Date: March 23, 2018

To: Ronny J. Coleman, Chairman
Statewide Training and Education Advisory Committee

c/o State Fire Training

From: Chris Fowler, Supervising Deputy State Fire Marshal

Subject/Agenda Action Item: S-219 Ad-Hoc Committee Update
Ignition Operations Curriculum

Recommended Actions: Information/Discussion

Background Information: On January 12, 2018, at the direction of Chief Ronnie Coleman, STEAC Chair, Chris Fowler, Supervising Deputy State Fire Marshal in State Fire Training, was appointed to assemble a STEAC ad hoc committee to address the issues raised at the STEAC Meeting.

The original agenda item was in response to a proposal made by Scott Vail, CalOES, Rep. of the CICCS Task Force, at the January 12, 2018 STEAC meeting, and given to the California Incident Command Certification Task Force for our consideration of its merits by Chief Zagaris. [Attachment 16 Summary]

Committee Members:
Chris Fowler, State Fire Training
Kevin Conant, State Fire Training
Dave Barnett, STEAC member, FIRESCOPE Task Force Rep.
Charlie Blankenheim, CAL FIRE
Matt Brown, Instructor, (Absent for conference call)
Randy Collins, STEAC member, CFTDA Pres., Santa Rosa Jr. College
Todd McNeal, Instructor
Pat Shreffler, Instructor
Scott Vail, CalOES, CICCS Task Force

Analysis/Summary of Issue: There were numerous questions presented at STEAC that were determined to warrant further discussion. There was industry concern about the live fire component and at what point it would be practical to incorporate it into a training program, as well as how to integrate qualified strike team leaders that have a lower level of training.

It was discussed by the committee that Attachment 16 appears to meet the needs of industry, with the additional of live fire training and proper firing techniques demonstration. These skills are critical to personnel safety as more local government and volunteer agencies participate in large-scale firing operations.
There is a robust pre-study included by NWCG to the course which would be included in a CA version. There are, however, additional objectives and changes in content that would increase the proficiency and safety of firefighters by:

1. The adoption of additional objectives to the NWCG S-219 course that would provide the students with a broader base of knowledge on firing operations on Wildland fires and prescribed burns to conduct firing safely and effectively. The new objectives would:
   - Identify the role of the Firing Boss,
   - Effectively use firing equipment
   - Prepare a plan that discusses fire behavior, firing techniques, safety and risk management considerations to meet objectives of the operation.

2. Extending the course to 36 hours to accommodate 2 full days of live firing and the completion of a task book to demonstrate competence of safety and effectiveness on wildland fires and prescribed burns. As proponents of the enhanced course put forth, there is no way a person can become competent to lead a firing operation by sitting through a PowerPoint presentation only.

3. The Implementation Plan shall consider the coordination and timeline for the requirement live fire and task book completion.

Attachments
13. Demonstrate proficiency with tools and equipment. O
   - Firing/ignition devices

34. Demonstrate proficiency on a low complexity firing operation. O
   - Review priorities, hazards, and fire sensitive areas.
   - Review and refine the ignition/firing plan (verbal or written) utilizing fuel and predicted weather conditions and fire behavior.
   - Explain use of appropriate ignition devices and ensure those devices are adequate and operational.
   - Consult with supervisor on “Go/No-Go” decision.
   - Implement a test fire and coordinate with supervisor to ensure that objectives can be met.
   - Evaluate ignition/firing activities and modify as needed.

Competency: Ensure completion of assigned actions to meet identified objectives.
Behavior: Take appropriate action based on assessed risks.

43. Develop strategy and apply appropriate tactics for the assignment. W
   - Ignition operations

79. Prepare for and direct assigned personnel on a firing operation. W/RX
   - Review and reflow the ignition/firing plan (verbal or written) utilizing predicted fuel and weather conditions and expected fire behavior.
   - Brief ignition crew members of ignition operations and potential/impending safety hazards and appropriate mitigation actions (e.g., posting lookouts, identifying safety zones and escape routes).
   - Consult with supervisor on “Go/No-Go” decision.
   - Implement a test fire or evaluate current fire behavior and coordinate with supervisor to ensure objectives can be met.
   - Evaluate ignition/firing activities and modify as needed.
   - Maintain communications with operational supervisor, ignition crew members, and any adjacent personnel.

82. Demonstrate mobile attack techniques. O
   - Firing/Holding
Competency: Communicate effectively.
Behavior: Communicate and ensure understanding of work expectations within the chain of command and across functional areas.

94. Maintain communications with operational supervisor, ignition crew members, and any adjacent personnel. W/RX
   - Instruct crew on ignition operations.
   - Keep burn personnel informed (e.g., ignition process, conditions affecting fire behavior, equipment problems, safety of assigned personnel).
   - Request assistance from Burn Boss or other personnel to meet ignition objectives as needed.

Competency: Ensure completion of assigned actions to meet identified objectives.
Behavior: Gather, analyze, and validate information pertinent to the incident or event and make recommendations for setting priorities.

95. Review prescribed fire plan or IAP, and recon unit/area prior to implementation. W/RX
   - Review type, number and placement of resources to meet incident objectives.
   - Consult with supervisor on resource needs; suggest adjustment as necessary.
   - Review priorities, hazards, and fire sensitive areas.
   - Evaluate use of alternative ignition devices (e.g., aerial, terra torch).

Competency: Ensure completion of assigned actions to meet identified objectives.
Behavior: Prepare clear and concise assessments regarding hazards, hazard behavior, weather and other relevant events.

96. Conduct pre-burn readiness assessment. W/RX
   - Consult with supervisor on “Go/No-Go” decision.

Competency: Ensure completion of assigned actions to meet identified objectives.
Behavior: Take appropriate action based on assessed risks.

97. Complete a firing operation within time frames established by operations action plan and supervisor. W/RX
   - Review type, number and placement of resources to meet incident objectives.

Competency: Ensure completion of assigned actions to meet identified objectives.
Behavior: Modify approach based on evaluation of incident situation.

98. Evaluate initial firing activities and modify as needed. W/RX
   - Assist in/make the “Go/No-Go” decision based on current and expected fire behavior and ability to meet plan objectives.
   - Adjust ignition plan to meet plan objectives using on-site fuel, weather, and available resources.
Competency: Ensure completion of assigned actions to meet identified objectives.

Behavior: Follow established procedures and/or safety procedures relevant to given assignment.

98. Conduct ignition operations according to implementation plan and agency specific policies and standards (e.g., Standard Firefighting Orders, Watch Out Situations, and LCES principles). W/RX
   - Ensure safety guidelines are followed.
   - Inspect mechanical equipment and ignition devices.
   - Advise ignition crew members of potential/impending safety hazards and appropriate mitigation actions (e.g., posting lookouts, identifying safety zones and escape routes).

DIVS PTB (NWCG, 2009)

Pg. 13
Behavior: Take appropriate action based on assessed risks.
32. Prepare for and conduct burnout/ignition operations. W/RX
33. Direct a firing/ignition plan using aerial ignition resources. R

Pg. 14
Behavior: Modify approach based on evaluation of incident situation. W/RX
35. Assess fire behavior and adjust tactics appropriately.
36. Adjust tactical plan in response to opportunities or problems encountered. W/RX
SUPPLEMENTARY INFORMATION NO. 1

Fire Engine Capabilities and Tactics

L. **Keep apparatus mobile.** At a fast-moving fire, it is called “bump-and-run”:

7. “Fire out” (burn flammable vegetation) around structures where possible. Be aware of how your “firing out” may affect other exposures or firefighters.

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Burnout vs. Backfire – Is there a difference?

Over the years, the definition of the wildland fire terms **Burnout and Backfire** have become confused. To some agencies they are the same action, and the term is used interchangeably. To other fire organizations, the meanings have been reversed or changed altogether. **Burnout and Backfire do not mean the same thing.**

**Burnout:** (also known as burning out or firing out) involves setting fire inside of a fire line, including scratch lines or a wet line, to consume fuel between the edge of the control line and the fire to strengthen the fireline (create a blackline). Burning out removes the danger of fuel near the line burning at a later date when no one is around or when conditions are such that flare-ups near the line would spot across the line. Typically, ‘burning out’ around a residential dwelling to protect it from an advancing fire, fits this description. In this case, the goal is to protect the structure by removing the available fuel between the structure and the fire’s edge. Burning out should reduce the threat by adding to the existing clearance already located around the structure. If no pre-fire clearance has been accomplished by the homeowner, then this will create at least a minimum clearance.

Firing out an existing road to strengthen its conversion into a wider fire line falls into this same realm. These are defensive actions. In both of these examples, firefighters are literally defending the structure or the road by burning out, and reducing the threat posed by unburned vegetation. Sometimes the wind, slope and fuel arrangements are with you and sometimes they aren’t. But if the effort is not made, the chances of the fire advancing beyond those limits are great.

Most often, these types of operations may be performed by individual engine companies under the direction of a company officer, or by several engines under the direction of a Strike Team – Task Force Leader.

**Backfire:** A fire set along the inner edge of a control line, again to consume the fuel in the path of an advancing fire, or to change the direction or force of the main fire’s spread. Backfires are normally conducted on a much larger scale than burning or firing out. Backfires are usually associated with pronounced topographic features, e.g. ridge tops, or are executed from wide roadways or pre-constructed fire lines.

A backfire is a much more complex effort. It is considered an offensive tactic. It may involve numerous Strike Teams and may be executed by Firing Specialists. Coordination and timing is key to a safe backfire. A maneuver of this scale is well thought out in advance and approved by the Operations Section Chief. Typically, backfires are supported by fixed-wing air tankers or Type I helicopters that ‘pre-treat’ the unburned side of the line with retardant.
ICS ENGINE STANDARDS

A typical Forest Agency Type 3 Engine has a number of features that enhance its capability to operate on narrow, steep, or unimproved roads and to allow the efficient application of water or other agents. These features include:

- Fusee’s or drip torch

The Forest Agencies have the expectation that when a Local Government Type 3 strike team arrives at an incident, it can perform all of the missions that their own Type 3’s can. This may or may not be true, depending upon the training that the Local Government crews have taken. Specifically, Type 3 Engine crews should be adequately trained in the following:

- Backfiring

As overall suppression costs go up and as the reimbursement rate for strike teams also goes up, Forest Agencies are expecting all local government Type 3 strike teams to be capable of going where Type 3’s were designed to go and doing what Type 3 crews are trained to do.

Backfire Authority Memorandum

...After researching this matter I think our local government cooperators can backfire when directed by CDF, or a federal fire officer, and when they need to use it as a tactical method to protect life and valuable property.

Works Cited


Description: This course provides information and develops skills required to perform and hold firing operations on wildland fires and prescribed burns. This course contains a mix of online and instructor-led training including live fire exercises. The students will be engaged in wildland firefighting and firing operations. Students are required to complete the online training portion of the course and a pre-course quiz prior to taking the instructor-led training.

Designed For: Fireline supervisors and prescribed burn personnel

Prerequisites: SFT Fire Fighter I or NWCG FFT2
S-290: Intermediate Wildland Fire Behavior

Standard: Complete all activities and formative tests Complete all summative tests with a minimum score of 80%

Hours: On-Line: 2, Pre-course quiz: 2, Lecture: 16:00, Live Fire: 14:00 Testing: 2:00

Class Size: 30

Instructor Qualification: Qualified as a DIVS or FIRB or Burn Boss

Instructor/Student Ratio: 1:30 classroom 1:6 Field

Restrictions: Arduous physical fitness

SFT Designation: FSTEP

Course Goal:
The students will be able to safely and effectively plan, conduct and hold firing operations that meet assigned objectives.

Terminal Learning Objectives

1. Identify the roles and responsibilities of the FIRB for planning, execution, safety, coordination, and evaluation of an ignition operation on a wildland or prescribed fire. *
2. Describe the difference between backfire and burnout firing operations and when the use of each is appropriate.
3. Describe environmental conditions that can change fire behavior.
4. Describe how firing operations may change fire behavior favorably increasing safety and effectiveness or unfavorably increasing loses and the potential of injuries.
5. Describe the characteristics, applications, safety and availability of the various firing devices a FIRB has at their disposal. *
6. Given a wildland or prescribed scenario, prepare a firing plan and briefing that contains desired fire behavior, firing techniques, required resources, coordination, safety and risk management factors, and communication, to meet specific objectives. *
7. Demonstrate the ability to safely and effectively conduct burn operations that meet assigned objectives on live fire exercises.

*NWCG S-219 Objectives, all are included.

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<td>Incident Response Pocket Guide, PMS 461</td>
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<td>Fireline Handbook Appendix B, PMS 410-2</td>
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<td>NWCG</td>
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<td>Interagency Ground Ignition Guide, PMS443</td>
<td>2011</td>
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<td>Aids To Determining Fuel Models, INT-122</td>
<td>1982</td>
<td>USFS</td>
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| FIRING OPERATIONS COURSE CONTENT                      |              |               |

| Pre-Study - Firing Equipment                          |              |               |
| Time 2 Hour                                           |              |               |
| Enabling Objectives                                   |              |               |
| 1. Learn the 13 Fuel Models                           |              |               |
| 2. Introduce Components of NFDRS                      |              |               |
| 3. Review S-290                                       |              |               |
| 4. Introduce students to safe use of commonly used firing devices. | |               |
| Exercise                                               |              |               |
| Complete S-219 Online Training and Online Quiz        |              |               |
| Complete CA-219quiz                                   |              |               |
Strategy

This pre-study assignment prepares the student for the classroom and field portion of the course by reviewing S-290 fire behavior and introducing them to firing devices.

Unit 1 – Introduction

Time 1 Hour

Enabling Learning Objectives

1. Introduce the course coordinator, instructors, and students.
2. Discuss course logistics.
3. Provide a course overview.
4. Discuss course expectations.
5. Identify course reference materials.
6. Discuss position responsibilities.
7. Organize the students into squads of 4 to 6 students each.
8. Review online module.
9. Review Pre-Course Quiz

Exercise(s)

Student expectations for the course

Strategy

This unit is an introduction to the course. It involves student and cadre interaction through introductions and a group exercise.

Unit 2—Fire Behavior and Basic Firing Concepts

Time 5 hours

Enabling Learning Objectives

1. Describe how the 10 standard orders are used for size up of probable fire behavior and possible fire behavior.

2. Describe or illustrate the different types of fire spread, e.g., head, flank, backing.

3. Identify fire behavior characteristics that must be predicted.

4. Identify environmental elements that affect fire behavior and firing operations.

5. Describe how to use the Predictive Services Website and fireline observations to keep informed on fire weather and fuels conditions.

6. Describe how to obtain a spot forecast.

7. Describe the significance of ERC, BI, IGC, PI, RH%, FDFM%, PI, ROS, FL and pocket cards in predicting fire behavior.
8. Demonstrate how to perform RH%, FDFM%, PI, ROS, and FL calculations utilizing Fireline handbook appendix B.

9. Demonstrate the use of fire weather and fuels information from Predictive Services and a size up the fire environment to predict probable and possible fire behavior.
Strategy

This Unit was developed to improve the students’ ability to “Base all actions on current and expected fire behavior,” related to evaluating the need for firing, for conducting firing operations, and holding firing operations that meet Incident/RX objectives. The unit reviews with the student concepts learned in S290 to size up the fire environment and to predict changes in fire behavior. The unit describes how to gain and interpret fire weather forecast, fuels reports and NFDRS forecasted values from Predictive Services Websites. The unit will present how to combine this information to predict possible and probable fire behavior of the main fire and firing operations.

Exercise(s)

Given a fire scenario including map, photos of the fire and fire environment, fire weather forecast, NFDRs forecast values, pocket card and current fuels reports for the fire area students are to predict probable and possible fire behavior of the assignment.

Unit 3 – Duties and Responsibilities

Time 3 hours

Enabling Learning Objectives

1. Identify the duties and responsibilities of a FIRB and other key personnel involved in a Firing Organization (suppression and prescribed fire).
2. Identify critical information to assess in the Incident Action Plan (IAP) and prescribed fire burn plan.
3. Identify components within the operational briefing that are specific for firing personnel.
4. Organize and deliver a briefing for varied firing personnel including Leader’s intent and clearly measurable objectives.

Strategy

This unit outlines the details of specific duties and responsibilities for which a Firing Boss is accountable. There are explanations of other position duties a Firing Boss will encounter during both suppression and prescribed fires (RX.) Also covered in this unit; operational and FIRB briefings and communicating leader’s intent.

Exercise(s)

Quiz

Unit 4 – Firing Operations and Techniques

Time 3 hours

Enabling Learning Objectives

1. Identify critical factors to assess during the reconnaissance for a firing operation.
2. Identify the importance of a test fire and what the process is for conducting a test fire.
3. Identify what issues could affect a firing operation and the Go/No-Go decision.
4. Describe the difference between types of firing operations (burning out, backfiring, and prescribed fire).
5. Prescribe the basic elements of a firing plan.
6. Describe the difference between the types of firing techniques (strip, dot, flanking, ring, chevron, concentric).

7. Identify and mitigate complex firing situations safely and effectively.

Strategy

Unit 3 was developed to assist and guide the student into the “real world realm” of firing. Concepts and techniques taught in this unit are paramount to understanding the whole of the course and the process of conducting and participating in a firing operation.

Exercise(s)
1. Given a scenario determine the correct firing technique.

Unit 5 – Risk Management

Time 2 hours

Enabling Learning Objectives

Apply effective risk management during a firing operation.

Strategy

This unit has been developed in order to engage the student in Risk Management concepts. Participation in the exercise and comprehension of the following information is a critical step in preparing the student to fulfill the position of Firing Boss safely and effectively.

Exercise(s)
• Rim Fire Exercise

Unit 6– Field Exercise

Time 14 hours

Enabling Learning Objectives

1. Demonstrate the safe and effective use of firing equipment.
2. Demonstrate the safe and effective use of holding equipment.
3. Demonstrate how and when to use Strip, Dot, Flank, Ring, Chevron, and Concentric firing.
4. Demonstrate coordinating with engines and holding personnel, equipped with back pumps and hand tools, wet line firing techniques.
5. Perform the position of Firing Boss to plan and execute a firing operation requiring coordination with holding forces and firing squad(s).
6. Holding forces will gain live fire and Position Task Book experience.
7. Manage the burn as an ICS Type 3 Incident.

Strategy

To provide students with hands on experience in planning and executing firing operations that is required to be a safe and effective fireline supervisor. The exercise will provide the students the experience of having actually used firing tools, conducting firing operations and holding firing operations before encountering the need to perform firing operations on an actual incident or prescribed burn. In order to develop fire behavior prediction skills and firing skills students must see the actual cause and effect of environmental conditions on
fire behavior and the cause and effect of firing operations on fire behavior. The exercise will allow students to compare and adjust their fire behavior predictions and firing tactics to what actually occurs on a live fire.

The exercise will be organized and managed as an ICS Type 3 Incident and/or a prescribed burn with an appropriate IAP and ICS organization. This will allow for ICS and operational holding positions to gain live fire experience and Position Task Book training.

Live Fire Exercise procedures

1. Live Fire IC/SO will coordinate firing squads and holding forces. Additional ICS positions such as SOFR, FIRB, OPS, DIVS, STL will be implemented following standard ICS principles based on number of Firing Squads, holding forces, the complexity of the burn and the training objectives. See attached suggested organization charts.
2. Each student squad will be assigned a Firing Coach.
3. Each student on the will be equipped in all OSHA and agency required PPE, web gear or fireline pack with a fire shelter, 2 fusses and 2 qt. water and assigned a hand tool or back pump.
4. Each squad will be equipped with 2-3 drip torches.
5. A minimum of 1 engine per squad performing firing operations with 1 engine in reserve is recommended. Squads can rotate serving as holding forces.
6. Squads will perform weather observations and Appendix B Fire Behavior predictions for their burn site, DB, RH, MFWS, FDFM, FL, and ROS.

Exercise(s)

1. Basic firing techniques and holding techniques.
   a. Demonstrate safe and effective use of holding tools.
   b. Demonstrate safe and effective use of firing devices and equipment.
   c. Demonstrate firing squads’ actions to hold firing operations.
   d. Demonstrate Spot fire procedures
   e. Demonstrate 1-2-3, 3-2-1, Dot, Spike, and Chevron firing.
   f. Demonstrate actions required for correcting excessive fire effects in saddles, corners, steep slopes or peaks.
2. Offensive firing techniques and coordination with holding forces.
   a. Demonstrate firing and holding fire from wet line.
   b. Demonstrate firing and holding from scratch line.
   c. Demonstrate coordination with holding forces and the need for holding forces to set pace of firing operations.
   d. Demonstrate torch control to add in holding operations and to not exceed prescription parameters for scorch height or mortality
3. Defensive Firing
   a. Demonstrate firing tactics to limit damage to resources and to protect improvement protect resources
   b. Demonstrate firing operations for simulated Structure protection.
   c. Demonstrate firing operations for approaching fire front.
4. Each student will serve at least twice as Firing Boss and will plan and execute appropriate firing operations that meet assigned objectives on a live fire scenario.

Student Assessment

Time 2 hours
1. Final written exam.
2. Firing Coach assessment

Students will be required to achieve 70% average on the final exam and a satisfactory evaluation on the Firing Coach Assessment.
CA-219 Instructor Procedures

Student Certification

1. Students must successfully complete both the written test and the firing exercise conducted by a SFT qualified CA-219 lead Instructor.
2. The written exam will be closed book exam composed by the instructor and approved by SFT.
3. Students who complete the classroom requirements of CA-219 and whose firing exercise are cancelled, or the student failed to attend due to an emergency may complete the testing at another CA-219 field exercise administered by a qualified CA-219 lead Instructor.
4. Both the classroom and field instructor must verify the student meets requirements for SFT certification.

Class planning

1. Site selection
   a. Contact agencies with fire jurisdiction for assistance in locating site and permit procedures.
   b. Contact land management agency or property owner to identified areas that are candidates for a prescribed burn for ecological or hazard reduction objectives.
   c. Suitable fuel &topography
      i. Locate area of fine fuels 50 + acres for 4 squads
      ii. Rolling hill terrain
      iii. No impact to exposures
      iv. Low escape potential
   d. Identify historical periods of favorable weather and burn days
   e. APCD coordination and burn permit approval
      i. Contact local APCD during planning phase to identify burn approval and variance for training procedures of the local APCD.
      ii. Determine historic windows for approval.
2. Contingency Planning
   a. Utilizing BEHAVE Plus calculate potential fire behavior and escape potential.
   b. Develop Go No Go check list for the site coordinating with local fire manager.
   c. Plan for 2 burn dates, a primary and a secondary in case the primary burn day is cancelled due to weather, burn day status or fire activity.
   d. If possible identify a backup burn location that is in a different APCD areas and wildland response area.
   e. Coordinate holding force requirements based on predicted fire behavior with the fire agency with jurisdiction and the land owner.
   f. Develop IMT & IAP, containing ICS 202, 203, 204, ICS 206, NWS Spot Forecast, IAP Topo Map, with the fire agency with jurisdiction and the land owner.
This Student Task Book utilizes CA-219 Instructor Guides and course objectives, NWCG S-219 Instructor Guides and course objectives, C-234 Instructor Guides and course objectives and the NWCG Position qualifications for Firing Boss.

Published by:
State Fire Training, 1131 S Street, Sacramento, CA 95811
(916) 445-8200

Cover photo courtesy of [name, organization]
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Purpose and Process

The State Fire Training Student Task Book is a performance-based document. It lists the Classroom, Experience, Rank or Position, and Job Performance requirements for course completion.

Purpose

This task book focuses on a single State Fire Training course. A task book identifies the minimum requirements necessary to perform the duties of that course. Completion of a task book verifies that the student has the required experience, holds the required rank or position, and has demonstrated the job performance requirements necessary to obtain that course completion certificate.

Responsibilities

Registered Instructors Responsibility

A Registered CA-219 Lead Instructor will only issue the CA-219 Student Task Book after they have verified the student has:

- Successfully complete the Job Performance Requirements of Wildland FF1;
- Successfully complete S-290 classroom only, not the on-line course;
- Successfully completed CA-219 or NWCG S-219 or C-234 classroom final exam
- Conducts the 16-hour CA-219 Live Fire Burn in accordance to the CA-219 Instructional Plan and the CA-219 Live Fire Burn Plan.

Student Responsibilities

The student is the individual pursuing course completion.

All students shall complete the following before the Student Task Book is initiated:

- Complete a block on the Signature Verification page with an original wet-ink signature.
- Accurately record and maintain the task book.
- Sign and date the Student verification statement under the Authorities with an original wet-ink signature.
- Retain a copy of the completed task book.

Evaluator Responsibilities

An evaluator is any registered CA-219 Instructor at a 16-hour CA-219 Live Fire Burn conducted in accordance to the CA-219 Instructional Plan and the CA-219 Live Fire Burn Plan. A task book may have more than one evaluator.
All evaluators shall:

- Complete a block on the Signature Verification page with an original wet-ink signature.
- Review and understand the student's task book requirements and responsibilities.
- Verify the student's successful completion of one or more job performance requirements through observation or review.
- Sign all appropriate lines in the task book with an original wet-ink signature to record demonstrated performance of tasks.

**Completion Process**

When you receive your task book:

1. Thoroughly review the Experience, Rank, and Job Performance Requirements segments to make sure that you understand them.
2. Complete the Experience segment, if applicable.
3. Complete the Rank or Position segment.
4. Complete each requirement in the Job Performance Requirements segment and ensure that an evaluator signs and dates each one to verify completion.
5. Make a copy of the completed task book to retain with your personal records.
Student Task Book Requirements

Experience

The student meets one of the following requirements for experience:

☐ A minimum of one years’ full-time paid experience in a California fire agency or cooperator as a fire fighter performing suppression or prescribe fire duties

or

☐ A minimum of two years’ part-time paid or volunteer experience in a California fire agency or cooperator as a fire fighter performing suppression or prescribe fire duties

or

A combination of full-time paid or part-time/volunteer experience equal to one years’ full-time paid experience in a California fire agency or cooperator as a fire fighter performing suppression or prescribe fire duties

• Part-time/volunteer to full-time paid ratio is 2:1 (for example, two months part-time/volunteer = one month full-time paid)

Rank or Position

The student meets the following qualifications for rank or position. Performing in an acting capacity does not qualify.

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<th>Rank or Position</th>
<th>Agency</th>
<th>Appointment Date</th>
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Job Performance Requirements

All job performance requirements must be performed in accordance with the standards of the CA-219 Instructor Plan, CA-219 Live Fire Burn Plan, Cal Fire C-243 or NWCG S-219 at a live fire exercise conducted at an authorized training burn or prescribed fire.

Equipment

1. Demonstrates/describes how to care for, set up and use Fusees.

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2. Demonstrates/describes how to care for, set up and use a drip torch.

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3. Demonstrates/describes how to care for, set up and use launching devices.

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4. Demonstrates/describes the how to use back pumps and hand tools to hold firing operations.

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Firing techniques and patterns

1. Demonstrate the following firing techniques and/or patterns while coordinating with holding forces:
   a. Black line

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b. Strip firing
   __________________________  __________________________
   Date Completed  Evaluator Verification

c. 123 and 321 patterns
   __________________________  __________________________
   Date Completed  Evaluator Verification

d. Dot firing
   __________________________  __________________________
   Date Completed  Evaluator Verification

e. Ring firing
   __________________________  __________________________
   Date Completed  Evaluator Verification

f. Wet line firing
   __________________________  __________________________
   Date Completed  Evaluator Verification

g. Utilize grass crushed by tire tracts for wet line firing.
   __________________________  __________________________
   Date Completed  Evaluator Verification

h. Arc up and arc down
   __________________________  __________________________
   Date Completed  Evaluator Verification

i. Chevron
   __________________________  __________________________
   Date Completed  Evaluator Verification

j. Blow hole firing
   __________________________  __________________________
   Date Completed  Evaluator Verification

k. Defensive firing to protect a simulated structure
   __________________________  __________________________
   Date Completed  Evaluator Verification
I. Defensive firing for resource protection

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m. Box firing

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**Firing Boss**

1. Inspect personnel and verify all agency required safety equipment is worn and is in serviceable condition. Takes corrective action as needed.
   a. Burn 1:
      | Date Completed | Evaluator Verification |
   b. Burn 2:
      | Date Completed | Evaluator Verification |

   Comments: _______________________________________________________

2. Inspect all assigned equipment and verify it is in safe and serviceable condition. Takes corrective action as needed.
   a. Burn 1:
      | Date Completed | Evaluator Verification |
   b. Burn 2:
      | Date Completed | Evaluator Verification |

   Comments: _______________________________________________________

3. Checks in to the exercise using ICS procedures.
   a. Burn 1:
      | Date Completed | Evaluator Verification |
4. Participates in an IAP briefing and describes the essential elements required for planning an effective and safe firing and holding operation.
   a. Burn 1:
      ____________________________________________________________
      Date Completed ___________________ Evaluator Verification
      Comments: ____________________________________________________
   b. Burn 2:
      ____________________________________________________________
      Date Completed ___________________ Evaluator Verification
      Comments: ____________________________________________________

5. Based on the Incident objectives, weather forecast and fire behavior briefing given during the briefing describe the affects you think it will have on each of your proposed burns.
   a. Burn 1:
      ____________________________________________________________
      Date Completed ___________________ Evaluator Verification
      Comments: ____________________________________________________
   b. Burn 2:
      ____________________________________________________________
      Date Completed ___________________ Evaluator Verification
      Comments: ____________________________________________________

6. Based on the IAP, Briefing and your observations describe the potential for serious injuries faced by your crew and how you would handle them.
   a. Burn 1:
      ____________________________________________________________
      Date Completed ___________________ Evaluator Verification
      Comments: ____________________________________________________

Comments: _______________________________________________________

b. Burn 2:
   ____________________________________________________________
   Date Completed ___________________ Evaluator Verification
   Comments: ______________________________________________________
Comments: ____________________________________________________________

b. Burn 2:

__________________________ __________________________________________
Date Completed Evaluator Verification

Comments: ____________________________________________________________

7. Plan the appropriate burn technique and timing based on the objectives given by the evaluator and current and expected fire behavior.
   a. Burn 1:

__________________________ __________________________________________
Date Completed Evaluator Verification

Comments: ____________________________________________________________

b. Burn 2:

__________________________ __________________________________________
Date Completed Evaluator Verification

Comments: ____________________________________________________________

8. Organize Ignition Team into configuration that will produce the planned burn pattern with the correct firing sequence, spacing and timing to meet objectives given by the instructor.
   a. Burn 1:

__________________________ __________________________________________
Date Completed Evaluator Verification

Comments: ____________________________________________________________

b. Burn 2:

__________________________ __________________________________________
Date Completed Evaluator Verification

Comments: ____________________________________________________________
9. Assign tasks or responsibilities to crew members, so that the instructions are complete, clear, and concise; safety considerations and LCES are addressed; and the desired outcomes are conveyed.
   a. Burn 1:
      _______________                       ________________________________  
      Date Completed                                      Evaluator Verification  
      Comments: ____________________________________________________________________  
   b. Burn 2:
      _______________                       ________________________________  
      Date Completed                                      Evaluator Verification  
      Comments: ____________________________________________________________________  

10. Develops the holding plan based on assigned resources and forecasted fire behavior. Organizes and briefs the holding forces on the holding plan required to hold the planned firing operation, including contingency plans and LCES.
   a. Burn 1:
      _______________                       ________________________________  
      Date Completed                                      Evaluator Verification  
      Comments: ____________________________________________________________________  
   b. Burn 2:
      _______________                       ________________________________  
      Date Completed                                      Evaluator Verification  
      Comments: ____________________________________________________________________  

11. Initiate the Firing Plan at the appropriate time and adjusts firing pattern to actual conditions.
   a. Burn 1:
      _______________                       ________________________________  
      Date Completed                                      Evaluator Verification  
      Comments: ____________________________________________________________________  
   b. Burn 2:
      _______________                       ________________________________  
      Date Completed                                      Evaluator Verification  
      Comments: ____________________________________________________________________  

12. Maintains control and communication with Firing Personnel and makes timely adjustments to firing sequence, spacing and timing to safely meet objectives based on actual fire behavior and effectiveness of holding operations.

   a. Burn 1:

      ____________________________   ____________________________
      Date Completed                Evaluator Verification

      Comments: ____________________________

   b. Burn 2:

      ____________________________   ____________________________
      Date Completed                Evaluator Verification

      Comments: ____________________________

13. Coordinates with holding personnel ensuring holding actions are coordinated with burners and are resulting in safely meeting objectives. Takes timely and appropriate action to adjust holding force placement and tactics to any changing conditions or undesired situations.

   a. Burn 1:

      ____________________________   ____________________________
      Date Completed                Evaluator Verification

      Comments: ____________________________

   b. Burn 2:

      ____________________________   ____________________________
      Date Completed                Evaluator Verification

      Comments: ____________________________

14. Adjusts and executes contingency plans as necessary to adapt to changing conditions, spot fires or slop overs. Maintains coordination, control and communicates appropriately.

   a. Burn 1:

      ____________________________   ____________________________
      Date Completed                Evaluator Verification
Comments: _______________________________________________________

b. Burn 2: _______________________________________________________
   Date Completed _______  Evaluator Verification
   Comments: _______________________________________________________

15. Monitors personnel and immediately corrects any improper tactic or unsafe act.
   a. Burn 1: _______________________________________________________
   Date Completed _______  Evaluator Verification
   Comments: _______________________________________________________

   b. Burn 2: _______________________________________________________
   Date Completed _______  Evaluator Verification
   Comments: _______________________________________________________

   a. Burn 1: _______________________________________________________
   Date Completed _______  Evaluator Verification
   Comments: _______________________________________________________

   b. Burn 2: _______________________________________________________
   Date Completed _______  Evaluator Verification
   Comments: _______________________________________________________

17. Burn achieves desired objectives within parameters established by the instructor.
   a. Burn 1: _______________________________________________________
   Date Completed _______  Evaluator Verification
   Comments: _______________________________________________________

________________________________________________________________________
b. Burn 2:


Date Completed Evaluator Verification

Comments: ________________________________

18. Conducts appropriate debrief and burn critique with assigned personnel.
   a. Burn 1:


Date Completed Evaluator Verification

Comments: ________________________________

b. Burn 2:


Date Completed Evaluator Verification

Comments: ________________________________
Authorities

Student

Student: __________________________________________

Student’s Printed Name

I, the undersigned, am the person applying for course completion. I hereby certify under penalty of perjury under the laws of the State of California, that completion of all experience, rank, and job performance requirements made herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection or revocation.

_________________________________________  ____________

Student’s Signature  Date
Review and Approval

Course Completion Certificate Issued

I verify that the student has met all requirements for this course completion certificate.

__________________________________________
Registered Instructor’s Signature

__________________
Date
# Signature Verification

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

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