-43 copy."
6. Identify radio traffic priorities
- Emergency traffic always has priority over routine traffic
 - Routine traffic should cease until the emergency terminates
 - Order of radio priority
 - Life or death emergency
 - Injuries
 - Life hazards
 - Entrapments
 - Aircraft in trouble
 - Medical aid or the well being of any person
 - First report of a new emergency
 - Initial attack dispatch to a new emergency
 - Routine traffic
7. Describe radio maintenance tasks
- Always refer to owner's manual
 - Keep radio clean, dry, and out of extreme heat
 - Start each shift with new batteries
 - Do not place radio in a location where it can be easily lost or stolen
 - Update frequencies as needed

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. Bring in different radios for students to handle.

Recommended Resources

1. *CAL FIRE Academy Emergency Command Center (ECC) Handbook*, section 1800, page 34
2. *Essentials of Firefighting*, IFSTA, 5th edition, pages 943-945
3. *Field Operations Guide ICS 420-1*, FIRESCOPE, July 2007, pages A-1 through A-5
4. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 106-108, 152, and Appendix A, pages 42-44

Topic 2-7: Working with Inmate Fire Crews

Terminal Learning Objective

At the end of this topic, a student, given rules and regulations, will be able to work with inmate fire crews in California in accordance with current policies and procedures.

Enabling Learning Objectives

1. Describe potential association with prison inmates

Incident Safety Awareness for Hired Vendors

- Standard practice to utilize inmate fire crews on many types of incidents
 - Civilian and inmate interaction generally only occurs during meals, but inmates may be asked to work on the fireline to complete an assignment
 - Failure to conform to rules, policies, procedures, and laws may unnecessarily place operator and/or inmate in a position where disciplinary or legal action will be taken
2. Identify basic regulations related to association with prison inmates
 - Inmates should be under direct supervision of a fire captain or correctional officer at all times
 - Custodial agency is the agency with supervision responsibilities while the inmates perform assigned tasks
 - California Department of Forestry and Fire Protection (CAL FIRE)
 - California Department of Corrections and Rehabilitation (CDCR)

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. ELO 2 – Use Handout 2-7: Basic Regulations Related to Association with Prison Inmates to teach this objective. Provide students with individual copies.

Recommended Resources

1. *CAL FIRE CDC Camp Operations Handbook 6400*
2. *California Code of Regulations, Title 15, Sections 3400, 3401, and 3415*
3. *Fireline Handbook, NWCG, PMS 410-1, 2004 edition, pages A-28 and A-29*

Topic 2-8: Wildland Personal Protective Equipment

Terminal Learning Objective

At the end of this topic, a student, given wildland personal protective equipment (PPE), will be able to identify the components, use, care, and maintenance of wildland PPE before, during, and after an incident.

Enabling Learning Objectives

1. Identify the components on a wildland PPE checklist
 - Safety helmet with chin strap (hard hat)
 - Goggles
 - Gloves
 - Fire resistant (Nomex) shroud
 - Fire resistant (Nomex) shirt
 - Fire resistant (Nomex) pants
 - 100% cotton t-shirt
 - Lug-soled work boots with 8" high top
 - Work pants
 - Fire shelter for fireline assignments
 - Web gear

Incident Safety Awareness for Hired Vendors

- Canteen of water
 - One gallon minimum
- 2. Identify the safety elements of wildland PPE
 - Clothing is fire resistant, not fireproof
 - Nomex clothing is the recommended fire resistive material
 - PPE is most effective when properly worn
 - Air between skin and undergarment is a critical part of insulation
 - Air between undergarments and Nomex (shirt and/or pants) is also critical to proper insulation
 - Safety helmet with chin strap (hard hat)
 - Adjust headband and head strap
 - Equipment owner is responsible for ensuring equipment is properly adjusted
 - Goggles
 - Pull rubber strap to secure, but keep comfortable
 - Be sure lens is clean
 - Glasses are not a substitute for goggles
 - Gloves
 - Gloves
 - CAL FIRE: made of fire-resistant leather and long Nomex material wrist gauntlet
 - Federal: one pair of heavy-duty leather per person
 - Protect from
 - Mechanical damage or trauma
 - Heat
 - Fire resistant (Nomex) shroud
 - Have immediately available
 - Must be fastened in front of face when on the fireline
 - Wear down during suppression activities
 - Do not roll the shroud up between the suspension system and helmet
 - Defeats the separation principle that provides for maximum cushioning of impact on shell
 - Cuts down on ability to release heat from around the head
 - Bandannas cannot be worn as a substitute for fire resistant shrouds
 - Nomex shirt
 - Sleeves rolled down and fastened
 - Wear outside the pants, not tucked in
 - Zip it up
 - Nomex pants
 - Must fit properly over work pants
 - Cotton clothing
 - Wear a cotton t-shirt under Nomex shirt at all times
 - Fire resistant clothing offers no insulation

Incident Safety Awareness for Hired Vendors

- Cotton t-shirts and other undergarments are crucial in reducing exposure to radiant heat burns
- Work pants
 - 100% cotton recommended, do not wear a blended fabric such as polyester
- Wear fire shelter, web gear (if worn), and canteen outside Nomex shirt
 - Fire shelter must be readily accessible at all times
- All wildland PPE components must be with the equipment operator on the fireline, even when not in use
- Physical fitness and training exercises while wearing PPE help the body acclimate to the added body heat caused by fire-resistant fabrics
 - Because of the added body heat caused by these fabrics, it is important to replace electrolytes and body fluids
 - Proper hydration is critical
- 3. Describe how to care for and maintain wildland PPE
 - Proper laundering
 - As specified on manufacturer's care label
 - Wash separate from other types of clothing
 - If there is no legible label, launder as indicated below
 - No starch or bleach
 - Machine wash, warm
 - Tumble dry on low heat
 - Safety helmet
 - Do not clean helmet and components with solvents
 - Use soap and water
 - Do not modify
 - Goggles
 - Keep lens clean and avoid scratches
 - Clean with water and non-abrasive cloth
 - Replace worn-out or damaged PPE
 - Free of tears and loose stitching
 - Burn marks and burn holes
 - Soiled with petroleum products (i.e. diesel, oil, gasoline)
- 4. Describe how to properly store wildland PPE
 - Store Nomex in vehicle and only wear when on the fireline
 - Store clean Nomex in a dry, well ventilated storage area when not in use
 - Do not store dirty or soiled Nomex
 - Leave on equipment until it can be cleaned
 - PPE is usually not allowed to be checked out or traded out at an incident
 - When authorized to check out PPE from Supply, operator is responsible for all items issued and will be charged for any item not returned

Discussion Questions

1. Determined by instructor

Incident Safety Awareness for Hired Vendors

Activities

1. Determined by instructor

Instructor Notes

1. Bring in a full set of wildland PPE to demonstrate proper wear and cleaning techniques.

Recommended Resources

1. *Hiring and Utilization Guide*, CAL FIRE, Sections 7761.4.3 and 7761.4.4, http://cdfdata.fire.ca.gov/incidents/incidents_hiredequipment
2. *Interagency Standards for Fire and Fire Aviation Operations*, 2010 edition, chapter 7, pages 8-12
3. *Standards of Personal Protective Equipment*, USFS, <https://www.nifc.gov/PUBLICATIONS/redbook/2017/RedBookAll.pdf>

Unit 3: Entrapment Avoidance

Topic 3-1: Incident Mapping and Strategies

Terminal Learning Objective

At the end of this topic, a student, given appropriate maps, will be able to identify parts of a vegetation fire and fireline hazards and strategies that potentially impact hired vendors on an incident.

Enabling Learning Objectives

1. Identify the parts of a vegetation fire
 - Origin or point of origin
 - Area where the fire started
 - The point from which it spread
 - Heel
 - The rear of a wildland fire opposite of the head
 - At or near the point of origin
 - Head
 - Area where rate of spread is the fastest
 - A fire can have more than one head
 - Flank
 - Sides of a wildland fire
 - Roughly parallel to the main direction of fire spread
 - Every fire has two flanks or sides which separate the head from the heel
 - Left flank and right flank are identified by standing at the point of origin, facing the fire's head
 - Island
 - An area of unburned fuel within the fire's perimeter
 - Finger
 - Long narrow strips of fire extending from the main portion of the fire perimeter
 - Fingers can form new heads

Incident Safety Awareness for Hired Vendors

- Hot spots
 - A particularly active part of the fire
 - Spots along the fire perimeter that are burning more intensely than other parts of the fireline
 - Spot fire
 - A fire outside the main fire perimeter ignited by sparks or hot embers
 - Hazardous to personnel and equipment
 - Operators may become trapped between the main fire and spot fire
 - Burn or black
 - Burned area inside the fire's perimeter
 - Generally considered the safest part of the fire
 - Green
 - Unburned fuel inside or outside the fire's perimeter
 - Does not necessarily indicate a safe area
 - Pocket
 - Area of unburned fuel between two fingers, or between a finger and the main body of the fire
2. Describe fireline strategies
- Size up
 - Fireline safety considerations
 - Identify fireline supervisor
 - Make sure plan and incident objectives are clear and understood
 - Initiate risk management process
 - Strategies
 - Direct attack
 - Indirect attack
3. Identify common symbols found on incident maps
- Incident command post (ICP)
 - Incident base
 - Staging area
 - Spike camps
 - Drop point
 - Helibase
 - Heliwell
 - Water source
 - Division break
 - Branch break
 - Hazards

Discussion Questions

1. Determined by instructor

Incident Safety Awareness for Hired Vendors

Activities

1. Distribute Handout 3-1: Parts of a Basic Vegetation Fire (Student Copy) and have students fill it in during lecture portion.

Instructor Notes

1. Use Handout 3-1: Parts of Basic Vegetation Fire (Instructor Copy) as an illustration of initial attack. Then show additional maps from a campaign fire.
 - Maps available at <https://inciweb.nwcg.gov>
2. ELO 3 – Show examples of different types of symbols on various maps.

Recommended Resources

1. *Essentials of Firefighting*, IFSTA, 5th edition, pages 803-804
2. *Glossary of Wildland Fire Terminology*, NWCG, PMS-205, 2008 edition
3. *Health and Safety Handbook 1700*, CAL FIRE, Section 1738
4. *Essentials of Firefighting*, IFSTA, 5th edition, pages 805-806
5. *Field Operations Guide ICS 420-1*, FIRESCOPE, July 2007, pages 21-4 through 21-6
6. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 19, 25, 54-59, 61-69, 73-74, 78, 106-107
7. *Glossary of Wildland Fire Terminology*, NWCG, 2008 edition, page 157
8. *Incident Response Pocket Guide*, NWCG, NFES 1077, current edition, pages 9-10 and 17-29
9. *Life Hazard Zones*, FIRESCOPE, <http://firescope.caloes.ca.gov/whats-new/life-hazards-zones.htm>

Topic 3-2: Entrapment Avoidance

Terminal Learning Objective

At the end of this topic, a student, given a sample scenario, will be able to identify hazards to avoid potential entrapment situations.

Enabling Learning Objectives

1. Describe entrapment avoidance
 - “A process used to improve the safety of personnel on the fireline that emphasizes tools and tactics available to prevent being trapped in a burnover situation” (NWCG)
 - Encompasses decision making through:
 - Risk management
 - Application of LCES
 - Decision points
 - Recognition of escape routes and safety zones
 - Best practice is to recognize entrapment situations and avoid them versus risking the situation of becoming trapped
2. Identify critical safety measures
 - Follow the risk management process
 - Situation awareness
 - Hazard assessment
 - Hazard control

Incident Safety Awareness for Hired Vendors

- Decision point
- Evaluate
- Decision points
 - Geographic point(s) or a specific point in time where alternative actions are warranted
 - Timely implementation of these actions is critical to firefighter safety
 - Alignment of topography and wind during burning period should always be considered a decision point to re-evaluate strategy and tactics
- Common denominators of fire behavior on fatal and near-fatal fires
 - Relatively small fires or deceptively quiet areas of large fires
 - Relatively light fuels, such as grass, herbs, and light brush
 - An unexpected shift in wind direction or in wind speed
 - Fire responds to topographic conditions and runs uphill
- Follow 10 orders; recognize 18 “watch out” situations; know, understand, re-evaluate LCES often

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. Access internet and introduce students to the "6 Minutes to Safety" website.
 - <https://www.nwcg.gov/committees/6-Minutes-for-safety>
 - Choose a scenario from the website and discuss the situation and critical issues.
2. ELO 2 – Refer to pages 1 and 4 in the *IRPG*.

Unit 4: All Risk

Topic 4-1: Incident Organization

Terminal Learning Objective

At the end of this topic, a student, given a sample incident, will be able to recognize the expectations of vendors at an incident including dispatch, check in, briefings, and check out procedures.

Enabling Learning Objectives

1. Identify how Incident Communications selects resources to fill requests
 - Timeframes
 - Closest resource
 - Specific mission requirements
 - Equipment capabilities
2. Identify when an operator should respond to an emergency incident
 - Contractors must not respond to emergency incidents without being requested
 - Safety concern

Incident Safety Awareness for Hired Vendors

- Communication concern
- Operator may not be entitled to payment
- 3. Describe dispatch procedures, response requirements, and mobilization activities
 - Appropriate dispatch office will contact vendor with ordering protocol for resources
 - Operator may receive some or all of the following information:
 - Type of equipment requested
 - Number of operators needed
 - Type of assignment
 - Reporting location and contact person
 - Specific fire location
 - Dispatch contact number
 - Local number
 - Incident number
 - Reporting date and time
 - Communication instructions
 - Incident/fire name
 - Resource order number/incident number/request number
 - Travel information
 - Operator should be prepared to provide the following information:
 - Estimated time of departure (ETD)
 - Estimated time of arrival (ETA)
 - Rest over night (RON) justification (if applicable)
 - Contact/cell number for operator(s)
 - Which piece of equipment will be assigned to each request number (if multiple pieces of equipment respond)
 - Operator must notify appropriate dispatch of any change in status or ability to meet assigned report time
 - Notify contact number provided at time of dispatch
 - State hires: Contact ECC (emergency command center) dispatch of hire
 - Federal hires: Contact incident ECC (emergency communication center)
- 4. Describe check-in procedures
 - There may be several locations for incident check-in
 - Immediate need (fireline) and remote locations (camps, staging areas, helibase, etc.)
 - Contact appropriate fireline supervisor (firelines) or incident commander (IC) (type 3 or 4 incidents only)
 - Contact the staging, spike camp, or helibase manager (remote locations)
 - Sometimes located offsite in a vehicle, trailer, etc.
 - Obtain instructions/briefing prior to assignment

Incident Safety Awareness for Hired Vendors

- An operator checked-in at an offsite incident command post (ICP), must also officially check-in at base once base is established
 - Inspection requirements
 - CAL FIRE: FC-291 Minimum Equipment Requirement Checklist
 - USFS: OF-296 Vehicle/Heavy Equipment Mechanical Inspection
 - Extended attack (incident command post)
 - Report to Plans Section base check-in site
 - Refer to individual agreement for required check-in procedures
 - Inspection requirements
 - CAL FIRE: FC-291 Minimum Equipment Requirement Checklist
 - USFS: OF-296 Vehicle/Heavy Equipment Mechanical Inspection
 - Time, etc.
 - Operator may be sent to the line or asked to wait for a briefing
- 5. Describe briefing procedures and responsibilities
 - Two types of briefing
 - Operational briefings
 - Safety briefings
 - Operators must attend all briefings (see agreement for specifics)
 - Accountability
 - Safety concerns
 - Communication plan
 - Operational assignments
 - Liability
- 6. Identify the purpose of an Incident Action Plan (IAP)
 - Identifies strategy, tactics, tasks, and timeframes in which to accomplish incident objectives
 - Operators should be familiar with IAP to understand briefing discussions
 - Each IAP has slightly different specific pages and page order arrangement
- 7. Identify the general components of an IAP
 - Incident Objectives – ICS-202
 - Organization Assignment List – ICS-203
 - Division Assignment List – ICS-204
 - Separate ICS-204 for each branch, division, and/or group
 - Incident Radio Communications Plan – ICS-205
 - Medical Plan – ICS-206
 - Air Group Summary – ICS-208
 - Additional pages
 - Safety message

Incident Safety Awareness for Hired Vendors

- Maps
 - HR message
 - BAER (burn area emergency repair)/fire suppression repair message
 - MIST (minimum impact suppression tactics)
8. Describe how to end a shift
- Shift ticket
 - Division or group supervisor completes operator shift ticket
 - Operators may not complete their own shift tickets
 - Operator should not leave assignment until receiving shift ticket
 - Supervisor and operator must both sign shift ticket
 - If a piece of equipment has multiple operators, shift ticket must list each operator
 - Fireline or incident supervisor submits shift tickets to Finance
 - Finance audits shift ticket for correctness
 - Finance will not process payment without a shift ticket
 - Work/rest guidelines
 - Minimum 2:1 work/rest ratio
 - For every two hours of work or travel, provide one hour of sleep and/or rest within a 24-hour period
 - See individual agreements for break/lunch guidelines during a shift
 - Regardless of hiring agency, commercial drivers must abide by federal Department of Transportation (DOT) driving regulations
 - Evaluation
 - Immediate supervisor provides an operator evaluation
 - ICS-225: Incident Personnel Performance Rating Form
 - CAL FIRE 230: Private Vendor Evaluation
 - USFS Agreement Performance Evaluation Form (located within exhibits of vendor agreement)
9. Describe demobilization procedures
- At the end of assignment equipment becomes surplus resource and demobilization (demob) process begins
 - Operators are required to check out expeditiously
 - Lengthy departure will be reflected in operator paperwork
 - Report to Demob for departure time
 - Receive ICS-221: Demobilization Checklist
 - Start with Finance to begin payment process
 - Report to each identified section to complete check-out process
 - Return to Finance to complete payment process
 - Return to Demob to submit completed ICS-221
 - When forms are complete, Demob releases vendor from incident

Discussion Questions

1. Where can a hired vendor find the minimum requirements of his or her agreement?

Incident Safety Awareness for Hired Vendors

2. How would incident organization apply to hired equipment operators in non-fire scenarios
 - Earthquakes
 - Floods
 - Multi-casualty incident extending multiple days

Activities

1. Given a shift ticket, have students fill out a shift ticket along with instructor during lecture portion.

Instructor Notes

1. Bring in an Incident Action Plan (IAP) for students to see.
2. Bring in shift tickets (CAL FIRE and US Forest Service) for students to utilize during the activity.
3. ELO 4 – Bring in sample state and federal inspection and/or minimum requirement checklists for students to see.
4. ELO 8 – Bring in sample ICS, CAL FIRE, and USFS evaluation forms for students to see.

Unit 5: Fire Shelter Deployment

Topic 5-1: Fire Shelter Deployment

Terminal Learning Objective

At the end of this topic, a student, given a “new generation” fire shelter, will be able to deploy a fire shelter within 60 seconds.

Enabling Learning Objectives

1. Describe how to select and prepare a shelter deployment site
 - Select deployment area
 - Away from rolling materials or snags
 - Away from chimneys, draws, and steep terrain
 - Use largest available clearing
 - Use lightest fuel clearing
 - Look for a possible burned over area
 - Clear deployment area
 - Utilize existing clearings
 - Make area as large as time permits
 - Minimum 4' x 8' area
 - Dig down to mineral soil
 - Fire out if conditions warrant
 - Dig toe holds on slopes of 75% or more
 - Set all hand tools or equipment aside
 - A minimum of 30 feet away
 - Place downhill
 - Place downwind

Incident Safety Awareness for Hired Vendors

2. Describe how to deploy a fire shelter
 - Open and remove shelter from carrying case
 - Pull up and out on yellow/orange pull-strap
 - Open plastic protective case
 - Hold on to yellow/orange pull-strap with one hand
 - Pull either red pull-ring down to the bottom of the plastic and extend to top of the other side
 - Tear the plastic case
 - Completely remove shelter from plastic protective case
 - Unfold and extend the shelter to full length
 - Grasp the shake handles without releasing shelter
 - Shake out the shelter tri-fold
 - Face the shelter
 - Open to full width, without releasing shelter, until sides, ends, and peak are fully extended
 - Step into the shelter
 - Step over lower hold-down straps
 - Turn to face out of the opening
 - Position body in the shelter
 - Place feet shoulder width apart, behind the hold-down straps, anchoring lower end of shelter
 - Place body behind upper hold-down straps facing away from on-coming fire
 - Crouch down to pull head and upper body into opening
 - Check that entire body is inside the shelter
 - Drop to knees on the ground
 - Drop forward
 - Lay flat on stomach
 - Anchor shelter
 - Position feet toward on-coming fire
 - Push out shelter with one hand to maintain maximum airspace in shelter
 - Anchor inside flaps with head, arms, and legs
 - Create complete seal between shelter and ground
 - Maintain position until instructed otherwise
3. Identify when to deploy and exit a fire shelter during an incident
 - Deployment
 - If working with a crew, supervisor tells operator when to deploy
 - If working alone, operator makes judgment call
 - Exiting the shelter
 - If working with a crew, supervisor will decide when it's safe to exit
 - If working alone, operator makes judgment call
 - Base decision on sounds and temperature
 - Test with one hand before completely exiting shelter

Incident Safety Awareness for Hired Vendors

4. Deploy a fire shelter within 60 seconds

Discussion Questions

1. Determined by instructor

Activities

1. Activity 5-1: Deploying a “New Generation” Fire Shelter
 - Successful completion of this activity is required to pass this course.
 - A five-to-one instructor to student ratio is required during this activity.

Instructor Notes

1. Recommended video clips:
 - Inside the Shelter, Wildland Fire LLC (13:24)
 - How to Deploy a Fire Shelter, The Bulletin (0:43)
 - Refolding Your Practice Fire Shelter, National Interagency Fire Center (3:40)
2. Provide students with a copy of Handout 5-1: Shelter Deployment Notes from the Field

Recommended Resources

1. *Fireline Handbook*, NWCG, PMS 410-1, 2004 edition, pages 15-17 and 40-44
2. *The New Generation Fire Shelter*, NWCG, NFES-2710, <http://www.nwcg.gov/pms/pubs/newshelt72.pdf>
3. *The New Generation Fire Shelter*, DVD, NWCG, NFES 2712, 2003 edition

Unit 6: Current Issues

Topic 6-1: Trending Topics and Lessons Learned

Terminal Learning Objective

At the end of this topic, a student, given trending topics associated with incident safety, will be able to discuss lessons learned with a focus on creating a safer working environment on future incidents.

Enabling Learning Objectives

1. Identify hot topics
2. Review annual USFS and CAL FIRE safety reports
 - USFS Safety Journey / Life First
 - CAL FIRE Focus on Safety Annual Report
3. Identify lessons learned
 - “A lesson is truly learned when we modify our behavior to reflect what we now know.”

Discussion Questions

1. Determined by instructor

Activities

1. Determined by instructor

Instructor Notes

1. Review the following websites and select most relevant/appropriate hot topics and lessons learned to present for discussion.
 - <https://www.nwcg.gov/publications/training-courses/rt-130>

Incident Safety Awareness for Hired Vendors

- www.wildfirelessons.net/Home.aspx
2. Use examples and illustrations for near-miss incidents, injuries, or fatalities to discuss issues relevant to hired equipment and personnel working on or near the fireline or other incidents.

Incident Safety Awareness for Hired Vendors

Time Table

Segment	Lecture Time	Activity Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	0:30		
Activity 1-1: Determined by instructor		0:00	
Topic 1-2: Course Completion Card			
Lecture	0:15		
Activity 1-2: Determined by instructor		0:00	
Unit 1 Totals	0:45	0:00	0:45
Unit 2: Hazards and Safety Issues			
Topic 2-1: Introduction to the <i>Incident Response Program Guide</i>			
Lecture	0:15		
Activity 2-1: See recommended activity		0:00	
Topic 2-2: Fire Behavior and Fire Weather			
Lecture	0:45		
Activity 2-2: Determined by instructor		0:00	
Topic 2-3: The 10, 18, and LCES			
Lecture	0:30		
Activity 2-3: Determined by instructor		0:00	
Topic 2-4: Risk Management			
Lecture	0:15		
Activity 2-4: Determined by instructor		0:00	
Topic 2-5: Fireline Hazards			
Lecture	0:30		
Activity 2-5: Determined by instructor		0:00	
Topic 2-6: Radio Operations and Maintenance			
Lecture	0:30		
Activity 2-6: Determined by instructor		0:00	
Topic 2-7: Working with Inmate Fire Crews			
Lecture	0:15		
Activity 2-7: Determined by instructor		0:00	
Topic 2-8: Wildland Personal Protective Equipment			
Lecture	0:15		
Activity 2-8: Determined by instructor		0:00	
Unit 2 Totals	3:15	0:00	3:15

Incident Safety Awareness for Hired Vendors

Segment	Lecture Time	Activity Time	Total Unit Time
Unit 3: Entrapment Avoidance			
Topic 3-1: Incident Mapping and Strategies			
Lecture	0:45		
Activity 3-1: Parts of a Basic Vegetation Fire		0:00	
Topic 3-2: Entrapment Avoidance			
Lecture	0:30		
Activity 3-2: Determined by instructor		0:00	
Unit 3 Totals	1:15	0:00	1:15
Unit 4: All Risk			
Topic 4-1: Incident Organization			
Lecture	0:45		
Activity 3-3: Shift ticket		0:00	
Unit 4 Totals	0:45	0:00	0:45
Unit 5: Fire Shelter Deployment			
Topic 5-1: Fire Shelter Deployment			
Lecture	0:30		
Activity 5-1: Deploying a “New Generation” Fire Shelter		1:00	
Unit 5 Totals	0:30	1:00	1:30
Unit 6: Current Issues			
Topic 6-1: Trending Topics and Lessons Learned			
Lecture	0:30		
Activity 6-1: Determined by instructor		0:00	
Unit 6 Totals	0:30	0:00	0:30
Lecture, Activity, and Unit Totals:	7:00	1:00	8:00

Course Totals

Segment Type	Time
Total Lecture Time (LT)	7:00
Total Activity Time (AT)	0:00
Total Testing Time (TT)	0:00
Total Skill Exercise Time (ST)	1:00
Total Course Time	8:00

Errata

The June 2019 updated was a document formatting update for compliance with California Government Code (GC) Section 11546.7 (Assembly Bill 434). No content was changed.

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.

CAL FIRE

Ken Pimlott

Director, CAL FIRE

Dennis Mathisen

State Fire Marshal

Mike Richwine

Assistant State Fire Marshal

Andrew Henning

Acting Chief, State Fire Training

Ron Coleman

Chair, STEAC

Cadre Leadership

Jim Eastman

Cadre Leader

Training Specialist III (RA), CAL FIRE

Deputy Chief (ret.), Sacramento Metro Fire Department

Allison L. Shaw

Cadre Editor

California State University, Sacramento

Development Cadre Participants

Chad Lawson

Incident Safety Awareness for Hired Vendors

*Director of Fire Technology, Lassen Community College
Training Captain, Lake Forest Fire Department*

Cheryl Raines

*Incident Business Management Specialist / Contract Operations, Fire and Aviation
Management
United States Forest Service*

Mark Rakestraw

*Supervisory Forestry Range Tech, U.S. Fish and Wildlife Service
Training Captain, Artois Volunteer Fire District*

Matthew Sully

*Fire Captain / Statewide Hired Equipment Committee
California Department of Forestry and Fire Protection*

David Trussell

*Battalion Chief, Chester Fire Department
Director of Fire Science (ret.), Lassen Community College*

Susan Zahn

*Contract Operations Program Manager, Fire and Aviation Management,
United States Forest Service*

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.