

FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures

Approved and Adopted by the
Office of State Fire Marshal



Recommended for adoption by the Statewide
Training and Education Advisory Committee
and the
State Board of Fire Services



COURSE GUIDE

September 2009



FIRE CONTROL 3A

STRUCTURAL FIRE FIGHTING IN ACQUIRED STRUCTURES

C O U R S E G U I D E



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Mission Statement

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Mission Statement

Mission Statement

The mission of State Fire Training is to enable the California fire service to safely protect life and property through education, training, and certification.

Fire Service Training and Education Program

The Fire Service Training and Education Program (FSTEP) was established to provide specific training needs of local fire agencies in California. State Fire Training coordinates the delivery of this training through the use of approved curricula and registered instructors.

The FSTEP series is designed to provide both the volunteer and career fire fighter with hands-on training in specialized areas such as fire fighting, extrication, rescue, and pump operations. All classes are delivered through registered instructors and can be tailored by the instructor to meet your department's specific need. Upon successful completion of an approved FSTEP course, participants will receive an Office of State Fire Marshal course completion certificate.



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Acknowledgments

Acknowledgments

State Fire Training coordinated the development of the material contained in this guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) recommended this guide for adoption by the State Fire Marshal (SFM). This guide is appropriate for fire service personnel and for personnel in related occupations.

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Tonya Hoover Acting State Fire Marshal	Vacant Assistant State Fire Marshal
Mike Richwine Chief, State Fire Training	Ron Coleman Chair, STEAC

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Ray Russell State Fire Training (Retired)	

"We gratefully acknowledge the hard work and accomplishments of those before us who built the solid foundation on which this program continues to grow."



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Structural Fire Fighting in Acquired Structures



Section 1: Course Description

Section 1: Course Description

The Fire Control 3A (FC 3A) course is designed to develop fundamental skills in combating structure fires by providing the students with a thorough understanding of fire behavior. The opportunity to reinforce the student's understanding of fire behavior is provided in all of the exercises to be conducted during the delivery of a FC 3A class. In many cases, this will be the fire fighter's first exposure to live structural fire fighting, yet it can also serve as an educational tool for the seasoned fire fighter.

The acquired structures used in a FC 3A class are generally donated buildings with a written agreement between the owner and the authority having jurisdiction (AHJ) specifying the live fire training that will be conducted and acknowledges the expected condition of the structure upon completion of the training. FC 3A burns an otherwise useless structure for the purpose of increasing our fire-fighting experience and knowledge levels. It is designed to provide information on fire behavior, ventilation procedures and techniques, interior fire attack, and exterior fire attack.

Many training scenarios can be done in one acquired structure. Exercises using the structure to conduct a FC 3A class are not limited to the standards set forth in this manual. When conducted in an organized and safe manner, this training is one of the most valuable classes a fire fighter, especially a new fire fighter, can experience.

The authority to conduct Fire Control 3A classes can be found in Health & Safety Code §41801(b).

Fire Control 3A Course and NFPA 1403

The National Fire Protection Association (NFPA) is **not** a legal authority unless a state's Occupational Safety and Health Administration (OSHA) or a local jurisdiction has adopted its standards. Cal/OSHA has not adopted NFPA 1403 "Live-fire Training Evolutions." FC 3A Primary and Senior Coordinators should be familiar with the "Notice and Disclaimer of Liability" statement found on the inside cover of NFPA 1403. In the disclaimer, NFPA clearly notes that they are not responsible for the accuracy of the information published within the 1403 document. The State Fire Training FC 3A registered Senior and Primary Coordinators shall have direct access to the current publication of NFPA 1403 document, be familiar with its contents, and be able to apply those items that will be of assistance in conducting a safe FC 3A course. The California State Fire Training manual on "Fire Control 3" was used to create the original NFPA 1403 document.

Students Must Be Familiar With The Layout Of The Structure. Conduct A Walk Through Of The Building Pointing Out The Exits And Egress.

Section 2: Staff and Student Organization

Organization and management of the class should be considered as part of the overall training process.

Staff Identification

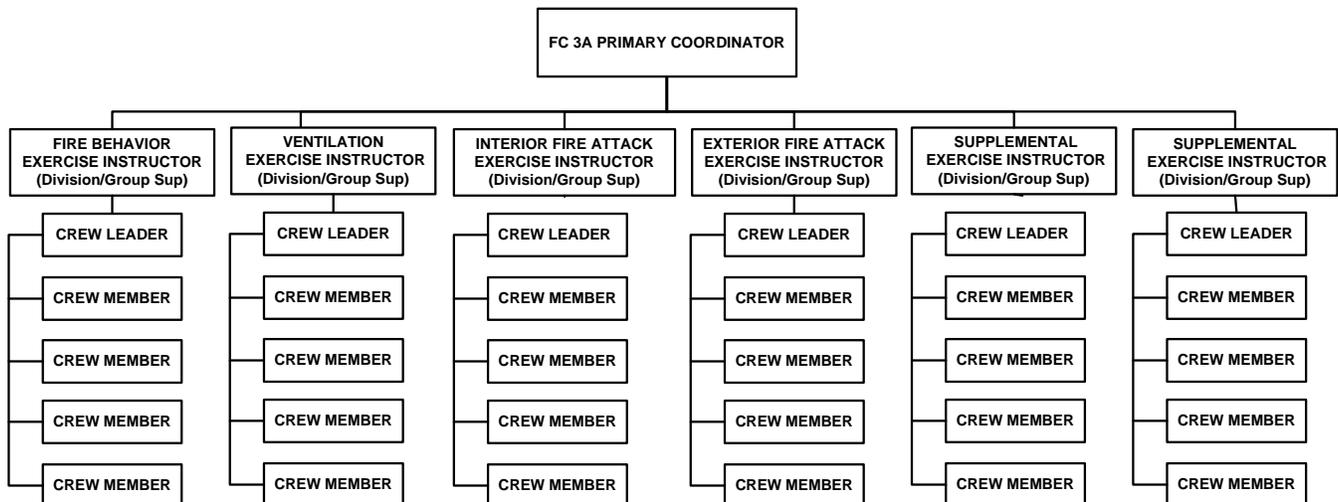
A means of identifying by responsibility level all students and staff will be used on a FC 3A class. All other people (visitors, photographers, and news media) should also be identified. This will help control unauthorized people from entering the site.

Student Organization

To help organize the students into workable units, it is recommended that they be divided into crews. Span of control shall be maintained throughout the entire class. Within the Incident Command System (ICS), the optimum span of control is five to one. The maximum recommended span of control is seven to one.

Crew Leaders are given specific assignments for the exercise. For example, one crew on interior fire attack, a second crew on backup, a third crew works ventilation, and a fourth crew takes care of fueling the burn. The Exercise Instructor then rotates the crew through the various assignments until all have completed the exercise.

When finished, the crew is released by the Exercise Instructor and reports to the Staging Area Manager for reassignment. This procedure works very well and ensures that students have an opportunity to be involved in all training exercises.



Crew Leaders are responsible for keeping the team involved in all phases of the class, conducting critiques with the other instructional staff, ensuring the crew is conforming to safety regulations, and taking their crew to the staging area immediately after being released by the Division/Group Supervisor. A method to document the crew rotation is shown below and in Appendix C.

Crew	1	2	3	4	5
Fire Behavior	Delivered in a Single Session				
Ventilation Techniques		X	/		
Interior Fire Attack			X	/	
RIC				X	/
Rehab	/				X
Exterior Fire Attack	Delivered in a Single Session				

Crew is **currently** training at this station

Crew has **finished** training at this station

Staff Positions

The Incident Command System (ICS) should be utilized and integrated with the required State Fire Training staff for the organizational framework for managing the class. The following positions have been described as they apply to a complex Fire Control 3A course. Filling each of these positions is optional depending upon the size and needs of the burn. Each position may have additional responsibilities. Again, you decide what will work for your class.



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Structural Fire Fighting in Acquired Structures



Section 2: Staff and Student Organization

Incident Commander

The Incident Commander (IC) is usually from the authority having jurisdiction (AHJ) where the class is located. Any position not filled in the ICS is the IC's responsibility.

Roles and Responsibilities

- Acts as the liaison with the Fire Control Senior Coordinator and the jurisdiction hosting the Fire Control 3A class.

Fire Control 3A Senior Coordinator

FC 3A classes must have a designated FC 3A Senior Coordinator who is registered with State Fire Training on-site during the entire class.

Staffing

- Reports to the IC.
 - May serve as the IC at the discretion of the authority having jurisdiction.
- Supervises the Primary Coordinator.
- May also serve as the Primary Coordinator on a basic FC 3A class involving all of the following:
 - A single-family home no larger than 1,500 square feet.
 - A class with no more than 30 students attending the live-fire training.
 - The class will only teach the four mandatory exercises
 - The SFT Deputy assigned to your area will contact you prior to class approval.

Roles and Responsibilities

- Is responsible for all activities and/or omissions in a FC 3A class.
- Liaison to State Fire Training.
- Acts as a technical specialist to the Primary Coordinator.
- Reviews of all preburn planning.
- Maintains an open-line of communication with the Primary Coordinator.
- Ensures that a safety plan has been developed for the class.
 - All safety precautions are identified, planned for, noted, and adhered to.
- Reviews all documentation prior to the FC 3A class for accuracy and completeness.
- Has the authority to cancel or stop a FC 3A class when the scope of the course is violated.
 - Notifies the IC, Primary Coordinator, AHJ, and the Chief of State Fire Training.
- May evaluate the performance of a Senior Coordinator Trainee and document on the FC 3A Senior Coordinator Trainee Task Book.
- May evaluate the performance of a Primary Coordinator Trainee and document on the FC 3A Primary Coordinator Trainee Task Book.



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Section 2: Staff and Student Organization

Fire Control 3A Primary Coordinator [Operations Section Chief (OSC)]

FC 3A classes must have a designated FC 3A Primary Coordinator who is registered with State Fire Training on-site during the entire class.

Staffing

- Reports to the FC 3A Senior Coordinator.
- Supervises all mandatory and optional Exercise Instructors.

Roles and Responsibilities

- Plans and manages the class.
- Assigns all other positions utilized during the class.
- Coordinates all required documents.
 - State Fire Training.
 - Requests course approval.
 - Submits all required SFT documentation within 15 days of class completion.
 - Incident documentation.
- Completes or oversees the Incident Action Plan (IAP).
- Compiles incident documentation for archiving.
 - Coordinates with the AHJ.
- Oversees completion of all FC 3A Primary Coordinator Trainee Task Books.
- Conducts the exercise critiques.
 - Individual exercise critiques conducted as time permits or as required.
 - Discuss any safety issues that may occurred during the exercise delivery.
 - Highlight what went right.
 - Discuss any modifications that may need to made.
 - Conduct a post class critique with all involved FC 3A staff.
 - Discuss any safety issues that may have occurred during the FC 3A class.
 - Have the instructors and staff highlight the "lessons learned" during their delivery.
 - Discuss any follow-up paperwork issues.
- Stops all exercises in the event of a serious injury until proper care is provided.
 - Conducts a safety briefing for all staff and participants to review procedures and prevent further injuries during the exercise.
- May evaluate the performance of a Primary Coordinator Trainee and document on the FC 3A Primary Coordinator Trainee Task Book.



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Section 2: Staff and Student Organization

Branch Director (OPBD)

Roles and Responsibilities

- Implements the portion of the Incident Action Plan (IAP) appropriate to the branches.

Exercise Instructor [Division/Group Supervisor (DIVS)]

FC 3A classes must have a designated instructor for each mandatory and optional exercise. The designated Exercise Instructor ***is not required to be registered*** with State Fire Training.

The FC 3A Senior and Primary Coordinators cannot serve as a designated Exercise Instructor due to the demands of their positions. If qualified, an Exercise Instructor may be designated as the instructor for more than one exercise if, in the judgment of the Primary Coordinator, the class can be safely and properly delivered.

Staffing

- Reports to the Primary Coordinator.
- Supervises the Adjunct Instructors assisting with the exercise.

Role and Responsibilities

- Teaches the exercise due to their subject-matter expertise without supervision.
- Debriefs the Primary Coordinator.
- Assists with the exercise critique.
- Functions as an additional Safety Officer.

Ignition Officer

Staffing

- Reports to the Primary Coordinator.
- May have assistants.

Roles and Responsibilities

- Provides ignition and burn materials for all burn exercises.

Rapid Intervention Crew [Division/Group Supervisor (DIVS)]

FC 3A classes must have a designated RIC group for any mandatory or supplementary exercise that involves a live fire atmosphere immediately dangerous to life or health (IDLH).

Staffing

- Reports to the Primary Coordinator.

Role and Responsibilities

- To provide rescue for students and/or staff.



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Section 2: Staff and Student Organization



- Minimum of two qualified personnel (completed one of the following three options).
 - Successfully completed a State Fire Training RIC Tactics class.
 - Successfully completed a State Fire Training FC 3A class.
 - Successfully completed a department-specific RIC Tactics training program that meets or exceeds the SFT RIC Tactics curriculum.
- More than one RIC group may be required for large, complex events.
 - Multi-story.
 - Multiple buildings.
- Equipped with a dedicated tool cache as appropriate for conditions.
 - Dedicated radio frequency should be considered on complex burns.

Rehabilitation Officer

Staffing

- Reports to the Primary Coordinator.
- May serve as an Assistant Safety Officer.

Roles and Responsibilities

- Establishes a rest and rehabilitation area.
- Provides medical monitoring.
- Coordinates SCBA refilling and tool caches.

Information Officer (PIO)

Roles and Responsibilities

- Starts his or her operation during the first planning meeting.
- Notifies the news media and the neighbors in the area about the particulars of the class.
- Is available during the entire class to manage the news media and neighbors' inquiries.

Liaison Officer (LOFR)

Roles and Responsibilities

- Answers inquiries from other agencies, i.e., AQMD, fire, police, and water departments, etc.

Safety Officer (SOFR)

Staffing

- Reports to the IC and/or Senior Coordinator.
- Supervises Assistant Safety Officers.

Roles and Responsibilities

- Reviews the incident action plan and site usage.
- Has authority to stop any exercise where eminent danger is present.
- Assists with the exercise critique.

Assistant Safety Officer (SOFR)

Staffing

- Reports to the Safety Officer.

Roles and Responsibilities

- Reviews the incident action plan and site usage.
- Has authority to stop any exercise where eminent danger is present.
- Assists with the exercise critique.
- Maybe be assigned with specific responsibilities.

Logistics Section Chief (LSC)

Staffing

- Reports to the Primary Coordinator.
- Should have staff for a complex FC 3A class.
 - During a basic FC 3A class, may perform all functions of the Logistics Section.

Roles and Responsibilities

- Operation starts during the first preclass planning session.
- Obtains all materials and services necessary for the class.

Medical Unit Leader (MEDL)

Staffing

- Reports to the Logistics Section Chief.

Roles and Responsibilities

- Ensures proper medical equipment and personnel are on the training site to care for any illness or injury.
- Arranges for transportation of the sick or injured.
- Assigns an agency liaison for injuries or illnesses requiring transport.
- Advises local hospitals of the possibility of injuries prior to the class.
- Compiles incident emergency medical plan (ICS 206).
- Reports all recordable injuries (see CCR Title 8, Section 14300 for a description of what constitutes a recordable injury).
 - Ensures that all required notifications are made within 24 hours of injury.

Supply Unit Leader (SUPL)

Staffing

- Reports to the Logistics Section Chief.

Roles and Responsibilities

- Collects all equipment used on scene.
- Ensures proper identification is on the equipment.
- Issues all equipment to burn exercises.
- Accounts for all equipment before returning it to its agency.
- Reports on all damaged or missing equipment.
- Advises as to equipment needs for each class period.

Communications Unit Leader (COML)

Staffing

- Reports to the Logistics Section Chief.

Roles and Responsibilities

- Completes the communication plan (ICS 205).
- Obtains communications equipment.
- Assigns operational prerequisites.
- Issues, collects, and accounts for all radio equipment.
- Ensures that portable radios are recharged for each training period.
- Issues a copy of the communication plan to all staff officers.

Staging Area Manager (STAM)

Staffing

- Reports to the Primary Coordinator.

Roles and Responsibilities

- Maintains accountability of student attendance during the class.
- Coordinates with the DIVS and keeps the students involved.
- Establishes a staging area for support apparatus.
- Assists with perimeter control.
- May perform as Status Check-in Recorder (SCKN).

Planning Section Chief (PSC)

Staffing

- Reports to the Primary Coordinator.
- Supervises the planning section.

Roles and Responsibilities

- Advises personnel of their responsibilities.
- Develops IAP.
- Ensures that all staff is aware of the IAP.
- Conducts the evening planning sessions.
- Maintains all records for the class.

Water Supply Group

Staffing

- Reports to the Planning Section Chief.
- May be filled for only a short time each day.
 - The Water Resource Specialist must be present during the planning session.

Roles and Responsibilities

- Establishes fire flow requirements when planning for the class.
- Advises on locations and amounts of water available.
- Estimates the amount of water necessary for the entire class.
- Supervises the laying of supply lines.
- Establishes pumping apparatus requirements and placement.
- Tests actual fire flow prior to ignition.

Situation Unit Leader (SITL)

Staffing

- Reports to the Planning Section Chief.

Roles and Responsibilities

- Provides display for the Incident Command Post (ICP) of various assignments.
- Makes maps of training area identifying division of assignments and locations for important sites.
 - ICP.
 - Medical station(s).
 - Water supply.

- Communications.
- Rest area(s).
- Provides copies for each DIVS.
- Identifies available structure use for each planning session.

Status Check-in Recorder (SCKN)

Staffing

- Reports to the Planning Section Chief.

Roles and Responsibilities

- Sets up the registration site.
- Directs student and staff sign-ups.
- Completes Incident Check-in List (ICS 211).
- Prepares a daily report for the PSC.
- Ensures each student signs class roster and completes SFT Scantron.

Finance/Administration Section Chief (FSC)

Staffing

- Reports to the Primary Coordinator.
- May have a deputy.
 - The deputy should be informed of all aspects of the class regarding finance requirements.

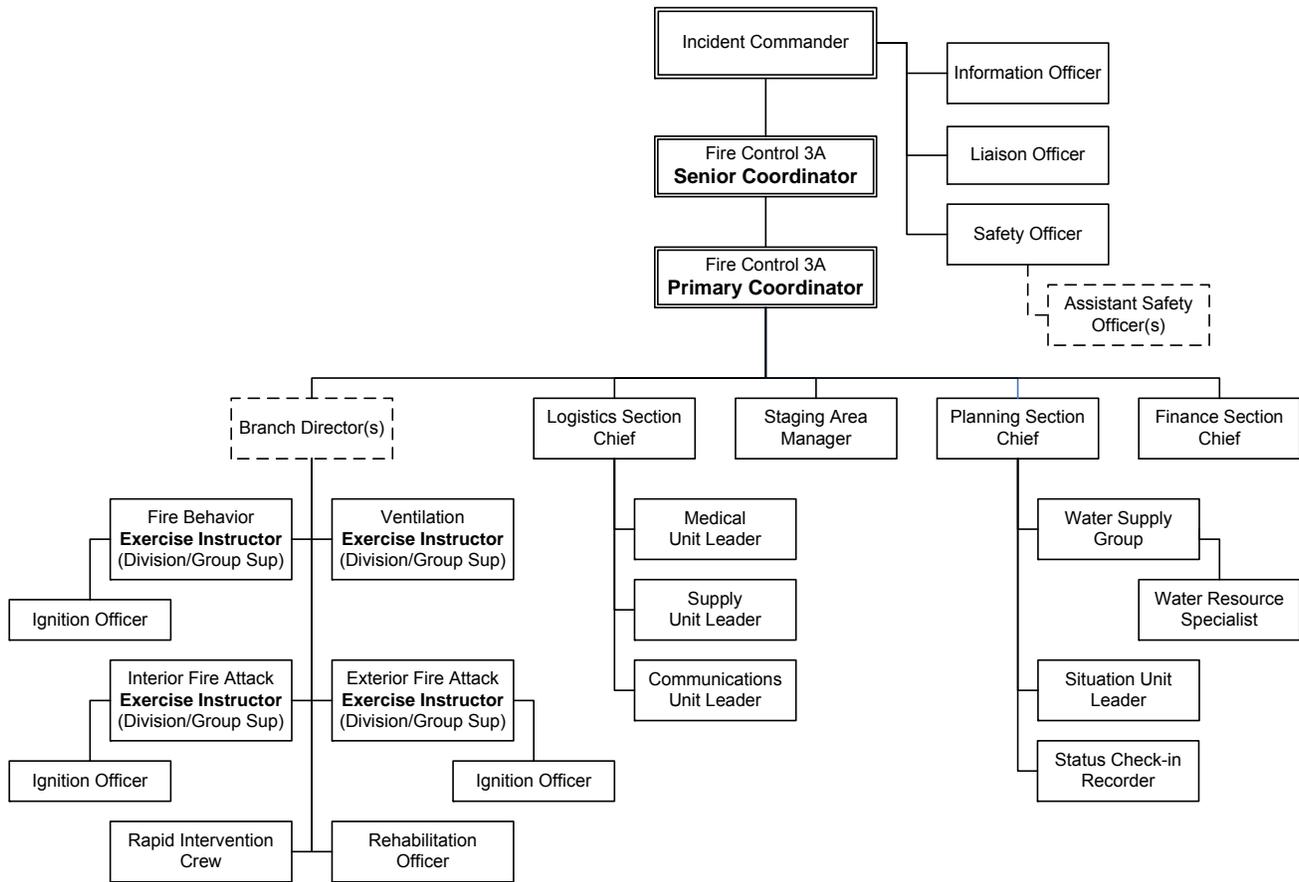
Roles and Responsibilities

- Accounts for all class costs.
- Establishes fee collection procedures, if applicable.
- Ensures all invoices are paid.
- Develops a final financial report for the class.

ICS Position Task Books can be partially completed on a FC 3A class for all of the listed examples such as Staging Area Manager, Check In/Status Recorder, Division Group Supervisor, Resource Unit Leader, Documentation Unit Leader, Situation/Status Unit Leader, Medical Unit Leader, Branch Director, Safety Officer, Public Information Officer, and Incident Commander. Consider using ICS Trainees as a resource for filling organizational positions.

For further descriptions of these positions, refer to the specific ICS position manual or the ICS Field Operations Guide I-420.

Section 2: Staff and Student Organization



Section 3: Obtaining Acquired Structures

There are several methods of obtaining acquired structures for FC 3A training burns. One of the best methods is to maintain a working relationship with your agency's building department. They can advise you of condemnations and new construction. Often in new building construction, there are old structures that have to be cleared. Structures fifty years of age or older require notification to the local Historical Society (see Section 8 for Notification Requirements).

If you have freeway construction in your community, contact Caltrans; they often have structures that must be removed to provide the right of way.

As you travel around your jurisdiction, you may find structures that are vacant and in a run-down condition. When you contact the owner, you may find them very eager to allow you to use the structure for live fire safety training.

It is very important to educate the owner of the expected time frame to safely and properly conduct a FC 3A burn. The time frame to plan a FC 3A class may be longer than mechanized demolition by equipment.

Agency notifications and permit requirements for Federal, State, and local environmental compliance are the same whether a structure is used for live fire safety training during a FC 3A burn or removed by mechanized demolition with hired equipment.

Another opportunity may arise after you have conducted a FC 3A training burn. Local residents, after observing the FC 3A training, may provide you with additional training structures. Military bases may also offer training opportunities. The U.S. Forest Service may also have structures in their jurisdiction that can be used for live fire safety training.



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Section 4: Qualifying Acquired Structures

Section 4: Qualifying Acquired Structures

Once you have been offered a structure or a group of structures, a decision must be made whether or not to accept this offer. This requires that you survey the site to check the general condition of the structure(s).

Walk Around

You may find that it will take more time to set up the structures for a safe and effective training than time or money will allow. You may want to consider the type of structure (residential, mercantile, manufacturing, etc.) and the surrounding neighborhood. Consideration must be given to whether the burn will disrupt or help the nearby residents and businesses. It is very important to observe all six sides of the structure for potential hazards and exposures. See Section 5 for a general list of hazards.

Asbestos and NESHAP

The Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) operate under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) – 1990, 1994, and 40 CFR 61.145, which requires all asbestos containing materials (ACMs) to be removed from the structure(s) prior to demolition. See Appendix C for the CARB letter and the NESHAP information.

Failure to comply with NESHAP and MAP can result in a possible fine of up to \$25,000 per violation.

(Source: CARB letter, Fire Department Training Burns - June 21, 2001)

Owner Responsibility

The owner is responsible for the required removal of all ACMs. The Model Accreditation Plan (MAP) requires that only certified Asbestos Hazard Emergency Response Act (AHERA) Inspectors conduct site surveys and samples for ACMs. The owner will need to hire an AHERA-Cal/OSHA approved and licensed ACM abatement contractor to conduct an ACM Survey Report (see DOSH Consultant List). The owner will receive a survey report identifying all ACMs requiring removal. The structure(s) shall not be demolished in any manner until all identified ACMs are removed or abated. The owner may choose to use the same contractor or seek alternate bids for removal or abatement of the ACMs. Upon the complete removal and abatement of all ACMs, a "Clearance Letter" or "Letter of Abatement" from the contractor is required by law to the owner. Section 8 lists the NESHAP notification agencies.

All FC 3A training burns require a demolition permit from the building department.



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Section 4: Qualifying Acquired Structures

The FC 3A Primary Coordinator has a vital role in the education and coordination to the owner regarding their responsibilities for environmental compliance.

Ca/OSHA-DOSH Consultant List

The Division of Occupational Safety and Health (DOSH) maintains a list of individuals who are certified as Asbestos Consultants or Site Surveillance Technicians that meet MAP certification requirements. If any ACMs are suspected to be in a structure slated for an FC 3A training burn, the property owner(s) are required by law to hire a DOSH approved qualified technician for the inspection and removal of ACMs greater than 1.0% per 100 square feet.

The DOSH list of consultants and technicians is a reference only to the available contractors.

1. To find a contractor in your area, visit the DOSH website. Scroll to the bottom of the page.
2. Type in the City, then click on Search for a list of contractors in your area.

Railroads

If the structure is near a railroad right of way, determine if there are telecommunication lines owned by the railroad, Western Union, or any other major communication corporations that run along the tracks. Damage to telecommunication lines can result in huge financial losses and fines as well as disruption of vital services to the community.

Water Supply

Find out the status of the water supply. Is there adequate volume and pressure? Will streets and roads have to be closed to protect hoselines? If no water is available, consider how far it will be to shuttle water to the burn site. Portable water sources are acceptable as long as they meet fire flow requirements. A water tender can be used to supply two different pumping engines to develop two separate water supplies for attack and safety lines. Take into consideration fire flow requirements for fire suppression and exposure protection.

Traffic

Finally, check the traffic conditions. Consider the traffic flow and times of peak usage. If a freeway is near, it may cause serious problems. Training burns have disrupted traffic and caused accidents on the freeway system. If necessary, plan to burn only during light periods of traffic. A check with the California Highway Patrol (CHP) can help determine these times. Local and state law enforcement can also help with traffic control and signage. Getting Cal Trans or the city streets department involved will allow access to warning signs and traffic control devices helping motorists navigate around obstacles or slow traffic making a safer environment for all persons involved with the FC 3A program.

Determining the Training Value of the Structure

After completing a walk around and listing all of the potential hazards and required work preparations, now determine if the structure(s) will possess the training quality needed to justify the live-fire exercise. Health and Safety Code §41800 prohibits burning a structure just for the sake of demolition.

If the structure(s) are acceptable, be sure to establish how much time is available for the training burn. Determine if the time necessary to obtain compliances, complete the planning process, and execute the training burn is allowable by the owner.

Establish an agreement stipulating the roles and responsibilities of both the host department and the property owner.

- Materials to be burned and materials expected to remain.
- The party responsible for the cleanup of the remaining material.
- The expected timeframe, conditions, and remaining hazards during the transfer back to the owner.



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Structural Fire Fighting in Acquired Structures

Section 5: Surveying the Structure for Its Training Value



Section 5: Surveying the Structure for Its Training Value

Survey the structure(s) on the burn site for possible exercises that could be conducted or hazardous situations that need special attention. Be creative; use the additional elements of instruction to expand the students' knowledge. Determine the students' experience level and adjust the training accordingly. The required elements of an FC 3A class shall be of primary consideration.

Four mandatory exercises must be successfully completed in order for students to receive a SFT FSTEP certificate for Fire Control 3A. There are additional exercises that may be added if resources and time will allow.

Four Mandatory Exercises

1. Fire behavior.
2. Ventilation techniques.
3. Interior fire attack.
4. Exterior fire attack.

Three Supplemental Exercises

Descriptions of the following three supplemental exercises have been included in this document because of their IDLH environments.

1. SCBA confidence.
2. Attic fire attack.
3. Basement fire attack (if available).

Bonus Training and Exercises

As structures become more difficult to acquire, the instructor must attempt to utilize all acquired structures to their maximum potential. Other potential training exercises that may occur in the structure prior to a Fire Control 3A class include but may not be limited to:

- Building construction.
- Exposure protection.
- Fire origin and cause.
- Forced entry.
- Indirect versus direct attack.
- New equipment testing.
- Overhaul.
- Rapid Intervention Crew (RIC) tactics.
- Salvage operations.
- Search and rescue.
- Structure stabilization.

- Use of power and hand tools.
- Use of various nozzles and patterns including master streams.

Hazards That Should Be Considered

- Exposures.
 - Other structures, vegetation, and vehicles.
- Overhead wires.
 - Including power, telephone, and cable.
 - Contact appropriate utility company for assistance.
- Trees, shrubs, and other landscaping hazards.
 - With overhead branches, snags, and ladder fuels.
 - Some areas require a removal permit for large trees.
 - Impedes egress and/or visual monitoring of the exercise.
 - Retaining walls and drop offs.
 - Ability to protect sensitive landscaping.
 - Not a good promise to make.
- Condition of the structures.
 - Do not expose students to an obvious and uncontrollable hazard.
- ACMs used in building construction especially prior to 1972; some examples are insulation material, asbestos wall shingles, floor tiles, sheet rock seam tape, acoustic ceilings, roofing materials, heat panels behind furnaces (both wall and ceiling mounted), and pipe insulation.
- Weather conditions.
 - Forecasted wind patterns.
 - Temperature inversions.
 - Research temporarily relocating affected occupants during the burning evolution.
 - Spot weather forecast sources.
 - National Weather Service.
 - The Weather Channel.
 - AccuWeather.
 - Logging personal observations is recommended on an ICS-214.
- Holes (floor, walls, and roof).
 - Basements.
 - Dumb waiters.
 - Laundry chutes.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures

Section 5: Surveying the Structure for Its Training Value



- Mineshafts.
- HVAC units.
 - Locate and remove or acknowledge location on rooftop or in attic.
 - Be careful to not release Freon into the atmosphere; consult with professionals.
- Other overhead hazards.
 - Including chimneys.
- Septic tanks.
 - There is nothing worse than having an engine buried up to its running boards in a septic tank.
 - Leach lines.
 - Cesspools.
- Neighbors and businesses.
 - Find compromise and help educate citizens of the value and benefits to a well-trained fire suppression team.
 - Explain the rare and unique opportunity for the fire fighters involved.
 - For those citizens who need extra attention to find a comfort level, invite them to the training site.
 - Show and explain to them exactly what training is to take place and the techniques used to increase the knowledge of fire fighters.
- Exits in burn structure(s).
- Hazardous materials on site.
 - Pesticides and insecticides.
 - Found ground into the floors of old farm and ranch structures.
 - Any other material that may be hazardous to fire fighters.
- Fuel types.
 - Wood.
 - Tar paper.
 - Linoleum.
 - Mineral fiberboard (Celotex®).
 - These older ceiling tiles are extremely flammable.

After the survey has been made, exercises identified, and hazards indicated, the IC should turn this information over to the Planning Section Chief to determine the resources needed and develop a map of the training site. The mapping procedures are discussed in Section 9.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Section 6: Recommended Procedures for Working with the Local Air Quality Management District (AQMD)

Section 6: Recommended Procedures for Working with the Local Air Quality Management District (AQMD)

The local Air Quality Management District (AQMD) must be contacted early in the planning phase of the class. It is recommended to have AQMD personnel be part of the burn planning and organization. Include that staff member in the communications circle, and invite them to witness the FC 3A class.

A positive and professional interaction between FC 3A personnel and AQMD is essential for the success of the program. AQMD representatives should be told specifically what the desired results of the training are. Explain specifically what types of fuels are to be used, the anticipated size and duration of each burn, as well as contingency plans for the days training. Welcome them to observe the burn; leave no room for AQMD staff to be surprised by the training burn in any way.

When appropriate, ascertain if a variance is necessary. A variance will allow for burning on a "No Burn" day. AQMD should be approached on this matter only after a burn permit has been obtained. Try to burn during the time of year when a low smog period would likely occur. If the class is conducted on a "No Burn" day without a variance, a citation may be issued by AQMD. "Spare the Air" days are exempt from a variance, and all burning must be cancelled.

<p>The AQMD office may require a presentation at an AQMD Hearing Board.</p>
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Have all documentation and presentation materials prepared prior to going before the Board. The information that will be requested includes the location of the burn, organizations involved, dates of the burn, number of students, material(s) to be burned, etc. This information is available in ICS planning documents, such as an Incident Action Plan (IAP).

When appearing in front of the AQMD Hearing Board, look professional, be on time, and ensure you have copies of the burn plan (IAP) for the Board and the Board's attorney. Seek the assistance of AQMD in this matter, and be certain to have an AQMD consultant present. Consider contacting the Board's attorney prior to the hearing with the AQMD consultant's support. Attorneys do not like surprises in front of the Board. Most AQMD Board hearings have granted variances to fire departments for training purposes.

Section 7: Documentation for Related Paperwork, Records, and Reports

The next step is to complete the necessary paperwork. Some documentation is the responsibility of the Primary Coordinator and some the property owner. Review the "Acquired Structure Burn Checklist" in Appendix C for assistance.

All paperwork should be kept as a permanent record by the agency conducting the class, with copies provided to the AHJ should any questions regarding the training exercise ever arise.

Incident Action Plan

The Incident Action Plan (IAP) is the organizational tool for delivering a safe and effective Fire Control 3A class. At a minimum, the IAP will consist of the following components:

- Incident Objectives with Safety and Weather Information (ICS 202).
- Organization Assignments (ICS 203).
- Division/Group Assignments (ICS 204).
- Communications Plan (ICS 205).
- Emergency Medical Plan (ICS 206).
- Maps.

An Incident Briefing form (ICS 201) may be used as appropriate for small incidents.

Complex Incidents

Supplemental components may be necessary for more complex events, such as a structure larger than a typical three-bedroom, two-bathroom single-family dwelling.

- Organizational Structure (ICS 207).
- Water distribution and run-off plan.
- Plume analysis.

From The Owner

- A signed liability release form for the property (see Appendix C).
- Current property's parcel number from the public tax record.
- A demolition permit from the jurisdiction's building department.
- Written notarized proof of cancellation of fire insurance.
 - Usually a letter from the insurance company is sufficient.
- Submittal of the "Clearance Letter" and "Asbestos NESHAP Notification of Demolition and Renovation" form (see Appendix C).



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Section 7: Documentation for Related Paperwork, Records, and Reports

From The Person Responsible For Conducting the Training Burn (Primary Coordinator)

- A burning permit from the jurisdiction in which the training is taking place.
 - May be obtained by the department hosting the class.
- A FSTEP Course Request submitted at least six weeks prior to the class date.
 - State Fire Training is available to assist you with a complex Fire Control 3A class.
 - For additional assistance, please submit a letter or email to the State Fire Training representative for your area that includes the date(s) of the burn, description of the course, the location, and contact information.
 - A SFT representative will contact you for an appointment.
- Written notification to the AHJ and to other participating agencies.
 - What is going to be burned.
 - Where the burn is located.
 - When the burn is going to take place.
 - Copy of the release from the owner.
 - Incident Commander's name and contact information.
 - Senior Coordinator's name and contact information.
 - Primary Coordinator's name and contact information.
 - Safety Officer's name and contact information.
 - A short description of the specific burn objectives.
 - An agenda of the actual burn.
 - A list of all the agencies participating.

From the Student's Department

- Authorization to attend the training, including a statement of insurance for participant.
 - Submit a letter stating that the student has demonstrated competency up to the SFT Fire Fighter I level in donning SCBA, donning personal protective equipment, and hose handling skills.
 - If the class will be coordinated through a community college, the college may provide additional insurance for participants and instructional staff.
- Current fit test documentation.
- Participant's agency must also provide the student with a minimum of Cal/OSHA compliant PPE in good repair.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Section 7: Documentation for Related Paperwork, Records, and Reports

From the Adjunct Instructor's Department

- Authorization to attend the training, including a statement of insurance for participant.
 - If the class will be coordinated through a community college, the college may provide additional insurance for participants and instructional staff.
- Current fit test documentation (if required for participation).
- Adjunct Instructor's agency must also provide the adjunct instructor with a minimum of Cal/OSHA compliant PPE in good repair (if required for participation).

From the Department Hosting the Fire Control 3A Class

- Approval from the Federal Environmental Protection Agency (EPA), California Air Resources Board (CARB), and local AQMD.
- AQMD confirmation of a training variance in the presence of a "No Burn" day.
- A burning permit from the jurisdiction in which the training is taking place.
 - Confirm that the owner has clear title to the property.
 - This will require researching county/city records.
 - May be obtained by the Primary Coordinator.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Section 8: Notification Information

Section 8: Notification Information

When planning a FC 3A training exercise, all agencies, citizens, and news media directly or remotely associated with the training should be notified. These may include, but not be limited to:

- Board of Supervisors area representative.
- CAL FIRE.
- California Highway Patrol.
- City Manager.
- Coastal Commission.
- Historical Society (for structures greater than fifty years old).
- Local ambulance transporting agency for a possible standby.
- Local airport.
- Local AQMD, CARB, and EPA*.
- Mayor.
- Nearby schools, churches, and parks.
- Neighboring residents and businesses.
- News media.
- Police and fire agencies in the local area.
- Public works department.
- U.S. Forest Service.
- Utility companies.
- Water department.

*Federal law requires you to notify the following agencies of the date and time for the controlled burning of any structure. These notifications must be done utilizing the "Notification of Demolition and Renovation" form available from the California Air Resources Board (see Appendix C). Mail one copy each of the Notification of Demolition and Renovation form, Survey Report, and Clearance Letter to each of the agencies below (**faxing or email is not acceptable**). The notification is required ten (10) working days prior to the controlled burn.

Send the **original** to:
U.S. EPA - Region IX

Send a **copy** to:
California Air Resources Board

The contacts should be made by the Public Information Officer (PIO). As these contacts are made, the PIO should log the agency, telephone number, person contacted, and their response.

Notice to Neighboring Properties

The notice should be given to everyone needing notification, both industrial as well as residential and include the following information:

- Nature of the activity.
- Reasons for the activity.
- Location of the activity.
- Schedule of the activity.
- Department contact for information.

Failure to notify those concerned can cause embarrassment and unnecessary problems to the agency having jurisdiction. A meeting of area residents and businesses will help alleviate their concerns (see Appendix C).

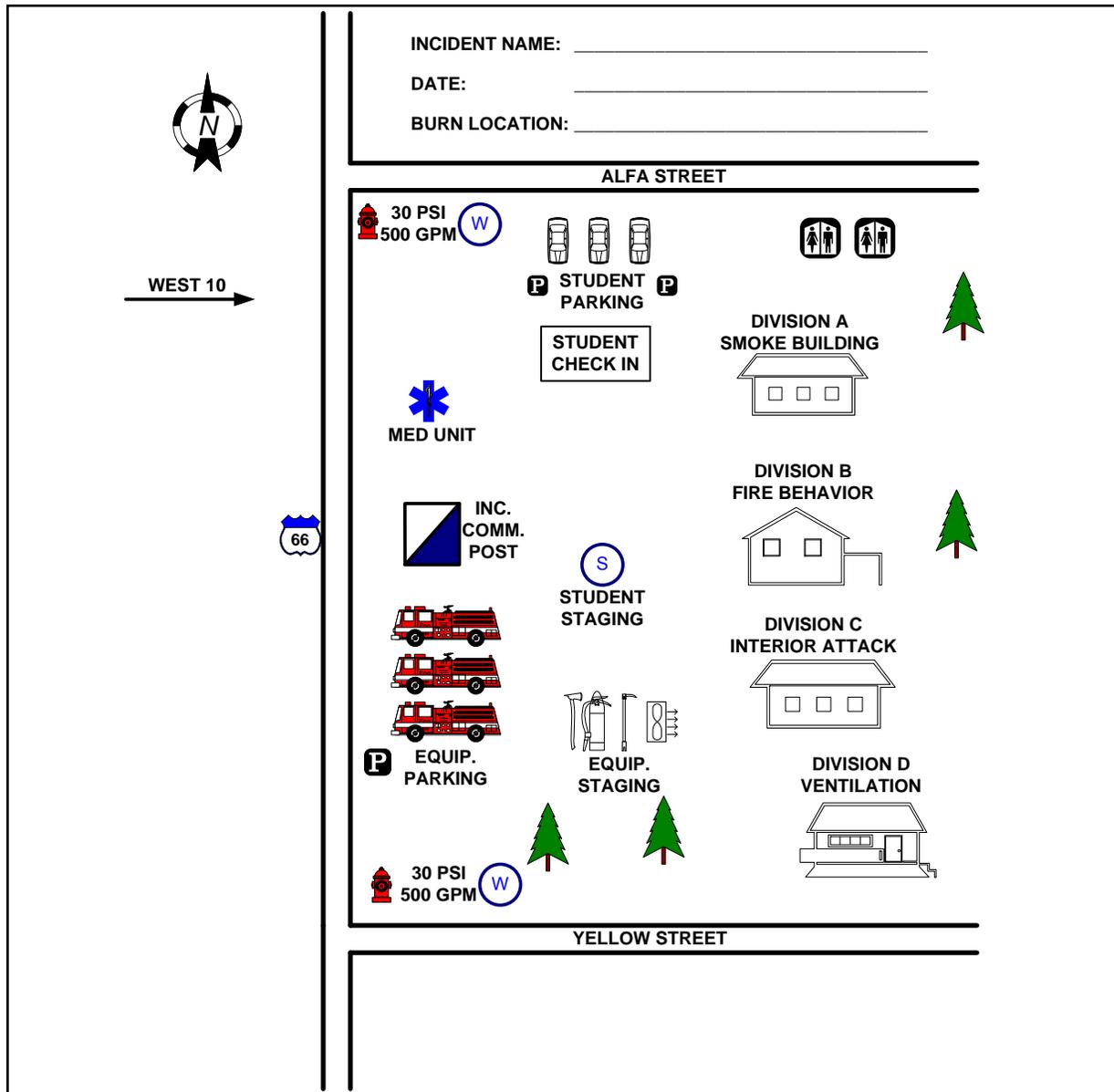
Section 9: Mapping the Burn Site

The Planning Section Chief (PSC) is responsible for developing a map showing all pertinent information for the burn. The PSC may assign a Situation Unit Leader.

List of Considerations for All Structure Sites

- Indicate type of construction and roofing materials.
- Indicate special hazards (basements, chimneys, etc.).
- Identify each structure.
- Locate septic tanks and wells.
- Identify and provide for collapse zone.
- Identify all exposures.
 - Power lines, vegetation, trees, other structures.
 - Flammable liquid storage areas.
 - Exposures to be saved.
- Property boundaries.
- Roads and access to the burn site.
 - Include traffic plan.
- Check-in site.
- Incident Command Post (ICP).
- Staging area.
- Water supply.
 - Hydrants with gpm available and static pressure.
 - Pools or other static water supply with approximate capacity.
 - Location of portable water supply placement (fold-a-tanks, large tanks, etc.).
- Determine and map water run-off.
- Holes that cannot be filled.
- Refuse that cannot be moved.
- Supply Unit Leader location.
- Medical Unit Leader location.
- Rehab.
- Student parking.

Section 9: Mapping the Burn Site



Additional items to map should include exits of the burn structures and any potential hazards.

Once this map is completed, it should be reproduced as both a large map and many small maps. The large map will hang in the ICP for reference. The small maps should be attached to the IAP for utilization by Command Staff, Exercise Instructors, and Crew Leaders for a ready reference.

A large map might also be posted in the staging area for directions or orientation for students. It is a good idea to cover these large maps with Mylar® to protect them. This will allow note taking to be done on the map with a grease type marker.

Section 10: Fire Behavior Exercise

This is the first live-fire exercise the students will attend and is the foundation for the class. This exercise in a Fire Control 3A class will be the foundation of all fire behavior witnessed by students for the rest of the class.

Planning

The instructor for this exercise shall be capable of providing planned, expected, and desired fire behavior before being assigned to this exercise. The Fire Behavior Instructor should attempt to illustrate as many aspects of fire behavior to the students as possible in order to build upon them throughout the class.

The number of students in the class will determine the potential need for more than one fire behavior lecture. Since the lecture is conducted in the designated live-fire training room, modifying interior walls can increase floor space and/or allow for a better view for students participating in this exercise. Construction knowledge is key in choosing walls that can be modified.

Inspection

The training room will be dark and potentially dangerous; all measures must be taken to remove all hazards prior to the exercise.

Room Set-up

- The room needs to allow all students to access the fire behavior lecture and demonstration.
- Ensure there is a minimum of two exits.
- Remove all hazards that could harm students or damage their PPE.
- Remove all floor coverings, carpet, and tack strips.
- Remove all window glass and cover opening with knockout panels.
- Remove all ceiling lights, interior mirrors, and other items that may fall and cause injury during the burn.
- Render safe all abandoned fire extinguishing systems.
- Change the swing of any doors that are not removed to open outward.
 - Remove all latching hardware.
- Cover any holes in the ceiling or walls where fire could extend.
- Assign instructional staff to the roof to watch for any extension to the attic space or roof fires.
- Mark the floors and exits with hi-visibility paint using arrows leading to the exits.
 - Exits may be marked on both the floor and wall.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Section 10: Fire Behavior Exercise

- Ensure the water supplies for both the attack and safety lines come from two different sources.
- Ensure the required ventilation hole is in the roof of the fire behavior room.
 - A hinged piece of material applied to the ventilation hole to allow the vent to be opened and closed remotely by a rope tether to demonstrate ventilation techniques.

Required Elements

- Adjunct instructor staffing near all exits.
- Attack line.
 - Shall not be staffed by students.
- Safety line from a separate water source.
 - Shall not be staffed by students.
- Fire extinguishers.
 - Pressurized water or hand-pump.
- Ignitions Officer with hook.
- Rapid Intervention Crew.
 - Must be on standby any time live-fire training is being conducted.
 - Dedicated tool cache.
 - Dedicated radio frequency should be considered on complex burns.
- Personal accountability report (PAR).

Fuel

Wood fuels in the form of lumber, pallets, excelsior, or hollow core feed hay (HCFH) may be used for training in acquired structures and permanent burn building props found at training facilities. When using hay, the best type is HCFH since feed hay does not have chemicals present. When purchasing the hay, be sure to specifically ask for feed hay.

Caution: Paper used for fuel has the potential to become airborne.

HCFH will last for several minutes and makes a crackling sound that adds realism to the situation. HCFH can also be moistened on the top layers to produce a very smoky atmosphere. One of the best tools to use for wetting the hay is the hand pump fire extinguisher. Several methods can be used with this system to achieve various effects.

DO NOT USE RICE STRAW. The shaft of this type of straw contains a minute spore which is not destroyed during combustion. In fact, the spore becomes airborne and can cause damage to the lungs much the same as "valley fever."

Fuel Cribs

The use of shopping carts containing fuels for various exercises can be used for smoke training or interior attack and are very effective for developing a fuel crib. Shopping carts can be obtained by asking a local supermarket.

Other items to consider for use as a fuel crib include a military bedspring and frame, 55-gallon drum, or any device that will allow adequate airflow into the crib.

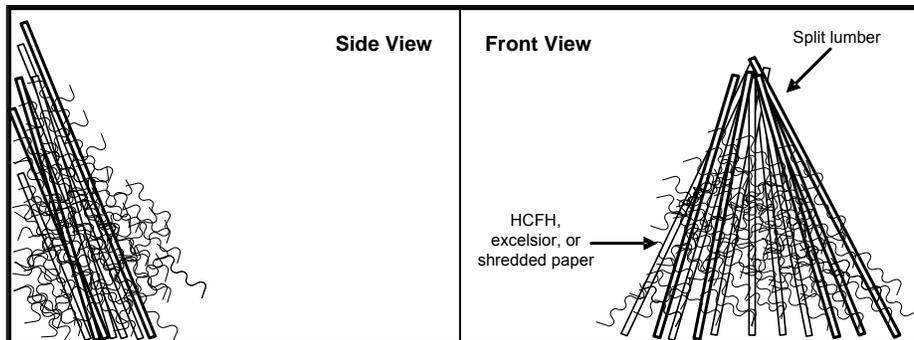
Never Use Flammable Or Combustible Liquids When Conducting A FC 3A Class!

Crib Construction

By using proper crib construction, the fire can be knocked down and then allowed to build for the next demonstration. It is recommended that the crib be constructed to allow consistent flow of air through the base of the fire for this portion of the class. This will allow for demonstration of airflow, ventilation, extinguishment, and fire growth.

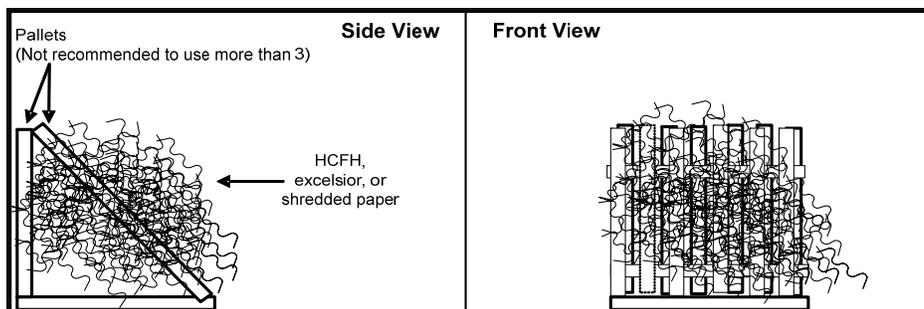
Vertical Crib

The vertical crib affords greater flexibility and assurance of fire behavior demonstration and control of the desired affects.



Pallet Crib

When using pallets, it can be very difficult to get the fire burning again if all the starter fuels are consumed too early. Prior to ignition of the crib, the crib size should be documented on a Form 214 or digital pictures taken and saved.



Tools

- Pike pole.

Safety

The number of pallets or the amount of fuel used for the Fire Behavior Exercise should be appropriate for the size of the room. Do not use more fuel than is necessary to safely demonstrate the desired results. An average residential-sized burn room will require no more than three pallets to safely demonstrate the fire behavior.

Each participant must be protected with full PPE upon ignition.

Communications

Ensure that reliable communications are in place before commencement of operations. Have an operational plan for coordinated suppression and student evacuations in the event the fire extends into the attic or other areas not intended to burn during instruction.

Conducting the Exercise

The Fire Behavior Instructor shall ensure that the speaking points are covered and the information is understood by the students.

The students will be exposed to fire from the incipient to the rollover stage. At the same time, the instructor will be demonstrating proper application of various nozzle patterns and the effects of water application (steam production, thermal influence, etc). This is also an opportunity to demonstrate interior ventilation techniques using nozzle streams to demonstrate air movement and its effect on fire travel. Using the pump can and teaching anchor points will demonstrate the small amount of water needed to control fire.

Speaking Points

- Students must be familiar with the layout of the structure.
 - Conduct a walk through of the building pointing out the exits and egress.
- Anticipated fire behavior of the specific room based on fuel, construction, and all other variables.
 - Illustrate this behavior with examples after ignition.
- Explain what fire behavior the students will see in the specific room chosen.
- With the ignition of the crib, allow the students to watch the fire grow and behave as the instructor has predicted.

- Factors influencing fire behavior.
 - Amount of fuel.
 - Type of fuel.
 - Arrangement of fuel.
 - Ratio of fuel to room or structure.
 - Ventilation.
- Time temperature curve.
- Types of fire classes.
- BTU output.
- Stages of fire.
- Heat transfer.
- Smoke.
- Anchor points for water application.
- Barriers and shielding.
- Nozzle patterns.
- Steam production.
- Air flow.
- Indicators.
- Horizontal and vertical thermal balance.
- Ember production.
- Ash production.
- Flame lengths.
- Flammable gases.
- Overhead or atmosphere control.
- Roll over.
- Flashover.
- Backdraft.

Key points that do not occur during the various demonstrations can be discussed outside following the exercise.

Section 11: Ventilation Techniques Exercise

The ventilation phase of fire fighting is second in importance only to the application of an extinguishing agent. This exercise is designed to provide the students with proper methods and techniques of ventilation and an opportunity to utilize ventilation equipment, including using both hand tools and power equipment.

Planning

The ventilation exercise should be planned and designed to facilitate the entire class. The instructor for this exercise should have a good working knowledge of building construction, both old and new, and show methods of determining what type of construction is utilized in a particular structure. It is imperative that ventilation operations be coordinated with the fire behavior and fire attack operations. This is a training exercise and every opportunity to anticipate fire spread and potential problems needs to be addressed prior to starting operations.

Inspection

Most of the time, residential structures are the subject of a ventilation training exercise with the roof becoming the classroom. Inspection should be made to assure structural integrity of the roof. Some older structures do not have ridgepoles, tie boards (webs), or vertical upright supports to hold the extra weight of the students and instructional staff. You may need to rebuild or reinforce some roofs.

Roof Set-up

- Remove all overhead obstructions such as wires, trees, etc.
- Ensure there is an adequate area to store tools so they will not fall to the ground and possibly injure someone.

Strip Ventilation Cut

A strip ventilation cut can be used to illustrate the effectiveness of this ventilation technique by safely positioning students inside the structure and allowing them to hold the fire at the cut with hoselines. This must be a well-coordinated effort and safety personnel must be in position at all times.

As a means of accommodating the overall burn plan, it may be advantageous to put a strip ventilation cut in place prior to beginning the burn. This will allow for a predetermined location to make an offensive or defensive stand if necessary later in the day's evolution to capture a running attic fire. This is an effective means of separating larger or uniquely shaped structures for multiple day burns.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures

Section 11: Ventilation Techniques Exercise



Required Elements

- Attack Crew with charged hoseline.
- Safety Crew with charged hoseline.
- Two different water sources for the attack and safety lines.
- Ventilation Crew.
- Ignitions Officer with hook.
- A minimum of one Assistant Safety Officer.
- Evacuation signal established.
- Rapid Intervention Crew.
 - Must be on standby any time live-fire training is being conducted.
 - Dedicated tool cache.
 - Dedicated radio frequency should be considered on complex burns.
- A minimum of two ladders to aid in rapid evacuation.
- Personal accountability report (PAR).

Fuel

- Wood.
- Wood pallets.
- HCFH.

Tools

The hosting and cooperating agencies attending may influence the type of tools and operational guidelines, or techniques, utilized by their respective agencies. Each student shall be given the opportunity to use each tool. Tools used in this exercise may include:

- Axe.
- Pike pole.
- Power tools.
- Pulaski.
- Roof ladder.
- Rubbish hook.
- Sledgehammer.

Safety

It is strongly recommended that ventilation techniques be taught on a separate roof, or at a time when live fire is not occurring below the students. If fire is being conducted beneath the Ventilation Techniques

Each participant must be protected with personal protective equipment. SCBA is required if live fire is present.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures

Section 11: Ventilation Techniques Exercise



Exercise, the use of an Assistant Safety Officer is required. The Assistant Safety Officer is responsible for safe operations while conducting ventilation exercises on the roof. Horseplay and/or unsafe acts will not be tolerated.

Communications

Ensure that reliable communications are in place before commencement of operations. Have an operational plan for coordinated suppression and student evacuations in the event the fire extends into the attic or other areas not intended to burn during instruction.

Conducting the Exercise

When conducting the ventilation techniques exercise, there are many different acceptable methods to deliver the information. The Ventilation Techniques Instructor shall ensure that the speaking points are covered and the information is understood by the students. An example of an acceptable delivery method is outlined below.

Using Conventional (Vertical) Ventilation

Many techniques can be demonstrated during this exercise. Center rafting, rolling rafters, louvering, pull backs, inspection cuts, and kerf/plunge cuts are just a few examples of techniques that can be addressed during the ventilation portion of a FC 3A course. Strip cuts may also be demonstrated if the burn plan accommodates this type of ventilation. Wood floors can be used to simulate flat roofs. This cannot be done if the structure is to be used for interior attack also.

Type of construction, occupancy type, and the tools available for ventilation will all be factors in the exercise set up. Consideration must be given to the amount, size, and location of ventilation cuts necessary to accommodate interior attacks and the final burn.

Using Mechanical Ventilation

It is also possible to conduct this exercise using mechanical ventilation. Charging the structure with smoke and demonstrating positive pressure ventilation may be valuable during the class. ***When utilizing positive pressure ventilation, the smoke blower must be staffed at all times.***

Example: Set up for positive pressure ventilation during interior fire attack. This has to be highly coordinated.

Step 1: With all exterior doors and window openings covered, interior doors open or closed appropriately, a fire is started in the rear of the structure and allowed to burn.

Step 2: At a given signal, the Vent Crew will remove the window covers from the fire room. As this is done, the Attack Crew will coordinate their attack with the implementation of positive pressure ventilation. As the smoke is

pushed back to the fire room, the Attack Crew can make entry and extinguish the fire in a more tenable environment.

Note: This is a technique of coordinating interior fire attack and positive pressure ventilation. When correctly implemented, this method of ventilation can be very effective.

This technique will be utilized many times during the day's exercises to remove smoke and heat from rooms that have been used for live-fire attack. Natural ventilation can be demonstrated in this matter if the conditions permit.

Speaking Points

The Ventilation Techniques Exercise lecture must begin while on the ground.

- Students must be familiar with the layout of the structure.
 - Conduct a walk through of the building pointing out the exits and egress.
- Safety briefing.
 - Communication methods that will be used while power tools are in use including the signal to evacuate.
 - Hazardous areas.

To help identify hazardous areas, marking paint shall be utilized to show roof areas that have been cut. All personnel shall be advised to avoid all painted areas.

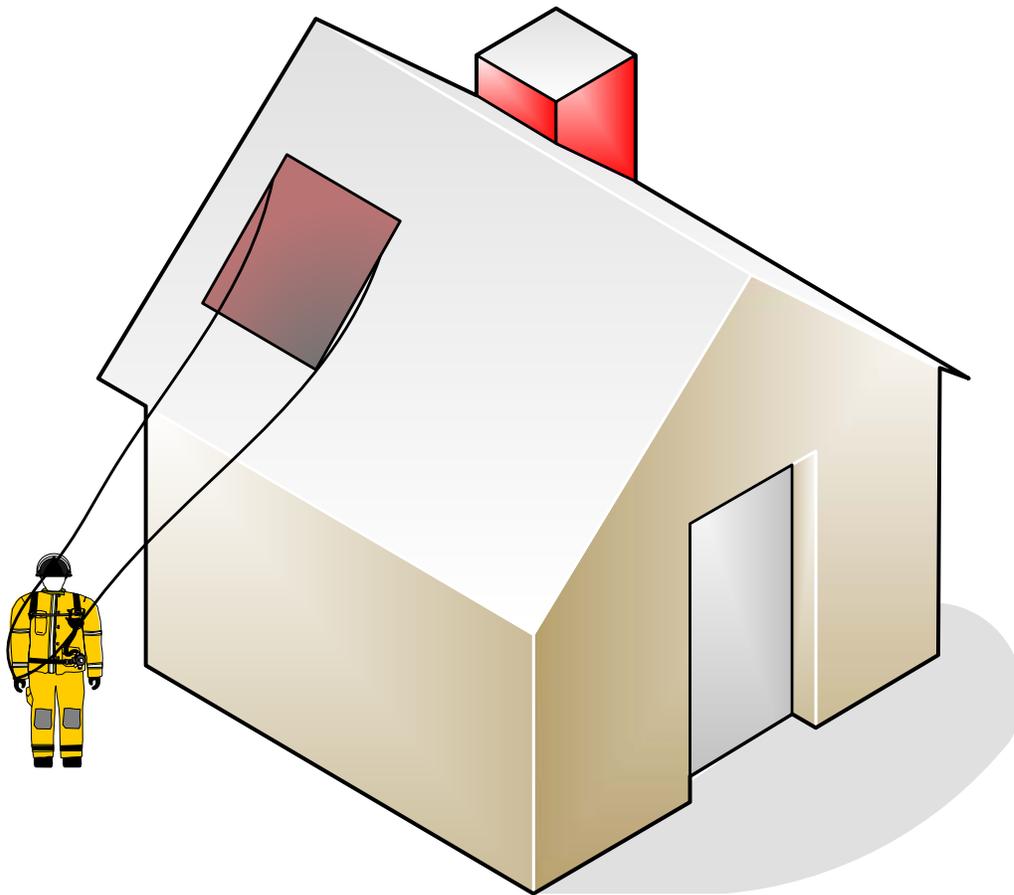
- Structure size-up.
- Building construction features.
- Ventilation principles.
- Ventilation terminology.
- Ladder placement.
- Safe power equipment and tool use.
- Photovoltaic (solar panels or PV panels).
- Vertical ventilation techniques.
 - Center rafting.
 - Rolling rafters.
 - Louvering.
 - Inspection cuts.
 - Kerf/plunge cuts.
 - Pullbacks.
- Key points that did not occur during the exercise discussed outside following the exercise.

After the Exercise

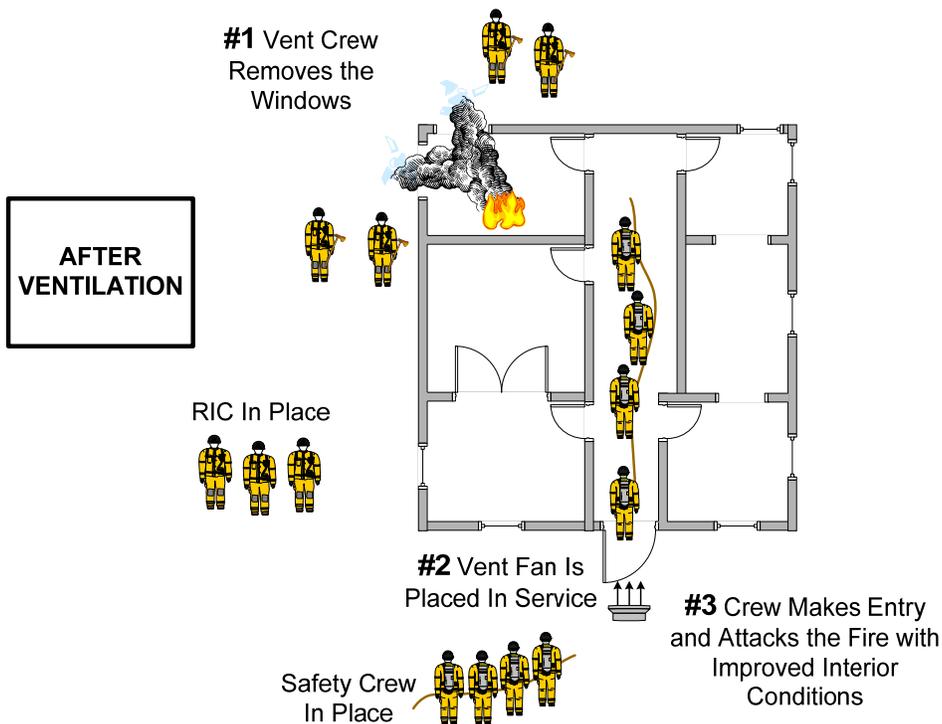
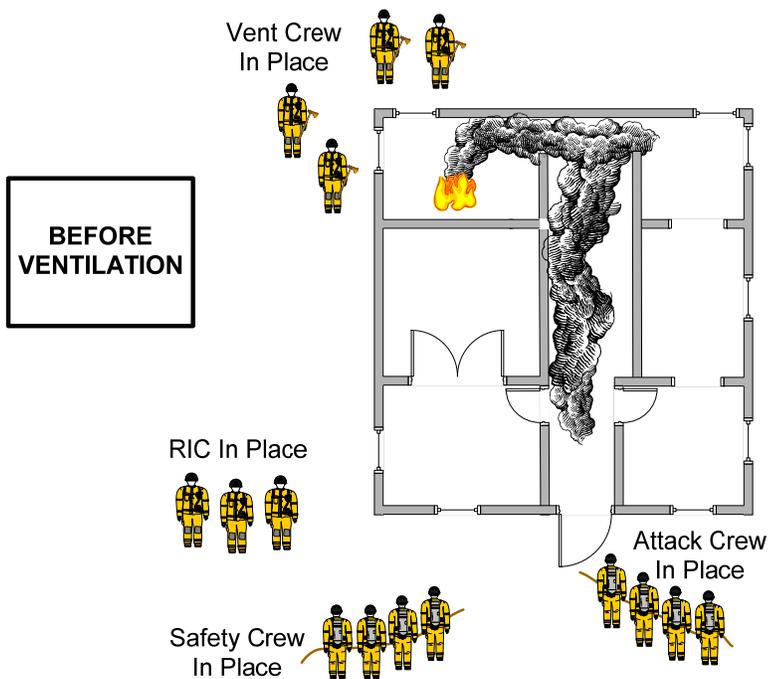
When the ventilation exercise is completed, the several planned vent holes should be in place for later use during the Interior Fire Attack Exercise. If the burn plan makes it necessary to cover any holes, apply a hinged piece of material to the ventilation hole to allow the vent to be opened and closed remotely by a tether. This will enable the students to see the effects of ventilation without exposing personnel to the hazards associated with roof operations. Ensure that the pull-cord will not melt or burn between the cover and the pull point.

Ventilation hole is controlled by a loop of chain or wire so it can be opened or closed.

Cut roofing material is left in place after the ventilation hole is cut. Material hinges off the rafter and may require longer or additional nails to hold in place.



VENTILATION TECHNIQUES EXERCISE



Section 12: Interior Fire Attack Exercise

This exercise is designed to provide students with methods and procedures used for direct, indirect, and combination water application on interior structure fires.

Planning

The number of burns conducted is dependent upon the structure. The rooms chosen for this exercise must be of solid construction with ample room to manipulate hoselines. It is recommended that the rooms have more than one escape route.

Inspection

Inspections for building safety and integrity are ongoing throughout the exercise.

Room Set-up

- Remove all hazards that could harm students or damage their PPE.
- Remove all floor coverings, carpet, and tack strips.
- Remove all window glass.
 - Windows openings covered with plywood or drywall knockout panel.
 - The covering shall be placed on the outside of the structure and secured in a manner that allows for easy removal.
 - This will assist in quickly opening the window, both for demonstrating coordinated attack, and in case an emergency situation occurs requiring the windows use for quick escapes.
- Remove all ceiling lights, interior mirrors, and other items that may fall and cause injury during the burn.

A water heater poses a major problem and should be removed. If it cannot be removed, numerous holes must be punctured in the water heater to prevent an over buildup of pressure in the heater. Care should be given in working with water heaters; they could contain asbestos which requires special handling as discussed in Section 4.

- Render safe all abandoned fire extinguishing systems.
- Change the swing of any doors that are not removed to open outward.
 - Remove all latching hardware.
- Cover any holes in the ceiling or walls where fire could extend.
- Mark the floors and exits with hi-visibility paint using arrows leading to the exits.
 - Exits may be marked on both the floor and wall.

- Ensure the required ventilation hole is in the ceiling.
 - A hinged piece of material can be applied to the ventilation hole to allow the vent to be opened and closed remotely by a rope tether to demonstrate ventilation techniques.

Required Elements

- Instructional staff assigned to the roof to watch for any extension to the attic space or roof fires.
- Attack Crew with charged hoseline.
- Safety Crew with charged hoseline.
- Charged safety line (not staffed by students).
- Two different water sources for the attack and safety lines.
- Ignitions Officer with hook.
- A minimum of one Assistant Safety Officer.
- Coordination with the Ventilation Techniques Instructor.
- Evacuation signal established.
- Rapid Intervention Crew.
 - Must be on standby any time live-fire training is being conducted.
 - Dedicated tool cache.
 - Dedicated radio frequency should be considered on complex burns.
- Personal accountability report (PAR).

Fuel

- Wood.
- Wood pallets.
- HCFH.
- The use of existing fuel inside the structure (cabinetry, doors, etc.) may be used.

Tools

- Minimum 1½" hoseline.

Safety

Prior to starting the exercise, bring the students into the structure for orientation. Explain what is going to happen, the location of the safety exits, who the Safety Officer is, and any safety precautions you may deem necessary. It is a good practice to identify all burn locations with a large felt tip marker or spray paint prior to beginning the exercise. This will help both students and assistant instructors to accommodate your burn plan.

STUDENTS MUST BE FAMILIAR WITH THE LAYOUT OF THE STRUCTURE. THERE MUST BE NO SURPRISES.

Communications

Ensure that reliable communications are in place before commencement of operations. Have an operational plan for coordinated suppression and student evacuations in the event the fire extends into the attic or other areas not intended to burn during instruction.

Conducting the Exercise

When conducting the interior fire attack exercise, there are many different acceptable methods to deliver the information. The Interior Fire Attack Instructor shall ensure that the speaking points are covered and the information is understood by the students. An example of an acceptable delivery method is outlined below.

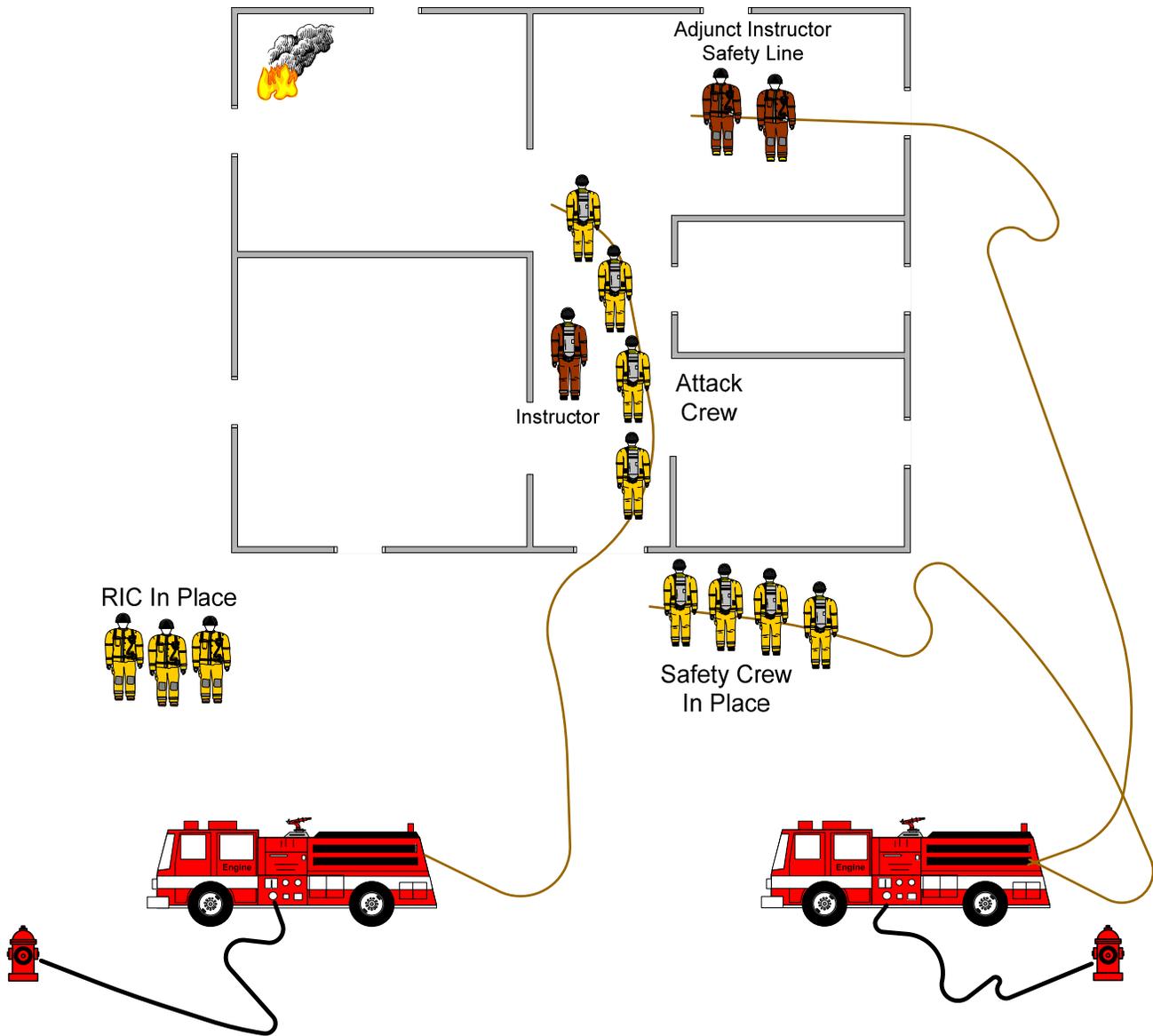
- Explain the expectations of this exercise during a pre-exercise safety briefing.
- Students must be familiar with the layout of the structure.
 - Conduct a walk through of the building pointing out the exits and egress.
- The crews shall be fire ready.
 - Under an adjunct instructor's supervision, the students can be checking each other for the PPE donned properly, and the SCBAs have the predetermined amount of minimal air supply.
- The hoselines are from two separate water sources.
 - Minimum 1½" diameter.
 - Placed with no loops on the ground near the entry.
 - Loops in the hose can close during the entry and kink the fire hose.
 - The crew is placed on the same side of the attack lines.
- A recommended checklist should be gone over prior to making entry into the structure for the fire attack. For example:
 - Safety Crew is ready.
 - RIC is ready.
 - Check nozzle patterns (right to fight – left to live).
 - Go on air.
 - Check entry door for heat.
 - High, and then midlevel.
 - Make entry as directed by the Interior Fire Attack Instructor.
 - Right or left hand pattern.

- The Interior Fire Attack Instructor or adjunct instructor will accompany the Attack Crew in and keep the Safety Crew right behind and in sight.
- The Attack Crew nozzle operator will pencil the ceiling of each new room they enter.
 - If the water does not come back down to the floor, then it is too hot to enter.
 - Exit the room and provide ventilation.
- After knocking the fire down, the Attack and Safety Crews back out as per the direction of the Interior Fire Attack Instructor and/or adjunct instructor.
 - Nozzle person always faces the fire while backing out.
 - Crewmembers keep within visual or physical contact.
 - Do not allow any crewmember to stand up until exited from an IDLH atmosphere.
- Conduct a crew critique of the attack.
- Rotate crewmembers while the Ignition Officer rebuilds the fire for attack so everyone has a chance at the nozzle.

Speaking Points

- Heat shielding and barriers.
- Stages of fire.
- Indicators.
- Air flows.
- Heat transfer.
- Horizontal and vertical thermal balance.
- Ember production.
- Ash production.
- Flame lengths.
- Water application.
- Production of gases.
- Anchor points.
- Ventilation.
- Overhead control.
- Roll over.
- Steam production (floor and ceiling).
- Heat indicators.
- Hose handling techniques.
- Evacuation signal.

INTERIOR FIRE ATTACK EXERCISE



Section 13: Exterior Fire Attack Exercise

The fourth mandatory exercise conducted during a FC 3A class is the exterior fire attack exercise. This is usually an all-hands exercise utilizing all the students.

The exterior fire attack exercise familiarizes the student with the fire-fighting tactics required when arriving at a structure fire that can have limited fire involvement from light smoke showing to a fully involved structure. Exterior fire attacks may be the only type of attack that can be accomplished with the resources immediately available. Fire fighters should be trained in and familiar with the appropriate exterior attack techniques necessary for structures with varying fire involvement.

Planning

Several considerations are necessary to prepare for this exercise. These considerations begin during the early planning stages, when determining if the structure is a viable candidate for a FC 3A class. The final burn is a planned event and not a reaction. The objectives of this burn include:

- Exposure protection.
- Fire behavior.
- Multiple fire attacks from the doors and windows in the exterior walls.
- Stream management.
- Smoke management.
- High heat tactics (combined fog and straight stream methods).

Students have the opportunity during the initial stages of the fire to see how the fire can be pushed from one room to another with inappropriate water application.

Fuel Load Size and Placement

Anticipated fire behavior specific to the structure must be considered for placement and size of the fuel load. Fuel load should always be prepared based upon the final burn plan and placed to accommodate predetermined objectives and predicted visual impact.

Use available materials as much as possible. Kitchen cabinets, doors, and unused building materials from the day's evolutions will add more realism to the final burn. Consult AQMD for guidance as to the use of furnishings for fire load.

Exposure Protection

Exposures are the first consideration of the final burn. If they are too close and of high value, they may pose a concern. In some cases, the decision must be made not to burn the remainder of the structure at all (risk versus gain).

When identifying exposures, consider location and type. Ensure there is enough water to supply the streams needed. Clear all burnable materials and debris from around the structure. This includes overhanging tree limbs. In wildland interface areas, firebreaks should be positioned prior to the day's activity as well.

Exposure Considerations

- Adjacent structures (outbuildings, garages, next-door properties, etc.).
- Overhead power and communication lines.
- Vegetation (wildland or residential).
- Traffic hazards (freeways, highways, etc.).
- Downwind influences.
 - Hospitals or convalescent homes.
 - Schools.
 - Airports or air traffic.
 - Sensitive commercial occupancies.
- Propane tanks.

Weather

Weather can also be cause for concern before and during the final burn. Continually monitor the wind speed and direction, humidity, and temperature for changes that can negatively influence fire behavior and exposure potential.

Adjunct Instructor Briefing

Prior to ignition of the final burn, the Primary Coordinator shall brief all adjunct instructors on the final burn plan.

- Location of the fire load.
- Line placement.
- Assignment of instructors to student crews.
- Instructions for the application of water to the final burn and teaching tips specific to the structure.
- Site-specific hazards and or exposures.
- Communications.

Structure Set-up

Make certain that any masonry chimney, if present, has been undercut. Undercutting chimneys, breaking the corners of stucco walls, specific loading to address water tank towers, etc. should be done prior to the final burn. Chimneys should not be allowed to stand freely following the burn. They can topple at a later time and cause damage or injury.

Required Elements

- Adequate water resources for the both the exterior attack exercise and to extinguish any possible exposure issues.
 - Think "worse case scenario" and be prepared.
- Attack Crew with charged hoseline.
- Safety Crew with charged hoseline.
- Two different water sources for the attack and safety lines.
- All available safety staff.
- Personal accountability report (PAR).

Fuel

- Explain to the students what the final burn plan is.
 - This will help them to understand the load placement and water application to accommodate the plan.
- Utilize the students to load the structure.
 - Use caution not to overload the structure.
 - Could cause a rapid and unexpected build up of excessive heat.
 - Could deprive the students of an opportunity to witness actual fire behavior during the buildup phase of the fire.
- Use available materials as much as possible.
 - Kitchen cabinets, doors, and unused building materials from the day's evolutions will add more realism to the final burn.
 - Consult AQMD for guidance as to the use of furnishings for fire load.

Do Not Use Accelerants.

The Use of Flammable/Combustible Liquids during Live-fire Training is Strictly Forbidden.

Tools

- Pike poles to assist/push the walls to fall in the desired direction.

Safety

- Remove all personnel, hoselines, and other tools from possible collapse zones.
- Monitor personnel for signs of heat illness.
- Cooling the eaves of the structure may help prevent molten tar from running down onto a fire fighter during a window attack.

Communications

Ensure that reliable communications are in place before commencement of operations. Have an operational plan for coordinated suppression and student evacuations in the event the fire extends into the attic or other areas not intended to burn during instruction.

Conducting the Exercise

When conducting the exterior fire attack exercise, there are many different acceptable methods to deliver the information. The Exterior Fire Attack Instructor shall ensure that the speaking points are covered and the information is understood by the students. An example of an acceptable delivery method is outlined below.

- Place instructional staff with student crews during the final burn.
 - This is an opportunity for students to watch a fire start and spread, and to witness how long it takes to become well involved.
 - It is also a valuable time for the instructors to answer questions about the buildup, growth, and spread of fire.
 - This is the perfect opportunity for instructors to predict fire behavior as it occurs in the presence of the students.
- Conduct as many window and door exterior attacks as safely possible.
- Do not extinguish the fire during any of the attacks.
 - Applying large quantities of water will delay the final burn down.
- The final burn is a point in the instruction to show the effectiveness of various streams, including master streams.
 - Adequate amounts of hose streams for all four sides of the fire and any exposures must be available.
 - There should be a system of control to coordinate all hose streams.

Types of Attacks

Advance attack lines, knock down the fire, and back out. As the fire builds each time, demonstrate various attack methods. These include direct, indirect, combination, and the blitz attack utilizing a 2½" hoseline or master stream. The instructor should verbalize the desired effect prior to the application of water through the various attack methods so the students may also look for this effect as they advance lines and apply water. Line size should be discussed at this time as well as discussing applications to different scenarios.

Take the time to discuss the effects of stream management and its effect of the fire's behavior.

Demonstrate the ability to push fire using a fog stream, extend the reach of a straight stream, and use of deflection methods. For example, advancement with a smooth bore tip hoseline and a fog nozzle hoseline in order to attack large heat generating fires, such as:

- Lumber yard.
- Junk yard.
- Hay stack.
- Bulk storage.
- Barn.

Coach the students to control the fire. Do not allow them to completely extinguish the fire. This will only create unnecessary delay in the exercise. Take the opportunity to critique each attack while waiting for the fire to rebuild.

Keep all hoselines staffed and in place until the structure is completely consumed by fire. Water should be directed on the outside walls with a low gallonage setting. This will help the walls fold in as they are burned from the inside out.

Continue instruction during the exterior attack exercise until all training value has been utilized to its fullest.

After the structure has collapsed, allow the fire to continue to consume as much combustible materials as possible prior to extinguishment. This will make overhaul and recycling much easier. Keep one or two charged hoselines available until the fire is completely out. Use this time to pick up equipment and critique the day's events. Allow input from all assistant instructors. Reaffirm what the students have learned from the day's exercises.

Speaking Points

- Fire spread and behavior.
- Exterior attack for various fire locations.
- Straight stream and fog patterns.
- Construction and its influence on fire behavior.
- Flashover.
- Exposure protection.
- Spot fires.
- Various methods of exterior attack.
- Heat shielding.
- Smoke management.

After the Exercise

If the class operates for more than one day, it will be necessary to have someone stay on the site as a fire watch. These personnel should patrol for rekindle. Ensure they have adequate equipment in case they have a problem, (i.e., a quick attack unit, reserve engine, etc.).

Before turning the structure over to the property owner, take the time to secure all hazards or flag them to assure safety.

It may be necessary to make prior arrangements with the property owner to secure heavy equipment to render safe the remains of the structure upon completion of the burn. Masonry walls and/or chimneys that may not have fallen during the burn must be secured or made safe by knocking them down.

Section 14: SCBA Confidence Exercise

This exercise is designed to provide fire fighters an opportunity to experience basic performance evolutions while utilizing self-contained breathing apparatus (SCBA). All students should be proficient in SCBA prior to participating in a FC 3A class.

This exercise will teach interior fire-fighting survival by allowing the students the opportunity to gain confidence in proven survival techniques with emphasis on remaining calm and creating a heightened awareness in a fire-fighting environment. It will also assist fire fighters in getting the maximum performance from an SCBA.

Planning

When reviewing your acquired structure, choose one or more rooms that will facilitate a smoky environment. It is best to choose rooms that can be closed to create a dark space. When building the course (if a course is used), use construction items at the site such as wood, doors, wire, and other items that can be retrofitted into the room. The course should take approximately 15 minutes for a two-person crew to complete. Depending on the rooms' configuration, the SCBA Confidence Exercise Instructor will determine how many students can move through the course at any one time.

Inspection

Before the room is used, it must be clean and all debris removed from the floor including carpet tack strips. Confirm the sturdiness of the room's construction. After your course is built, ensure that it is sturdy and can withstand the day's training.

Room Set-up

- The structure or room should accommodate walkways to allow Assistant Safety Officers to monitor student progress.
- The structure or room should have more than one exit and an escape route large enough to move several students.
- The area should be dark, even before the smoke is introduced.
- Exits must be marked on the floor.
- Doors must swing out from the room.
 - It may be necessary to change the swing of the door to remove any hazard.
- All props should be of sturdy construction.
- All vertical and horizontal openings should be covered.
- Cut a ventilation hole over the smoke room and cover it with plywood.
 - Covering should be placed on the opening without tacking for easy removal if ventilation becomes necessary.

- Cover the windows, if necessary.
 - Use plywood or drywall.
 - Place on the outside and only lightly tack into place for easy removal in case of an emergency.
- Cut one corner of the door out so it can be closed over the hoseline if desired.
 - Smaller and/or more tightly sealed rooms will require less smoke generation to achieve the desired effect.

Required Elements

- Charged hoseline staffed by either the SCBA Confidence Exercise Instructor or Primary Coordinator Trainee.
- An appropriate number of Assistant Safety Officers inside to assist the students if problems develop.
- Ignitions Officer with hook or Adjunct Instructor assigned to smoke producer.
- Mask cleaning station, per Cal/OSHA.
 - Students must use this station as part of the exercise.
- Evacuation signal established.
- Rapid Intervention Crew.
 - Must be on standby any time live-fire training is being conducted.
 - Dedicated tool cache.
 - Dedicated radio frequency should be considered on complex burns.
- Personal accountability report (PAR).

Fuel

A crib or shopping carts are examples of acceptable methods of producing smoke. Burn materials should be both wet and dry HCFH.

Other Methods of Obscuring Students' Vision

- A safe chemical smoke.
- Reversing a Nomex hood (not utilizing live fire).
- Stuffing the mask with paper (not utilizing live fire).
- Covering the mask face piece.

Do not use flammable or combustible liquids in any form during a FC 3A course.

Tools

Usually no hand tools are needed to conduct the class. However, during course construction the SCBA Confidence Exercise Instructor will need typical hand and power tools used in the construction trade: air compressor, generator, power saw, nail gun, hammer, screw gun, nails, screws, and other common items used in building construction.

Safety

The SCBA Confidence Exercise Instructor will accompany the students at all times when they are engaged in the course. A charged hoseline will be in the room at all times to be used by either the SCBA Confidence Exercise Instructor or a Primary Coordinator Trainee. At least one Adjunct Instructor will be in the room to act as the Assistant Safety Officer and to check, monitor, and cool the fire as necessary

All instructors, the Assistant Safety Officer, and students should don full PPE prior to entering the smoke room. All PPE will be assessed prior to allowing students to participate in the exercise.

The SCBA Confidence Exercise shall not be conducted in the same building as any live-fire exercise.

Safety in this exercise is of paramount importance and will receive priority over all else.

Communications

Ensure that reliable communications are in place before commencement of operations. Have an operational plan for coordinated suppression and student evacuations in the event the fire extends into the attic or other areas not intended to burn during instruction.

Conducting the Exercise

When conducting the SCBA confidence exercise, there are many different acceptable methods to deliver the information. The SCBA Confidence Exercise Instructor shall ensure that the speaking points are covered and the information is understood by the students. An example of an acceptable delivery method is outlined below.

- Prepare the room prior to the students' arrival.
- Fill the room with smoke using either chemical smoke or live fire.
- Direct the students to use a right- or left-handed search pattern.
 - Pointing out light indicators, identifying sounds, and maintaining situational awareness of their location.
- Have the students enter the room in a crawl position and continue to move through the course until they complete the exercise.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Section 14: SCBA Confidence Exercise

- Keep track of the students' entry and exit times as well as the amount of air they consumed for the exercise.
 - As the students exit the drill, give them this information. This will give the students an indication of how efficiently they utilized their air. This also serves as a form of accountability.
- If time permits, let students having difficulty with the exercise go through the course a second time.

Use of a Confidence Course

One method of conducting the SCBA Confidence Exercise is to use a course setup in an existing structure and using a charged hoseline for the students to follow. Pallets can be used to construct the course. Moving floors, wire entanglements, diminishing ceilings, and restricted opens can be effectively used as methods of preparing students for the realities of interior fire fighting. Be creative, but do not create unsafe conditions.

The exercise starts when the student is instructed on how to follow the course by keeping contact with the hose. If a simulated victim is used, the "victim" must be located and retrieved by the students during each evolution. The students are finished when they exit with the simulated victim.

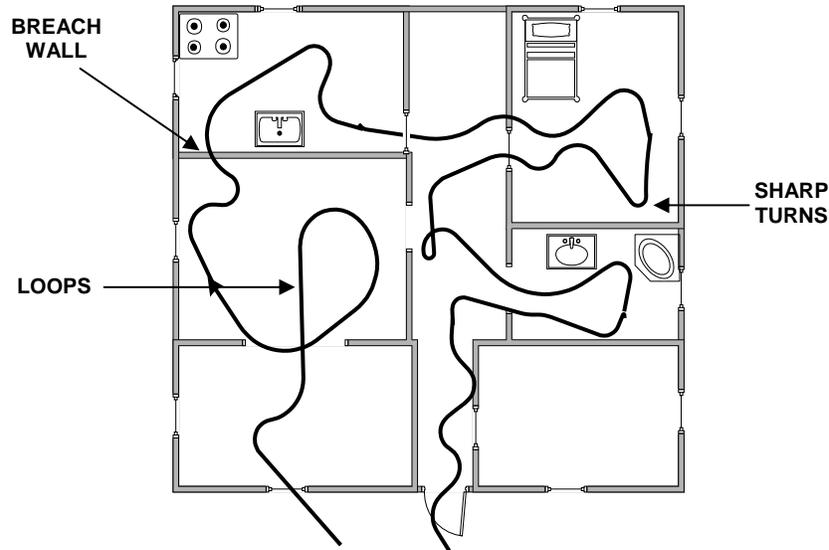
An additional discussion point is to tell the students to determine how much hose is in the course while they are completing the search. This will give them an opportunity to think while they are traversing the course.

Speaking Points

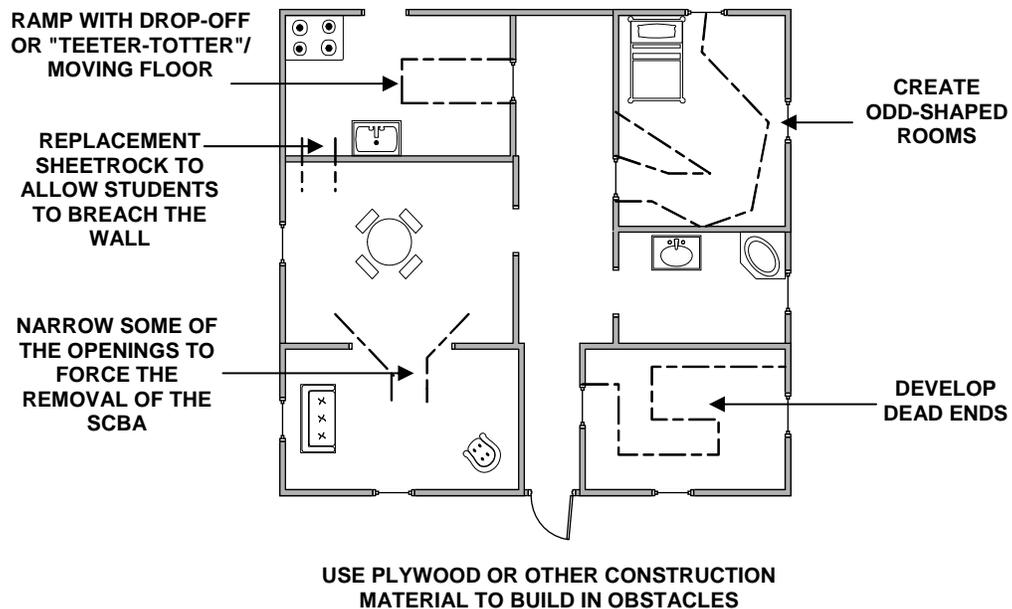
- Donning and doffing the SCBA inside a structure.
- Search techniques.
- Search tools.
- Changing profile.
- Buddy system.
- Buddy breathing.
- Loss of air techniques.
- Entanglement hazards and techniques.
- Forcible exiting.
- SCBA emergency procedures.
- Visual and audible indicators.
- RIC tactics.
- Situational awareness.
- Self awareness.
- Controlled breathing techniques.

SCBA CONFIDENCE COURSE

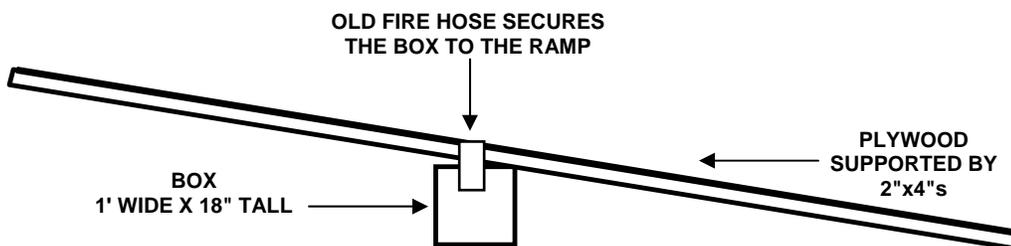
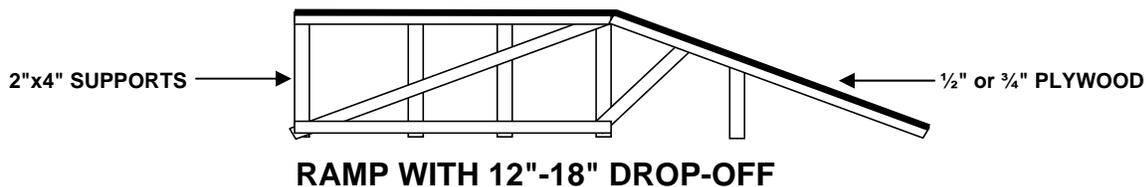
HOSE-ASSISTED SEARCH



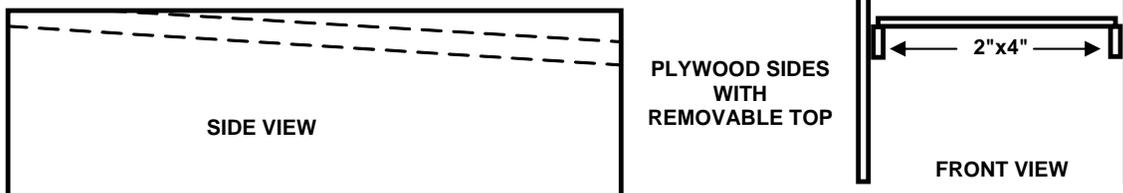
SEARCH WITH OBSTACLES



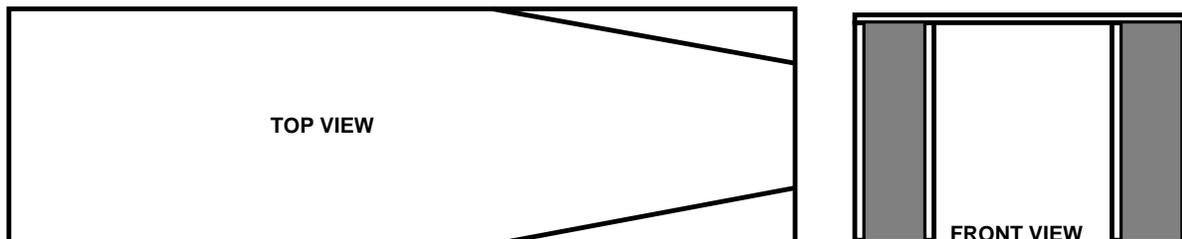
EXAMPLES OF VARIOUS OBSTACLE PROPS



TEETER-TOTTER OBSTACLE/SIMULATED MOVING FLOOR



CHUTE – DIMINISHING CEILING/SIMULATED ATTACK



CHUTE – NARROWING HALL

Section 15: Attic Fire Attack Exercise

Attic fires are among the more difficult types of fire to fight in the fire service today. During the FC 3A class, an exercise can be conducted to demonstrate effective methods of controlling an attic fire. The attic fire attack exercise is not one of the required evolutions for FC 3A, but if properly presented to a class, it will add invaluable experience to the students.

Planning

The attic fire attack exercise is a standalone evolution and no other Fire Control 3 activities can be permitted in the same structure. The plan will determine location and number of precut ventilation holes to be used as well as the planned direction of fire travel for the exercise.

Inspection

Thoroughly inspect all attic and roof areas to ensure the structure is a good candidate for an attic exercise. Construction features should be solid and the attic area free of hidden compartments and excess insulation. Evaluate attic insulation to ensure that it is of the amount and type that will accommodate a safe burn.

Room Set-up

- It may be necessary to remove HVAC systems or other heavy items overhead prior to conducting the exercise.
- If the amount or type of attic insulation is not conducive to live fire, it may also have to be removed.
- The floor area below the fire must be free of debris sufficient to allow students to move freely during fire attack.

Required Elements

- Assistant Safety Officer positioned on the exterior to monitor roof stability and smoke conditions.
- All vent louvers staffed as necessary.
- Attack Crew with charged hoseline.
- Charged safety line (not staffed by students).
- Two different water sources for the attack and safety lines.
- Coordination with Ventilation Techniques Instructor.
- Ignitions Officer with hook.

- Evacuation signal established.
- Rapid Intervention Crew.
 - Must be on standby any time live-fire training is being conducted.
 - Dedicated tool cache.
 - Dedicated radio frequency should be considered on complex burns.
- Personal accountability report (PAR).

Fuel

The amount and type of fuel used in the attic exercise should be limited in quantity. The emphasis is to demonstrate fire behavior and travel within the attic. Cut pallets or HCFH may be used.

Tools

Tools used to combat attic fires vary by department and types of construction.

Piercing Nozzle

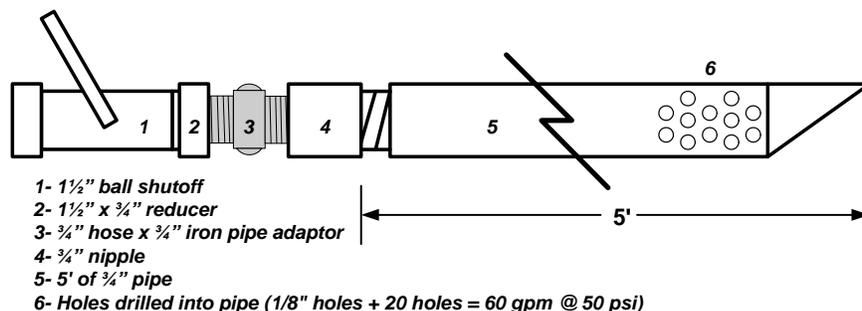
One of the most efficient instructional tools for this exercise is an attic or piercing nozzle. This nozzle can be placed into service and address fires that have unintentionally extended into the attic during interior attack without compromising the ceiling of the room currently being used or rooms of future use.

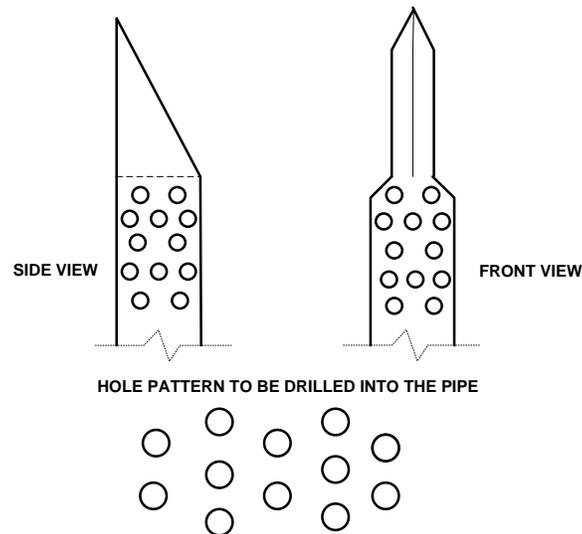
This nozzle should be left connected to a charged hoseline during the exercise. It should be kept in a location known by all personnel participating in the class and should be equipped with enough hose to reach all areas of the training structure.

How to Construct a Piercing Nozzle

A piercing nozzle is inexpensive and simple to manufacture. The nozzle should be approximately 5½-feet long. This will give the average fire fighter a 13½-foot reach, which should be adequate for most dwellings or small businesses.

To form the end, use a vise or a power spreader to pinch the tip of the pipe. The tip is then cut at a 55° angle. Approximately twenty 1/8" holes should be drilled in the tip. This nozzle can be used to pierce through drywall or plaster.





Safety

All nonessential personnel must exit the structure prior to conducting this exercise. A PAR must be conducted before and after each evolution. Only allow enough controlled heat to complete the exercise. Ensure roof integrity throughout the exercise through repeated evaluation.

Communications

Ensure that reliable communications are in place before commencement of operations. Have an operational plan for coordinated suppression and student evacuations in the event the fire extends into other areas not intended to burn during instruction.

An Assistant Safety Officer shall be posted outside the structure with a view of the roof and in direct communication with the Attic Fire Attack Instructor to warn him or her of the first sign of roof sagging or any unwanted fire.

Conducting the Exercise

When conducting the attic fire attack exercise, there are many different acceptable methods to deliver the information. The Attic Fire Attack Instructor shall ensure that the speaking points are covered and the information is understood by the students. An example of an acceptable delivery method is outlined below.

- Explain the expectations of this exercise during a pre-exercise safety briefing.
- The crews shall be fire ready.
 - Under an adjunct instructor's supervision, the students can be checking each other for the PPE donned properly, and the SCBAs have the predetermined amount of air supply.

- A recommended checklist should be gone over prior to making entry into the structure for the fire attack. For example:
 - Safety Crew is ready.
 - Check nozzle patterns (right to fight – left to live).
 - Go on air.
 - Make entry as directed by the Attic Fire Attack Instructor.
- The Attic Fire Attack Instructor and Attack Crew are in place prior to ignition.
- Conduct a crew critique of the attack.
- Rotate crewmembers while the Ignition Officer rebuilds the fire for attack so everyone has a chance at the nozzle.

The demonstration on how to use this tool should be done in an area where students may also view the attic area. Show half the students how to "stick" the nozzle while the other half watch the nozzle discharge in the attic, then rotate the students. A fire may be started in the attic if conditions permit. This requires a great deal of coordination and close supervision. It is also possible to show the operation of the nozzle by piercing down through a floor into a room below. Have the students in the room below as a vantage point to witness the application of water onto a potential fire in this area. Piercing interior walls can also serve for purpose of demonstration. Inspect the attic after each evolution too seek unwanted fire and to re-evaluate roof integrity.

Speaking Points

- Coordinated ventilation efforts with interior attack.
- Initial application of water between unburned and burned.
- Structural integrity.
- Overhead hazards (air handling equipment).
- Tools necessary to affect a proficient attic fire fight.
- Many applications of a piercing nozzle (attics, vehicles, rubbish, etc.).
- Applying foam through a piercing nozzle.

Section 16: Basement Fire Attack Exercise

The opportunity to fight a basement fire during a FC 3A class is extremely valuable. The objective of this instruction is to build the fire fighter's confidence in attacking basement fires. While most fire departments carry a cellar nozzle, fire fighters rarely see it used properly. A FC 3A class is an opportunity to demonstrate various methods of attacking this type of fire. The emphasis of this exercise is to allow students to see effective management of the smoke and gases produced in a basement fire and allow them to safely access the basement via proper ventilation and attack methods.

Planning

A thorough inspection of the basement area must be made prior to including it as an exercise. Anticipated fire travel, building construction, basement exiting, and number of exercises that may be safely conducted are preplanning concerns.

- Consider using the first floor of a two-story structure for this exercise.
 - A minimum of two exits are required from the second story.

Inspection

Thoroughly inspect the basement area and floor above to ensure its construction will allow for a safe basement exercise. Make sure that exiting from the basement is sufficient to accommodate the number of students to occupy the area.

Room Set-up

- The basement must be thoroughly cleaned out; surprises can be dangerous.
- Cut a hole over the point where the fire will be located, and cover it with wood.
 - The hole should only be large enough for a cellar or piercing nozzle.
 - The wood covering should not be nailed down.
- If possible, cut a ventilation hole approximately 3' x 3' near a window on the leeward side of the structure.
 - Use wood to cover and do not nail it down.
- All doors to the basement must be in proper working order.
- All door-locking hardware must be removed.
- The stairs should be strong enough to support several fire fighters in full protective gear, with charged hoselines.
- If a railing is used, ensure it is in safe condition.

If the stairs and railing, or passageway into the basement are not in safe order and cannot be repaired, DO NOT ATTEMPT THIS EXERCISE.

Required Elements

- Assistant Safety Officer positioned to monitor floor stability and smoke conditions.
- All vent holes staffed as necessary.
- Attack Crew with charged hoseline.
- Safety Crew with charged hoseline.
- Charged safety line (not staffed by students).
- Two different water sources for the attack and safety lines.
- Ignitions Officer with hook.
- Coordination with Ventilation Techniques Instructor.
- Evacuation signal established.
- Rapid Intervention Crew.
 - Must be on standby any time live-fire training is being conducted.
 - Dedicated tool cache.
 - Dedicated radio frequency should be considered on complex burns.
- Personal accountability report (PAR).

Fuel

- Use minimal amounts of fuel loading to prevent the fire from generating too much heat in the basement area.
- Take only enough material into the basement to create the desired effect.
 - Wood.
 - HCFH.
 - Should be moist to develop a smoky fire, but not a hot fire.
- Place the material directly under the nozzle hole.

Tools

Cellar Nozzle

The basement fire attack exercise allows the instructor to demonstrate the unique use of the cellar nozzle. This nozzle's primary use is in the basement but can also be an effective tool for use with dock fires. Ensure that the pattern of the cellar nozzle is not impacted by the floor joists or other structure members.

Piercing Nozzle

A piercing nozzle may also prove to be an effective tool to use or demonstrate during the basement fire attack exercise.

Safety

If the basement exercise is done prior to interior fire fighting, particular safeguards must be in place to prevent personnel from falling through ventilation holes cut for the basement work. The hole(s) may be covered with a nailed down piece of plywood or adequately mark the hole(s) with paint or tape. As with all such hazards, personnel shall be advised to avoid the painted or taped areas prior to conducting the interior fire fighting.

A basement fire attack is one of the most dangerous evolutions of fire fighting. Measures must be taken to ensure students' safety at all times during this phase of the class.

If it is deemed unsafe to start a fire in the basement, having the crew perform the exercise without fire can still help build their experience.

Conducting the Exercise

When conducting the interior fire attack exercise, there are many different acceptable methods to deliver the information. The Basement Fire Attack Instructor shall ensure that the speaking points are covered and the information is understood by the students. An example of an acceptable delivery method is outlined below.

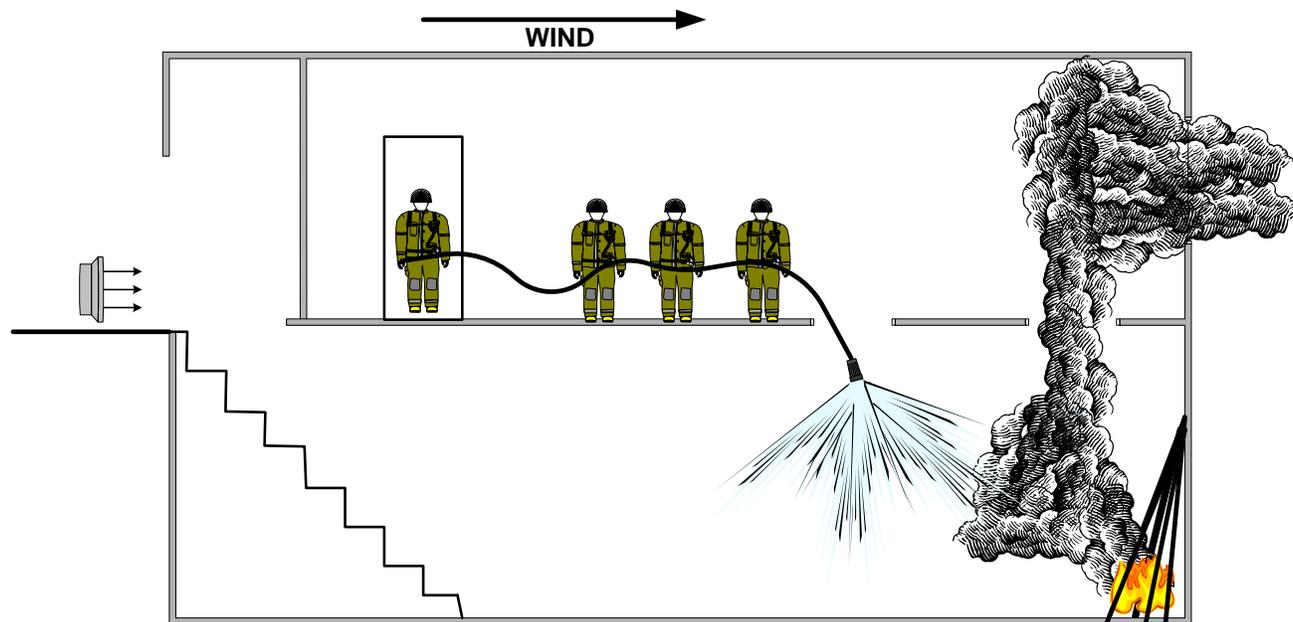
- Explain the expectations of this exercise during a pre-exercise safety briefing.
- The crews shall be fire ready.
 - Under an adjunct instructor's supervision, the students can be checking each other for the PPE donned properly, and the SCBAs have the predetermined amount of minimal air supply.
- The hoselines are from two separate water sources.
 - Minimum 1½" diameter.
 - Placed with no loops on the ground near the entry.
 - Loops in the hose can close during the entry and kink the fire hose.
 - The crew is placed on the same side of the attack lines.
- A recommended checklist should be gone over prior to making entry into the structure for the fire attack. For example:
 - Safety Crew is ready.
 - Check nozzle patterns (right to fight – left to live).
 - Go on air.
- The Basement Fire Attack Instructor and Attack Crew are in place prior to ignition.

- Take the students into the basement to become familiar with its configuration. Explain the exercise, and then have them practice moving in and out with full PPE and charged hoselines.
- During the basement fire attack exercise, three of the crews will be in SCBA. One crew will be the basement fire Attack Crew. They will be in full PPE and have a charged 1½" or 1¾" hoseline with a 95 gpm or larger nozzle. Safety line(s) shall be in place and staffed by Adjunct Instructor(s).
- Another crew operates the cellar or piercing nozzle. They also will be in full PPE.
- A third crew will be a Safety Crew with full PPE. This crew will be set up the same as the cellar Attack Crew.
- The fourth crew will be the Ventilation Crew. They will be in full PPE and have SCBA readily available. Their equipment will be two or more ventilation fans and a pulling tool of appropriate length for basement ceiling height.
- After the crews have been positioned, have the Ignition Officer light the crib. All personnel leave the basement. Ensure the fire has an adequate air supply or you may have a backdraft. It is recommended to leave the basement entry open. When the fire has reached the desired effect, use the cellar or piercing nozzle to knock the fire down. This operation should almost completely extinguish the fire. Leave the cellar or piercing nozzle flowing and have the Attack Crew enter the basement. At the same time, start the ventilation process.
- The use of a cellar or piercing nozzle while the Attack Crew is in the basement should be done at the discretion of the instructor, as maintenance of a thermal balance can be a concern.
- Conduct a crew critique of the attack.
- Rotate crewmembers while the Ignition Officer rebuilds the fire for attack so everyone has a chance at the nozzle.

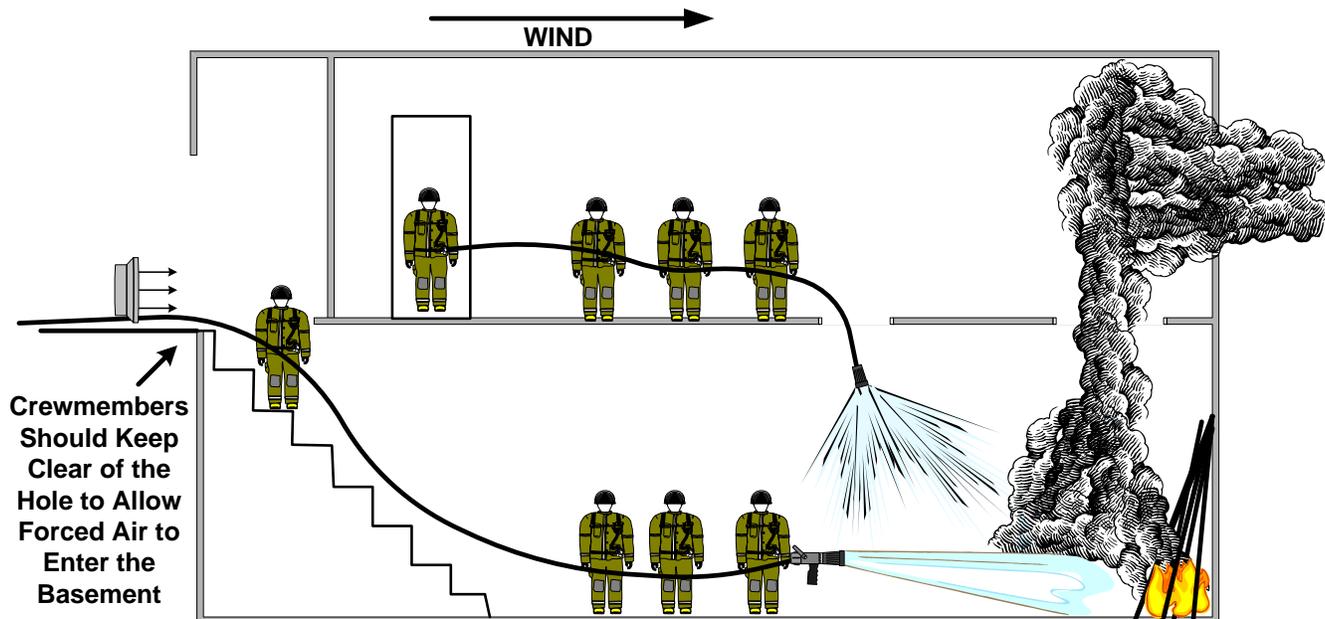
Speaking Points

- Piercing nozzles.
- Cellar nozzles.
- Ventilation for basement fires.
- Stairwell safety.
- Accessing basement fires.
- Coordinated fire attack.
- Thermal balance.
- Collapse potential signs.
- Hazardous materials storage.

STAFFED SAFETY LINES MUST BE IN PLACE BEFORE THE EXERCISE BEGINS



A Basement Attack Begins by Using a Cellar Nozzle from the Floor Above to Knock Down the Majority of the Fire



Once the Fire is Cooled Down, a Crew will Make Entry into the Basement to Extinguish the Remaining Fire

Appendix A: NFPA 1403

(INSERT YOUR COPY OF THE LATEST EDITION OF NFPA 1403, available at NFPA, Cal Chiefs Bookstore or other bookstore locations)

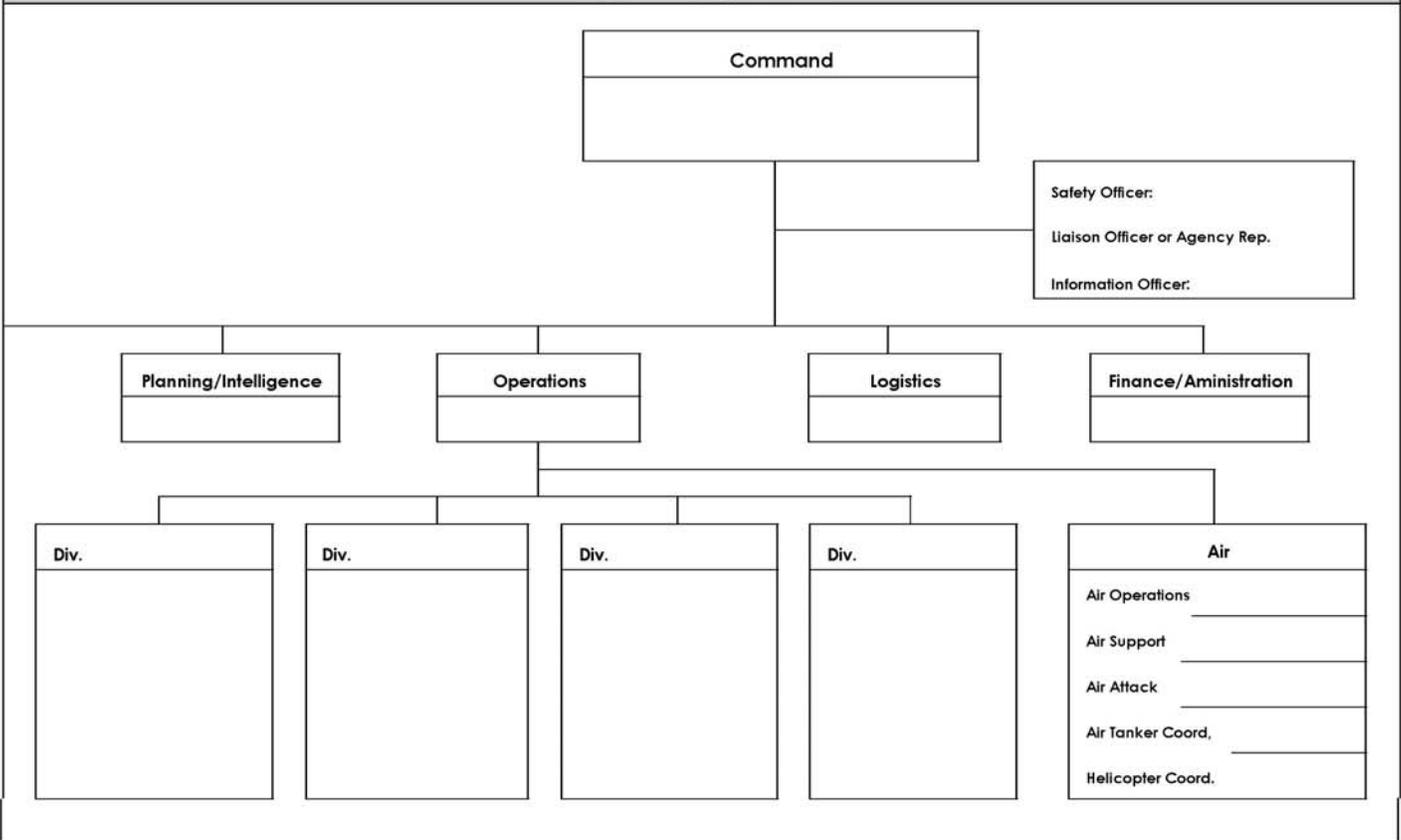
Appendix B: ICS Forms

- ICS 201: Incident Briefing
- ICS 202: Incident Objectives
- ICS 203: Organization Assignment List
- ICS 204: Division Assignment List
- ICS 205: Incident Radio Communications Plan
- ICS 206: Medical Plan
- ICS 211: Incident Check-in List
- ICS 214: Unit Log

INCIDENT BRIEFING	1. Incident Name	2. Date	3. Time
--------------------------	------------------	---------	---------

4. Map Sketch

5. Current Organization



Page 1 of	6. Prepared by (Name and Position)
------------------	------------------------------------

ORGANIZATION ASSIGNMENT LIST		9. Operations Section	
1. Incident Name		Op's Chief	
2. Date		Deputy	
3. Time		a. Branch I	
4. Operational Period		Branch Director	
Position	Name	Deputy	
5. Incident Commander and Command Staff		Division/Group	
Incident Commander		Division/Group	
Deputy		Division/Group	
Safety Officer		Division/Group	
Information Officer		Staging Area	
Liaison Officer			
6. Agency Representative		b. Branch II	
Agency	Name	Branch Director	
		Deputy	
		Division/Group	
		Staging Area	
7. Planning/Intelligence Section		c. Branch III	
Plans/Intel Chief		Branch Director	
Deputy		Deputy	
Resources Unit		Division/Group	
Situation Unit		Division/Group	
Documentation Unit		Division/Group	
Demobilization Unit		Division/Group	
Technical Specialists		Division/Group	
Human Resources		d. Air Operations Branch	
Training		Air Operations Branch Director	
GIS		Air Tactical Supervisor	
		Air Support Supervisor	
		Helicopter Coordinator	
		Air Tanker Coordinator	
8. Logistics Section		10. Finance/Administration Section	
Logistics Chief		Finance/Admin. Chief	
Deputy		Deputy	
Supply Unit		Time Unit	
Facilities Unit		Procurement Unit	
Ground Support Unit		Compensation/Claims Unit	
Communications Unit		Cost Unit	
Medical Unit		Prepared by (Resource Unit Leader)	
Food Unit			

INCIDENT RADIO COMMUNICATIONS PLAN		Incident Name				Date/Time Prepared	Operational Period Date/Time				
Ch #	Function	Channel Name/Trunked Radio System Talkgroup	Assignment	RX Freq	N or W	RX Tone/NAC	TX Freq	N or W	TX Tone/NAC	Mode A, D or M	Remarks
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
Prepared by (Communications Unit)											
Incident Location						County	State	Latitude	N	Longitude	W

The convention calls for frequency lists to show four digits after the decimal place, followed by either an "N" or a "W", depending on whether the frequency is narrow or wide band. Mode refers to either "A" or "D" indicating analog or digital (e.g. Project 25) or "M" indicating mixed mode. All channels are shown as if programmed in a control station, mobile or portable radio. Repeater and base stations must be programmed with the Rx and Tx reversed.

MEDICAL PLAN	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD		
5. INCIDENT MEDICAL AID STATION						
MEDICAL AID STATIONS	LOCATION			PARA MEDICS? YES		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
6. TRANSPORTATION						
A. AMBULANCE SERVICES						
NAME	ADDRESS	PHONE	PARA MEDICS? YES			
			<input type="checkbox"/>			
			<input type="checkbox"/>			
			<input type="checkbox"/>			
			<input type="checkbox"/>			
			<input type="checkbox"/>			
B. INCIDENT AMBULANCES						
NAME	LOCATION			PARA MEDICS? YES		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		
7. HOSPITALS						
NAME	ADDRESS	PHONE	TRAVEL TIME	TRAUMA CENTER?	HELIPAD ?	BURN CENTER?
				YES	YES	YES
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. MEDICAL EMERGENCY PROCEDURES						
9. PREPARED BY (MEDICAL UNIT LEADER)				10. REVIEWED BY (SAFETY OFFICER)		

Appendix C: Forms and Information

- Crew Rotation
- CARB letter
- NESHAP
- Liability Release Form
- Acquired Structure Burn Checklist
- Public Information Officer Log
- Notice to Neighboring Properties
- Permit/Notification Quick Reference Matrix

CREW ROTATION

Crew	1	2	3	4	5
Fire Behavior	Delivered in a Single Session				
Ventilation Techniques					
Interior Fire Attack					
RIC					
Rehab					
Exterior Fire Attack	Delivered in a Single Session				



Crew is **currently** training at this station



Crew has **finished** training at this station



Winston H. Hickox
Agency Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman

1001 I Street • P.O. Box 2815 • Sacramento, California 95812 • www.arb.ca.gov



Gray Davis
Governor

MEMORANDUM

TO: California Fire Chiefs

FROM: United States Environmental Protection Agency (EPA)
California Air Resources Board (CARB)

DATE: June 21, 2001

SUBJECT: Fire Department Training Burns

In 1990 and 1994 the Environmental Protection Agency revised asbestos regulations that have an effect on fire department training burns. The regulations are the Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) and the Model Accreditation Plan (MAP).

The NESHAP requires that all regulated asbestos containing material be removed from facilities intentionally burned for training purposes by fire departments. This requirement includes the removal of such asbestos containing material as floor tiles and asphaltic roofing. These asbestos removal requirements apply to all structures including single family residences utilized by a fire department in a training burn. In addition, the NESHAP requires that EPA, CARB or delegated local Air Pollution Control Districts be notified of the training ten working days prior to the burn.

Some fire departments are submitting notifications stating an asbestos survey was conducted by a "visual determination". The NESHAP requires that a thorough inspection for asbestos be conducted prior to the demolition of a structure under 40 CFR Section 61.145. A "visual determination" does not meet this requirement.

In addition to NESHAP requirements, EPA's MAP requires that only certified Asbestos Hazard Emergency Response Act (AHERA) Inspectors can conduct surveys and sample suspect asbestos containing material. MAP requirements are mandated under Section 15 (a)(3) of the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). The AHERA certification requirements pertain to all public and commercial buildings, including those structures used by fire departments for training burns. Requirements for the AHERA Building Inspectors Course can be found in 40 CFR part 763. The Federal Occupational Safety and Health Administration regulation also require AHERA certified individuals to conduct asbestos inspections.

The California Occupational Safety and Health Administration (CAL/OSHA) regulation requires asbestos surveys to be conducted by individuals who are AHERA certified and registered as Certified Asbestos Consultant (CAC) or Site Surveillance Technician (SST) in California.

Violation of NESHAP and AHERA regulations can result in fines of up to \$25,000 per day per violation or criminal prosecution.

EPA and CARB will distribute follow-up materials to your training officers to assist your department in complying with asbestos regulations. Compliance with these rules will reduce exposure to your personnel as well as reduce risk to the general population. If you have any questions on asbestos removal regulations and fire departments, please feel free to contact Ahmad Najjar of CARB at (916)322-6036 or Robert Trotter of US EPA at (415)744-1145.

NESHAP FORM

ASBESTOS NESHAP NOTIFICATION OF DEMOLITION AND RENOVATION

OPERATOR PROJECT #	POSTMARK	DATE RECEIVED	NOTIFICATION #		
I. TYPE OF NOTIFICATION (O - ORIGINAL C- CANCELLED) (R - REVISION -- WRITE REVISION #?) _____					
II. FACILITY INFORMATION (IDENTIFY OWNER, REMOVAL CONTRACTOR, AND OTHER OPERATOR)					
OWNER NAME:					
ADDRESS:					
CITY:	County:	State:	ZIP:		
CONTACT:			Telephone:		
ASBESTOS REMOVAL CONTRACTOR:					
ADDRESS:					
CITY:	State:	Zip:			
CONTACT:		Telephone:	Title:		
DEMOLITION CONTRACTOR:					
ADDRESS:					
CITY:	State:	ZIP			
CONTACT:		Telephone:	Title:		
III. TYPE OF OPERATION: (D-DEMO O-ORDERED DEMO R-RENOVATION E-EMERGENCY RENOVATION):					
IV. IS ASBESTOS PRESENT? (YES / NO)	List Type of Asbestos Material (s) to be Removed:				
V. FACILITY DESCRIPTION (INCLUDE BUILDING NAME, NUMBER AND FLOOR OR ROOM NUMBER)					
BUDG NAME:					
ADDRESS:					
CITY:	County:	State:	ZIP:		
SITE LOCATION:					
BUILDING SIZE:	Number of floors:	Age in years:			
PRESENT USE:	PRIOR USE:				
VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:					
VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING: 1. REGULATED ACM TO BE REMOVED 2. CATEGORY I ACM NOT REMOVED 3. CATEGORY II ACM NOT REMOVED	RACM TO BE REMOVED	NONFRIABLE ASBESTOS MATERIAL TO BE REMOVED		NONFRIABLE ASBESTOS MATERIAL NOT TO BE BEREMOVED	
		CAT I	CAT II	CAT I	CAT II
PIPES: (Linear Feet)					
SURFACE AREA (Square Feet)					
VOL. RACM OFF FACILITY COMPONENT (Cubic Feet)					
VIII. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start:				Complete:	
IX. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start:				Complete:	
Weekdays Work Hours:			Weekend Work Hours:		

X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:		
XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE.		
XII. WASTE TRANSPORTER #1		
ADDRESS:		
CITY:	STATE	ZIP
CONTACT PERSON:	TELEPHONE:	
XIII. WASTE DISPOSAL SITE:		
NAME:		
LOCATION:		
CITY:	STATE	ZIP
TELEPHONE:		
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:		
NAME:	TITLE:	
AUTHORITY:		
DATE OF ORDER (MM/DD/YY)	DATE ORDERED TO BEGIN: (MM/DD/YY)	
XV. FOR EMERGENCY RENOVATIONS		
a) DATE AND HOUR OF EMERGENCY: (MM/DD/YY)		
b) DESCRIPTION OF THE SUDDEN, UNEXPECTED EVENT:		
c) EXPLANATION OF HOW THE EVENT CAUSED UNSAFE CONDITIONS OR WOULD CAUSE EQUIPMENT DAMAGE OR AN UNREASONABLE FINANCIAL BURDEN:		
XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.		
XVII. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS (REQUIRED 1 YEAR AFTER PROMULGATION)		
_____		_____
(SIGNATURE OF OWNER/OPERATOR)		(DATE)
XVIII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.		
_____		_____
(SIGNATURE OF OWNER/OPERATOR)		(DATE)

LIABILITY RELEASE FORM

DATE: _____

TO: _____ **Fire Protection District/Department**

FROM: _____

SUBJECT: Planned Live-fire Safety Training Exercise

This is to certify that the undersigned is the owner and/or legal occupant and possessor of real property commonly described as:

and the undersigned has the full authority to authorize the _____ Fire Protection District/Department to facilitate training at the above described property by controlled burning.

The undersigned hereby authorizes the _____ Fire Protection District/ Department to burn the above property. That the undersigned hereby covenants, declares, warrants, and represents the following:

WHEREAS:

- * there is no insurance obligation that can be violated; and
- * there are no liens on the property; and
- * there are no legal obligations that can be violated by said burning; and
- * the undersigned has public liability and property damage insurance covering the claims of third persons for injuries and / or property damage proximately caused by said burning.

The undersigned hereby releases the _____ Fire Protection District/Department of any claim of liability that the undersigned may have in connection with the said burning, and acknowledges that such burning and all activities connected therein is performed on order of the undersigned and the undersigned agrees to be responsible therefore.

In consideration of this agreement, the undersigned does hereby covenant and agree to indemnify and hold harmless the _____ Fire Protection District/Department from any and all claims of the undersigned. Furthermore, I indemnify them or any other person or persons whomsoever for personal injuries and/or property damage arising out of or incidental to said burning inside, upon, or outside of said premises.

The undersigned agree that the _____ Fire Protection District/Department will not be held responsible for any materials removed from the premises nor will the Fire Protection District / Department be responsible for any clean up or damage to any plant, animal, human, environment, or other properties.

The undersigned further states that all public utilities and other agencies that have property in the area described above have been notified of the burning and have had the opportunity of having their property removed.

SIGNED: _____

DATE: _____

WITNESSED: _____

DATE: _____

(Fire District/Department Representative)

ACQUIRED STRUCTURE BURN CHECKLIST

Project Name: _____ Date: _____

Location: _____

Contact Person(s): _____ Phone: _____

Project Description: _____

ITEM	PERFORMED BY	DATE/INITIALS
1. [] Determine Training Value	Fire Agency	_____
2. [] Live-fire Training Plan Packet to Owner	Fire Agency	_____
3. [] Proof of Cancellation of Fire Insurance	Owner	_____
4. [] Historical Society (>50 years old)	Owner	_____
5. [] Copy of Deed-No Lien Holders	Owner	_____
6. [] Liability Release Form	Owner	_____
7. [] Demolition Permit	Owner	_____
8. [] Removal of ACMs	Owner	_____
9. [] Air Pollution Control Burn Permit	Fire Agency	_____
10. [] Schedule with State Fire Training (FSTEP)	Fire Agency	_____
11. [] Federal EPA-NESHAP Notification (form sent)	Fire Agency	_____
12. [] State Air Resources Board Notification	Fire Agency	_____
13. [] Utilities Secured	Owner	_____
14. [] Political Entities Notified (Mayor, Manager, etc.)	Fire Agency	_____
15. [] Ambulance Company Notified	Fire Agency	_____
16. [] Water Department Notified	Fire Agency	_____
17. [] Local Airports Notified	Fire Agency	_____
18. [] Incident Action Plan (safety plan)	Fire Agency	_____
19. [] Neighbors Notified	Fire Agency	_____
20. [] Law Enforcement Notified	Fire Agency	_____
21. [] Portable Toilets	Owner/Fire Agency	_____
22. [] Logistics (food, water)	Owner/Fire Agency	_____
23. [] Safety of Scene During Operations	Fire Agency	_____
24. [] Security of Scene After Burning, Clean Up	Owner	_____
25. [] After-action Review	Fire Agency	_____
26. [] Follow-up Call to Owner	Fire Agency	_____
27. [] Instructor Evaluations and Documentation	Fire Agency	_____
28.		_____
29.		_____
30.		_____

NOTICE TO NEIGHBORING PROPERTIES

This is to inform you that your fire department will be conducting a live-fire safety training exercise(s) involving:

Vehicle Vegetation Structural

on the property located at:

The date(s) for the training are _____ ,
from the hours of _____ to _____ .

This type of training is essential to providing this community with well-trained fire fighters. The exercise will allow our personnel a chance to enhance their skills in suppression activities and to work safely in a controlled environment for future fire and life safety needs.

Please note that smoke and flame may be visible from time to time. All precautions have been made for the safety of surrounding properties.

We sincerely hope this training opportunity does not cause any disruption of your normal activities.

Thank you, for your indulgence and cooperation.

For further information contact: _____
Live-fire Safety Training Exercise Coordinator

Contact Numbers:

Office: (_____) _____

Cell: (_____) _____

PERMIT/NOTIFICATION QUICK REFERENCE MATRIX

Permit and Notification Requirements	Type of Training Burn		
	Vehicle	Vegetation	Structure
<i>U.S. EPA</i>	NESHAP applies the same as structure notification	No requirement	NESHAP applies; fire agency notification 10 working days before burn plus obtain copy of asbestos report from owner
<i>California Air Resources Board</i>			
<i>Local AQMD</i>	Fire agency obtain burn permit		Fire agency obtain burn permit with copy of asbestos report from owner
<i>Local Building Department</i>	No requirement		Owner obtain demolition permit
<i>Local Historical Society/Planning Department</i>	No requirement		Owner contacts society or department; if structure is over 50-years-old, a determination of historical significance is required
<i>California Department of Forestry and Fire Protection (CAL FIRE)</i>	Notification to the Administrative Unit if in or near the State Responsibility Area (SRA)		
<i>Community</i>	Door-to-door, or telephone affected neighbors	Letters of notification should be sent to all affected areas and the media	Letters of notification should be sent to all affected area homes and businesses, including the media
<i>Local Water Agency</i>	No requirement		Possible permit required, depending on the estimated total gallons to be used
<i>State Fire Training</i>	No requirement		Request approval 6 weeks prior to the beginning date in order to issue Fire Control 3A certificates

This reference matrix is not intended to be accurate for every county or jurisdiction with in California. It should only to be used as a guide.

Appendix D: Primary Coordinator Trainee Task Book

- Qualifications
 - Primary Coordinator Trainee
 - Evaluator
- Responsibilities
 - Primary Coordinator Trainee
 - Evaluator
- Instruction for Completing the Task Book
- Student Evaluation Sheets
- Evaluator Summary Sheets



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Appendix D: Primary Coordinator Trainee Task Book

Appendix D: Primary Coordinator Trainee Task Book

The Fire Control 3A Primary Coordinator Trainee Task Book lists every performance requirement (task) in a format that allows the trainee to be evaluated against written guidelines. Successful performance of all tasks must be observed and recorded by **three different Fire Control 3A Primary and/or Senior Coordinators (Evaluator)**. Evaluation and confirmation of the trainee's performance of all the tasks shall involve three separate evaluators on one or more Fire Control 3A training burns. It is essential that a trainee's performance be critically evaluated and accurately recorded by each Evaluator.

After the Primary Coordinator Trainee has demonstrated competency in each area and the task book is complete, he or she may apply to become a registered Fire Control 3A Primary Coordinator with State Fire Training once the educational, course work, and experience criteria have been met.

QUALIFICATIONS

Primary Coordinator Trainee

- Successfully completed a Fire Control 3 or 3A class.
- Successfully completed Instructor Training [one (1) of the following five (5) options]:
 - Have attended and passed the qualifying SFT Instructor courses.
 - Have a valid community college teaching credential.
 - Completed the UC/CSU 60-hour Techniques of Teaching course.
 - Completed the NFA's Fire Service Instructional Methodology course.
 - Completed four semester units of upper division credit in educational materials, methods, and curriculum development.

Evaluator

- Be a registered Fire Control 3A Primary and/or Senior Coordinator in good standing with State Fire Training.

RESPONSIBILITIES

Primary Coordinator Trainee

- Review and understand all site requirements, equipment standards, and the material in the Fire Control 3A Course Guide and the NFPA 1403: Standard on Live Fire Training Evolutions.
- Review and understand the process for completing a Primary Coordinator Trainee Task Book.
- Ensure the Primary Coordinator Trainee Task Book is accurately recorded and maintained.
- Successfully complete the Primary Coordinator Trainee Task Book within three (3) years of beginning the task book process.
- Retain a completed copy of his or her Primary Coordinator Trainee Task Book in their personal and/or career records.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Appendix D: Primary Coordinator Trainee Task Book

Evaluator

- Be qualified and proficient.
- Explain to the Primary Coordinator Trainee the purpose of and process for completing the task book.
- Explain to the Primary Coordinator Trainee his or her responsibilities.
- Meet with the Primary Coordinator Trainee and determine past experiences, current qualifications, and desired objectives/goals.
- Confirm with the Primary Coordinator Trainee, prior to his or her performance, which tasks will be evaluated.
- Accurately evaluate each task being performed by the Primary Coordinator Trainee.
- Document each task completed by the trainee on the Primary Coordinator Trainee Task Book.
 - Performance shall be documented by the evaluator directly on the task book.
 - SFT's assigned class code.
 - Date performance occurred.
 - Evaluator's initials.
- Document your final evaluation of the Primary Coordinator Trainee on the Evaluation Summary page.

INSTRUCTION FOR COMPLETING THE TASK BOOK

The Fire Control 3A Primary Coordinator Trainee Task Book allows the Evaluator to record a Primary Coordinator Trainee's performance for delivering all aspects of a Fire Control 3A class. These evaluations are made by observing the Primary Coordinator Trainee's administrative skills, presentation abilities, and manipulative performance techniques.

Task Book Headings

Primary Coordinator Trainee:	Enter the trainee's name.
Tasks:	Lists every component required of a Primary Coordinator in the Fire Control 3A Course Guide.
Code:	Lists when the task needs to be completed or performed.
Grade:	Area to record the Primary Coordinator Trainee's performance.
Section:	Lists the section referenced from the Fire Control 3A Course Guide.
Date Observed:	The Evaluator enters the date the Primary Coordinator Trainee was assessed.
Evaluator's Initials:	The Evaluator enters his or her initials.



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Appendix D: Primary Coordinator Trainee Task Book

PRIMARY COORDINATOR TRAINEE:

PERFORMANCE STANDARD: All tasks must be demonstrated by the Primary Coordinator Trainee and evaluated by a Fire Control 3A Primary or Senior Coordinator. Tasks graded "P" must be functional and safe according to the Fire Control 3A Course Guide.

CODE: "P" - Must be completed *prior* to the class.

"D" - Must be completed *during* the class.

GRADE: "P" - Successfully met the performance standard.

"F" - Did not meet the performance standard.

Tasks	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
ADMINISTRATION								
1. Understands all site requirements	1	P						
2. Understands all equipment standards	1	P						
3. Understands the material in the FC 3A Course Guide	1	P						
4. Understands the information in NFPA 1403: Standard on Live Fire Training Evolutions	1	P						
5. Understands the process for becoming a registered Fire Control 3A Primary Coordinator	1	P						
6. FC 3A course approval secured from State Fire Training	2	P						
STAFF ASSIGNMENTS								
1. Staff assignments made based on the needs of the burn	2	P						
QUALIFYING THE ACQUIRED STRUCTURE								
1. Walk around performed	4	P						
2. Asbestos and NESHAP compliant	4	P						
3. Railroad right-of-way cleared	4	P						
4. Adequate water supply determined	4	P						
5. Traffic conditions considered	4	P						
6. Training value determined	4	P						
SURVEYING THE STRUCTURE								
1. Type of building identified	5	P						
2. Number of stories identified	5	P						
3. Floor construction identified	5	P						
4. Wall construction identified	5	P						
5. Roof construction identified	5	P						
6. Stairs and stair wells inspected	5	P						
7. Attic space identified	5	P						
8. Basement identified	5	P						
Hazards Considered								
9. Exposures	5	P						
10. Overhead wires	5	P						



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



Appendix D: Primary Coordinator Trainee Task Book

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Tasks	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
11. Trees, shrubs, and other landscaping	5	P						
12. Condition of the structure	5	P						
13. ACMs	5	P						
14. Weather conditions	5	P						
15. Holes in the floor, walls, and roof	5	P						
16. Mineshafts	5	P						
17. HVAC units	5	P						
18. Chimneys	5	P						
19. Septic tanks	5	P						
20. Neighbors and businesses	5	P						
21. Exits	5	P						
22. Hazardous materials on site	5	P						
23. Fuel types	5	P						
DOCUMENTATION								
1. All required documents coordinated with SFT	2	P						
2. Incident Action Plan developed	2,7	P						
3. Incident documentation compiled for archiving	2	P						
Received From the Property Owner								
4. Signed liability release form for the property	7	P						
5. Current property's parcel number from the public tax record	7	P						
6. Demolition permit from the jurisdiction's building department	7	P						
7. Written notarized proof of cancellation of fire insurance	7	P						
8. Submittal of the "Clearance Letter" and "Asbestos NESHAP Notification of Demolition and Renovation" form	7	P						
Received From the Primary Coordinator								
9. Burning permit from the jurisdiction in which the training is taking place (may be obtained by the department hosting the class)	7	P						
10. FSTEP Course Request submitted within six weeks prior to the class date and approval received from SFT	7	P						
11. Written notification to AHJ and participating agencies	7	P						



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			E#1	E#2	E#3	E#1	E#2	E#3
▪ What is going to be burned	7	P						
▪ Where the burn is located	7	P						
▪ When the burn is going to take place	7	P						
▪ Copy of the release from the owner	7	P						
▪ IC's, Senior Coordinator's, Primary Coordinator's, Safety Officer's name and contact information	7	P						
▪ An agenda of the actual burn	7	P						
▪ A list of all the agencies participating	7	P						
Received From the Students' Department								
12. Authorization to attend the training, including statements of insurance ▪ Letter stating student has demonstrated competency up to the SFT Fire Fighter I level in donning SCBA, donning personal protective equipment, and hose handling skills ▪ If coordinated through a college, the college may provide additional insurance for participants and instructional staff	7	P						
13. Current fit test documentation	7	P						
14. Each student's agency has provided the student with a minimum of Cal/OSHA compliant PPE in good repair	7	P						
Received From the Adjunct Instructors' Department								
15. Authorization to attend the training, including a statements of insurance; if coordinated through a college, the college may provide additional insurance for participants and instructional staff	7	P						
16. Current fit test documentation (if required for participation)	7	P						
17. Each Adjunct Instructor's agency has provided the adjunct instructor with a minimum of Cal/OSHA compliant PPE in good repair (if required)	7	P						
Received From the Department Hosting the Class								
18. Coordinates with the AHJ	2	P						
19. Approval from the Federal Environmental Protection Agency (EPA), California Air Resources Board (CARB), and local AQMD	7	P						
20. AQMD confirmation of a training variance in the absence of a "No Burn" day	7	P						
21. A burning permit from the jurisdiction in which the training is taking place (may be obtained by the Primary Coordinator)	7	P						
22. Confirmation that the owner has clear title to the property	7	P						



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			E#1	E#2	E#3	E#1	E#2	E#3
Notifications								
23. AQMD notified using the Notification of Demolition and Renovation form	8	P						
24. CARB notified using the Notification of Demolition and Renovation form	8	P						
25. EPA notified using the Notification of Demolition and Renovation form	8	P						
26. Neighboring properties notified	8	P						
Mapping the Burn Site								
27. Map developed showing all pertinent information	9	P						



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FIRE BEHAVIOR EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
Planning and Inspection								
1. Fire behavior room accommodated the class size	10	P						
2. Fire behavior room safe for the students	10	P						
Room Set-up								
3. Room had a minimum of two exits	10	P						
4. Hazards that could harm students or damage PPE removed	10	P						
5. Floor coverings, carpet, and tack strips removed	10	P						
6. Window glass removed and openings covered with knockout panels	10	P						
7. Ceiling lights, interior mirrors, and other items that may fall and cause injury during the burn removed	10	P						
8. Abandoned fire extinguishing systems rendered safe	10	P						
9. Swing of any doors that are not removed open outward	10	P						
10. Latching hardware removed	10	P						
11. Holes in the ceiling or walls where fire could extend covered	10	P						
12. Instructional staff assigned to the roof to watch for any extension to the attic space or roof fires	10	P						
13. Floors and exits marked with hi-visibility paint using arrows leading to the exits	10	P						
14. Exits may be marked on both the floor and wall	10	P						
15. Water supplies for both the attack and safety lines come from two different sources	10	P						
16. Required ventilation hole in roof of the fire behavior room; hinged piece of material applied to allow the vent to be opened and closed remotely	10	P						
Required Elements								
17. Adjunct instructor staffed near all exits	10	D						
18. Attack line in place (not be staffed by students)	10	D						
19. Safety line from a separate water source in place (not be staffed by students)	10	D						
20. Fire extinguishers, pressurized water or hand-pump, available	10	D						
21. Ignitions Officer with hook in place	10	D						
22. Rapid Intervention Crew in place <ul style="list-style-type: none"> ▪ Dedicated tool cache ▪ Dedicated radio frequency on complex burns 	10	D						



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			E#1	E#2	E#3	E#1	E#2	E#3
23. Personal accountability report (PAR)	10	D						
Fuel								
24. Appropriate type and amount of fuel used	10	D						
Fuel Crib								
25. Appropriate type and size built	10	D						
Tools								
26. Necessary tools available for the exercise	10	D						
Safety								
27. Amount of fuel used appropriate for the room size	10	D						
28. Each participant protected with full PPE upon ignition	10	D						
29. Stopped the exercise in the event of a serious injury until proper care is provided	2	D						
30. Conducted a safety briefing for all staff and participants to review procedures and prevent further injuries during the exercise	2	D						
Communications								
31. Reliable communications in place	10	D						
Conducting the Exercise								
32. All speaking points covered	10	D						
▪ Anticipated fire behavior of the specific room based on fuel, construction, and all other variables explained	10	D						
▪ Factors influencing fire behavior explained	10	D						
▪ Time temperature curve	10	D						
▪ Types of fire classes	10	D						
▪ BTU output	10	D						
▪ Stages of fire	10	D						
▪ Heat transfer	10	D						
▪ Smoke	10	D						
▪ Anchor points for water application	10	D						
▪ Barriers and shielding	10	D						
▪ Nozzle patterns	10	D						



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			E#1	E#2	E#3	E#1	E#2	E#3
▪ Steam production	10	D						
▪ Air flow	10	D						
▪ Indicators	10	D						
▪ Horizontal and vertical thermal balance	10	D						
▪ Ember production	10	D						
▪ Ash production	10	D						
▪ Flame lengths	10	D						
▪ Flammable gases	10	D						
▪ Overhead or atmosphere control	10	D						
▪ Roll over	10	D						
▪ Flashover	10	D						
▪ Backdraft	10	D						
33. Key points that did not occur during the exercise discussed outside following the exercise	10	D						



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VENTILATION TECHNIQUES EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
<i>Planning and Inspection</i>								
1. Exercise planned and designed to facilitate the entire class	11	P						
2. Operations coordinated with the fire behavior and fire attack operations	11	P						
3. Roof inspected for structural integrity	11	P						
4. Structure can support the weight of the students and instructional staff	11	P						
<i>Roof Set-up</i>								
5. Overhead obstructions removed	11	P						
6. Adequate area to store tools	11	P						
<i>Strip Ventilation Cut (optional)</i>								
7. Safety personnel in position at all times	11	P						
8. Strip ventilation cut in place prior to beginning the burn	11	P						
<i>Required Elements</i>								
9. Attack Crew with charged hoseline in place	11	D						
10. Safety Crew with charged hoseline in place	11	D						
11. Two different water sources for the attack and safety lines	11	D						
12. Ventilation Crew in place	11	D						
13. Ignitions Officer with hook in place	11	D						
14. A minimum of one Assistant Safety Officer in place	11	D						
15. Evacuation signal established	11	D						
16. Rapid Intervention Crew in place <ul style="list-style-type: none"> ▪ Dedicated tool cache ▪ Dedicated radio frequency on complex burns 	11	D						
17. A minimum of two ladders in place to aid in rapid evacuation	11	D						
18. Personal accountability report (PAR)	11	D						
<i>Fuel</i>								
19. Appropriate type and amount of fuel used	11	D						
<i>Tools</i>								
20. Necessary tools available for the exercise	11	D						



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			E#1	E#2	E#3	E#1	E#2	E#3
Safety								
21. Each participant protected with full PPE upon ignition	11	D						
22. Ventilation techniques exercise conducted on a separate roof, or at a time when live fire is not occurring below the students	11	D						
23. Assistant Safety Officer in place if live fire is occurring below the students	11	D						
24. Stopped the exercise in the event of a serious injury until proper care is provided	2	D						
25. Conducted a safety briefing for all staff and participants to review procedures and prevent further injuries during the exercise	2	D						
Communications								
26. Reliable communications in place	11	D						
Conducting the Exercise								
27. All speaking points covered	11	D						
▪ Safety briefing	11	D						
▪ Travel and escape routes on the structure	11	D						
▪ Communication methods that will be used while power tools are in use including the signal to evacuate	11	D						
▪ Hazardous areas	11	D						
▪ Marking paint used show roof areas that have been cut	11	D						
▪ Structure size-up	11	D						
▪ Building construction features	11	D						
▪ Ventilation principles	11	D						
▪ Ventilation terminology	11	D						
▪ Ladder placement	11	D						
▪ Safe power equipment and tool use	11	D						
▪ Photovoltaic (solar panels or PV panels)	11	D						
▪ Vertical ventilation techniques	11	D						
▪ Center rafting	11	D						
▪ Rolling rafters	11	D						
▪ Louvering	11	D						



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VENTILATION TECHNIQUES EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
▪ Inspection cuts	11	D						
▪ Kerf/plunge cuts	11	D						
▪ Pullbacks	11	D						
28. Crewmembers rotated so everyone has a chance at the nozzle	11	D						
29. Crew critique of the exercise conducted	11	D						
30. Key points that did not occur during the exercise discussed outside following the exercise	11	D						
After the Exercise								
31. Critique of the exercise conducted with the Exercise Instructor	2	D						
32. Planned vent holes kept in place for later use during the Interior Fire Attack Exercise	11	D						
33. If necessary to cover any holes, a hinged piece of material to the ventilation hole applied; ensure pull-cord will not melt or burn	11	D						



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INTERIOR FIRE ATTACK EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
<i>Planning and Inspection</i>								
1. Number of burns accurately determined	12	P						
2. Rooms chosen were of solid construction with ample room to manipulate hoselines	12	P						
3. <i>Rooms had more than one escape route (optional)</i>	12	P						
4. Building safety and integrity was ongoing throughout the exercise	12	D						
<i>Room Set-up</i>								
5. All hazards that could harm students or damage their PPE removed	12	P						
6. All floor coverings, carpet, and tack strips removed	12	P						
7. All window glass removed	12	P						
8. Windows openings covered with plywood or drywall knockout panel on the outside of the structure and secured in a manner that allows for easy removal	12	P						
9. All ceiling lights, interior mirrors, and other items that may fall and cause injury during the burn removed	12	P						
10. Water heater removed or punctured	12	P						
11. All abandoned fire extinguishing systems rendered safe	12	P						
12. Swing of any doors that are not removed changed to open outward	12	P						
13. All latching hardware removed	12	P						
14. Any holes in the ceiling or walls where fire could extend covered	12	P						
15. Floors and exits marked with hi-visibility paint using arrows leading to the exits	12	P						
16. Required ventilation hole is in the ceiling in place	12	P						
17. <i>Hinged piece of material can be applied to the ventilation hole to allow the vent to be opened and closed remotely by a tether (optional)</i>	12	P						
<i>Required Elements</i>								
18. Instructional staff assigned to the roof to watch for any extension to the attic space or roof fires	12	D						
19. Attack Crew with charged hoseline in place	12	D						
20. Safety Crew with charged hoseline in place	12	D						
21. Charged safety line in place (not staffed by students)	12	D						
22. Two different water sources for the attack and safety lines	12	D						



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			E#1	E#2	E#3	E#1	E#2	E#3
23. Ignitions Officer with hook in place	12	D						
24. A minimum of one Assistant Safety Officer	12	D						
25. Coordination with the Ventilation Techniques Instructor	12	D						
26. Evacuation signal established	12	D						
27. Rapid Intervention Crew in place <ul style="list-style-type: none"> ▪ Dedicated tool cache ▪ Dedicated radio frequency on complex burns 	12	D						
28. Personal accountability report (PAR)	12	D						
Fuel								
29. Appropriate type and amount of fuel used	12	D						
Tools								
30. Necessary tools available for the exercise	12	D						
Safety								
31. Each participant protected with full PPE upon ignition	12	D						
32. Orient the students to the structure <ul style="list-style-type: none"> ▪ Explain what is going to happen ▪ The location of the safety exits ▪ Who the Safety Officer is ▪ Other safety precautions deemed necessary 	12	D						
33. <i>Identify all burn locations with a large felt tip marker or spray paint prior to beginning the exercise (optional)</i>	12	D						
34. Stopped the exercise in the event of a serious injury until proper care is provided	2	D						
35. Conducted a safety briefing for all staff and participants to review procedures and prevent further injuries during the exercise	2	D						
Communications								
36. Reliable communications in place	12	D						
Conducting the Exercise								
37. All speaking points covered <ul style="list-style-type: none"> ▪ Heat shielding and barriers ▪ Stages of fire ▪ Indicators 	12	D						



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			E#1	E#2	E#3	E#1	E#2	E#3
▪ Air flows	12	D						
▪ Heat transfer	12	D						
▪ Horizontal and vertical thermal balance	12	D						
▪ Ember production	12	D						
▪ Ash production	12	D						
▪ Flame lengths	12	D						
▪ Water application	12	D						
▪ Production of gases	12	D						
▪ Anchor points	12	D						
▪ Ventilation	12	D						
▪ Overhead control	12	D						
▪ Roll over	12	D						
▪ Steam production (floor and ceiling)	12	D						
▪ Heat indicators	12	D						
▪ Hose handling techniques	12	D						
▪ Evacuation signal	12	D						
38. Crewmembers rotated so everyone has a chance at the nozzle	12	D						
39. Crew critique of the exercise conducted	12	D						
40. Key points that did not occur during the exercise discussed outside following the exercise	12	D						
After the Exercise								
41. Critique of the exercise conducted with the Exercise Instructor	2	D						



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EXTERIOR FIRE ATTACK EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
<i>Planning and Inspection</i>								
1. Exposure protection	13	P						
2. Fire behavior	13	P						
3. Multiple fire attacks from exterior doors and windows	13	P						
4. Stream management	13	P						
5. Smoke management	13	P						
6. High heat tactics (combined fog/straight stream method)	13	P						
<i>Fuel Load Size and Placement</i>								
7. Anticipated fire behavior specific to the structure considered for placement and size of the fuel load	13	P						
8. Fuel load prepared based upon the final burn plan	13	P						
9. Fuel load placed to accommodate predetermined objectives and predicted visual impact	13	P						
<i>Exposure Protection</i>								
10. Exposures considered (risk versus gain): Location and type	13	P						
11. Water supply sufficient for the streams needed	13	P						
12. All burnable materials and debris around the structure cleared	13	P						
13. In wildland interface areas, firebreaks positioned	13	P						
<i>Exposure Considerations</i>								
14. Adjacent structures	13	P						
15. Overhead power and communication lines	13	P						
16. Vegetation (wildland or residential)	13	P						
17. Traffic hazards	13	P						
18. Downwind influences : Hospitals or convalescent homes, schools, airports or air traffic, sensitive commercial occupancies	13	P						
19. Propane tanks	13	P						
<i>Weather</i>								
20. Wind speed and direction monitored continuously	13	P						
21. Humidity and temperature monitored continuously	13	P						



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EXTERIOR FIRE ATTACK EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
Adjunct Instructor Briefing								
22. Location of the fire load	13	P						
23. Line placement	13	P						
24. Assignment of instructors to student crews	13	P						
25. Instructions for the application of water to the final burn and teaching tips specific to the structure	13	P						
26. Site-specific hazards and or exposures	13	P						
27. Communications	13	P						
Structure Set-up								
28. Any masonry chimney, if present, undercut	13	P						
29. Corners of stucco walls broken	13	P						
30. Loading of water tank towers	13	P						
Required Elements								
31. Adequate water resources for the both the exterior attack exercise and to extinguish any possible exposure issues	13	D						
32. Attack Crew with charged hoseline in place	13	D						
33. Safety Crew with charged hoseline in place	13	D						
34. Charged safety line in place (not staffed by students)	13	D						
35. Two different water sources for the attack and safety lines	13	D						
36. All available safety staff in place	13	D						
37. Personal accountability report (PAR)	13	D						
Fuel								
38. Final burn plan explained to the students	13	D						
39. Appropriate type and amount of fuel used	13	D						
40. Students utilized to load the structure	13	D						
Tools								
41. Necessary tools available for the exercise	13	D						
Safety								
42. Each participant protected with full PPE upon ignition	13	D						
43. All personnel, hoselines, and other tools removed from possible collapse zones	13	D						



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Structural Fire Fighting in Acquired Structures



Appendix D: Primary Coordinator Trainee Task Book

PRIMARY COORDINATOR TRAINEE:

PERFORMANCE STANDARD: All tasks must be demonstrated by the Primary Coordinator Trainee and evaluated by a Fire Control 3A Primary or Senior Coordinator. Tasks graded "P" must be functional and safe according to the Fire Control 3A Course Guide.

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EXTERIOR FIRE ATTACK EXERCISE TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
44. Participants monitored for signs of heat illness	13	D						
45. <i>Eves of the structure cooled to prevent molten tar from running down onto a fire fighter during a window attack (optional)</i>	13	D						
46. Stopped the exercise in the event of a serious injury until proper care is provided	2	D						
47. Conducted a safety briefing for all staff and participants to review procedures and prevent further injuries during the exercise	2	D						
Communications								
48. Reliable communications in place	13	D						
Conducting the Exercise								
49. All speaking points covered	13	D						
▪ Fire spread and behavior	13	D						
▪ Exterior attack for various fire location	13	D						
▪ Straight stream and fog patterns	13	D						
▪ Construction and its influence on fire behavior	13	D						
▪ Flashover	13	D						
▪ Exposure protection	13	D						
▪ Spot fires	13	D						
▪ Various methods of exterior attack	13	D						
▪ Heat shielding	13	D						
▪ Smoke management	13	D						
50. Crewmembers rotated so everyone has a chance at the nozzle	13	D						
51. Crew critique of the exercise conducted	13	D						
52. Key points that did not occur during the exercise discussed outside following the exercise	13	D						
After the Exercise								
53. Critique of the exercise conducted with the Exercise Instructor	2	D						
54. If the class operates for more than one day, fire watch in place with adequate equipment	13	D						
55. All hazards secured or flagged before turning the structure over to the property owner	13	D						



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Structural Fire Fighting in Acquired Structures



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AFTER THE EXERCISES TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
1. Verified and documented students' completion of the class	---	D						
2. Signed and distributed SFT course completion certificates to students successfully completing the class	---	D						
3. Performed a final walk around of the entire site	---	D						
4. Directed the class critique	2	D						
5. Completed a final interview/critique with the Senior Coordinator	2	D						
6. Returned class materials required by SFT in the appropriate time frame.	---	D						

Appendix E: Senior Coordinator Trainee Task Book

- Qualifications
 - Senior Coordinator Trainee
 - Evaluator
- Responsibilities
 - Senior Coordinator Trainee
 - Evaluator
- Instruction for Completing the Task Book
- Trainee Evaluation Sheets
- Evaluator Summary Sheets



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Structural Fire Fighting in Acquired Structures



Appendix E: Senior Coordinator Trainee Task Book

Appendix E: Senior Coordinator Trainee Task Book

The Fire Control 3A Senior Coordinator Trainee Task Book lists every performance requirement (task) in a format that allows the trainee to be evaluated against written guidelines. Successful performance of all tasks must be observed and recorded by **three different Fire Control 3A Senior Coordinators (Evaluator)**. Evaluation and confirmation of the trainee's **performance of all the tasks shall involve three separate evaluators on three separate Fire Control 3A training burns**. It is essential that a trainee's performance be critically evaluated and accurately recorded by each Evaluator.

After the Senior Coordinator Trainee has demonstrated competency in each area and the task book is complete, he or she may apply to become a registered Fire Control 3A Senior Coordinator with State Fire Training once the educational, course work, and experience criteria have been met.

QUALIFICATIONS

Senior Coordinator Trainee

- Be a registered Fire Control 3A Primary Coordinator in good standing with State Fire Training.

Evaluator

- Be a registered Fire Control 3A Senior Coordinator in good standing with State Fire Training.

RESPONSIBILITIES

Senior Coordinator Trainee

- Review and understand all site requirements, equipment standards, and the material in the Fire Control 3A Course Guide and the NFPA 1403: Standard on Live Fire Training Evolutions.
- Review and understand the process for completing a Senior Coordinator Trainee Task Book.
- Ensure the Senior Coordinator Trainee Task Book is accurately recorded and maintained.
- Successfully complete the Senior Coordinator Trainee Task Book within three (3) years of beginning the task book process.
- Retain a completed copy of his or her Senior Coordinator Trainee Task Book in the personal and/or career records.

Evaluator

- Be qualified and proficient.
- Explain to the Senior Coordinator Trainee the purpose of and process for completing the Fire Control 3A Senior Coordinator Trainee Task Book.
- Explain to the Senior Coordinator Trainee his or her responsibilities.
- Meet with the Senior Coordinator Trainee and determine past experiences, current qualifications, and desired objectives/goals.
- Confirm with the Senior Coordinator Trainee, prior to his or her performance, which tasks will be evaluated.



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Appendix E: Senior Coordinator Trainee Task Book

- Accurately evaluate each task being performed by the Senior Coordinator Trainee.
- Document each task completed by the trainee on the Fire Control 3A Senior Coordinator Trainee Task Book.
 - Performance shall be documented by the evaluator directly on the task book.
 - SFT's assigned class code.
 - Date performance occurred.
 - Evaluator's initials.
- Document your final evaluation of the Senior Coordinator Trainee on the Evaluation Summary page.

INSTRUCTION FOR COMPLETING THE TASK BOOK

The Fire Control 3A Senior Coordinator Trainee Task Book allows the Evaluator to record a Senior Coordinator Trainee's performance for delivering the required aspects of a Fire Control 3A class. These evaluations are made by observing the senior Coordinator Trainee's skills, abilities, and techniques.

Task Book Headings

Senior Coordinator Trainee:	Enter the trainee's name.
Tasks:	Lists every component required of a Senior Coordinator in the Fire Control 3A Course Guide.
Code:	Lists when the task needs to be completed or performed.
Grade:	Area to record the Senior Coordinator Trainee's performance.
Section:	Lists the section referenced from the Fire Control 3A Course Guide.
Date Observed:	The Evaluator enters the date the Senior Coordinator Trainee was assessed.
Evaluator's Initials:	The Evaluator enters his or her initials.



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Structural Fire Fighting in Acquired Structures



Appendix E: Senior Coordinator Trainee Task Book

SENIOR COORDINATOR TRAINEE:

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AFTER THE EXERCISES TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
ADMINISTRATION								
1. Demonstrates a working knowledge all site requirements	1	P						
2. Demonstrates a working knowledge of all equipment standards	1	P						
3. Utilizes the material in the FC 3A Course Guide	1	P						
4. Utilizes the information in NFPA 1403: Standard on Live Fire Training Evolutions	1	P						
5. Is familiar with the process for becoming a registered Fire Control 3A Senior Coordinator	App E	P						
STAFF ASSIGNMENTS								
1. Continuously met and conferred with the Primary Coordinator throughout the class planning and delivery	2	P,D						
2. Approved the staff assignments made by the Primary Coordinator	2	P						
3. Acted as liaison with State Fire Training	2	P						
4. Performed as a Technical Specialist to the Primary Coordinator when required	2	P						
QUALIFYING THE ACQUIRED STRUCTURE								
1. No performance required								
SURVEYING THE STRUCTURE								
1. Approved the survey of the structure	2	P						
DOCUMENTATION								
1. Approved Incident Action Plan (if listed as the IC)	2	P						
2. Verified the IAP provides adequate overhead, resources, and safety	2	P						
Received From the Property Owner								
3. Verified the signed liability release form for the property	2	P						
4. Verified the demolition permit from the jurisdiction's building department	---	P						
5. Verified the written notarized proof of cancellation of fire insurance	---	P						
6. Verified the submittal of the "Clearance Letter" and "Asbestos NESHAP Notification of Demolition and Renovation" form	---	P						
Received From the Primary Coordinator								
7. Verified the burning permit from the jurisdiction in which the training is taking place (may be obtained by the department hosting the class)	---	P						



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Structural Fire Fighting in Acquired Structures



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AFTER THE EXERCISES TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
8. Verified the written notification to AHJ and participating agencies	---	P						
Received From the Students' Department								
9. Verified the authorization to attend the training, including a statement of insurance for participant	---	P						
10. Verified current fit test documentation	---	P						
11. Verified each student's agency has provided the student with a minimum of Cal/OSHA compliant PPE in good repair	---	P						
Received From the Adjunct Instructors' Department								
12. Verified authorization to attend the training, including a statement of insurance for participant	---	P						
13. Verified current fit test documentation (if required for participation)	---	P						
14. Verified each Adjunct Instructor's agency has provided the adjunct instructor with a minimum of Cal/OSHA compliant PPE in good repair (if required for participation)	---	P						
Received From the Department Hosting the Class								
15. Established contact with the Chief Officer of the AHJ.	---	P						
16. Established contact with the Federal Environmental Protection Agency (EPA), California Air Resources Board (CARB), and local AQMD.	---	P						
17. Verified the burning permit from the jurisdiction in which the training is taking place (may be obtained by the Primary Coordinator)	---	P						
18. Verified confirmation that the owner has clear title to the property	---	P						
Notifications								
19. Established contact with the community college (if needed)	---	P						
20. Evaluated the AQMD notification	---	P						
21. Evaluated the CARB notification	---	P						
22. Evaluated the EPA notification	---	P						
23. Evaluated the neighboring properties notification	---	P						
Burn Site Mapping								
24. Approved map developed showing all pertinent information	---	P						



FIRE CONTROL 3A

Structural Fire Fighting in Acquired Structures



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AFTER THE EXERCISES TASKS	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
FIRE BEHAVIOR EXERCISE								
1. Established an appropriate visual position for viewing the exercise and communicating with the Primary Coordinator	--	D						
2. Performed a walk around of the exercise site	---	D						
3. Confirmed the possible hazards with the Primary Coordinator	---	D						
4. Reviewed the Fire Behavior Exercise Plan; determined any needs for amending the plan	---	D						
5. Approved the Fire Behavior Exercise Plan	---	D						
6. Directed the Fire Behavior Exercise Safety and Coordination Briefing	---	D						
VENTILATION TECHNIQUES EXERCISE								
1. Established an appropriate visual position for viewing the exercise and communicating with the Primary Coordinator	---	D						
2. Performed a walk around of the exercise site	---	D						
3. Confirmed the possible hazards with the Primary Coordinator	---	D						
4. Reviewed the Ventilation Techniques Exercise Plan; determined any needs for amending the plan	---	D						
5. Approved the Ventilation Techniques Exercise Plan	---	D						
6. Directed the Ventilation Techniques Exercise Safety and Coordination Briefing	---	D						
INTERIOR FIRE ATTACK EXERCISE								
1. Established an appropriate visual position for viewing the exercise and communicating with the Primary Coordinator	---	D						
2. Performed a walk around of the exercise site	---	D						
3. Confirmed the possible hazards with the Primary Coordinator	---	D						
4. Reviewed the Interior Fire Attack Exercise Plan; determined any needs for amending the plan	---	D						
5. Approved the Interior Fire Attack Exercise Plan	---	D						
6. Directed the Interior Fire Attack Exercise Safety and Coordination Briefing	---	D						
EXTERIOR FIRE ATTACK EXERCISE								
1. Conducted a Plans Briefing with the Primary Coordinator prior to the Exterior Fire Attack Exercise	---	D						
2. Established an appropriate visual position for viewing the exercise and communicating with the Primary Coordinator	---	D						
3. Performed a walk around of the exercise site	---	D						
4. Confirmed the possible hazards with the Primary Coordinator	---	D						



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	§	Code	Date Observed			Grade (P/F) & Evaluator's Initials		
			E#1	E#2	E#3	E#1	E#2	E#3
5. Reviewed the Exterior Fire Attack Exercise Plan; determined any needs for amending the plan	---	D						
6. Approved the Exterior Fire Attack Exercise Plan	---	D						
7. Directed the Exterior Fire Attack Exercise Safety and Coordination Briefing	---	D						
AFTER THE EXERCISES								
1. Approved the Post-incident Site Security Plan	---	D						
2. Performed a final walk around of the entire site	---	D						
3. Participated in the class critique	---	D						
4. Completed a final interview/critique with the Primary Coordinator	---	D						
5. Contacted the Chief Officer of the AHJ	---	D						

