

# LOS PINOS FIRE PROTECTION DISTRICT STANDARD OPERATING PROCEDURE



TITLE	NUMBER	EFFECTIVE DATE	REVISION DATE
POLICY FOR CONDUCTING LIVE FIRE TRAINING EVOLUTIONS	405	April 8 <sup>th</sup> , 2010	

## 1.0 Purpose

The purpose of this document is to establish policies for the safe and effective use of live fire training evolutions.

## 2.0 Policy

The conduct of safe and effective structural firefighting training is the most important goal associated with the use of the Los Pinos Fire District's (LPFD) Burn Building. The preparation, conduct and follow up for evolutions within this facility are to be guided by NFPA 1403, Standard on Live Fire Training Evolutions in Structures (current edition). All fire training activities are to be conducted with great care and supervised closely by qualified personnel. These policies are designed to ensure adequate levels of safety while allowing for flexibility to utilize independent judgment based on the level of training to be accomplished.

## 3.0 Responsibilities

The owner of the Burn Building (the Los Pinos Fire District) is responsible for ensuring that conditions, policies and practices at this facility are conducive to presenting a safe learning environment. The owner of the Burn Building is responsible for the coordination of training activities and maintenance of the facility. Representatives from the Los Pinos Fire District have full authority over the responsibility for any and all LPFD approved live fire training activities.

Instructors at the facility are responsible for ensuring that these policies are followed and for conducting themselves according to instructional practices as outlined under NFPA 1041, Standards for Fire Service Instructor Professional Qualifications when the live fire evolution is an approved training activity. Chiefs and Company Officers are responsible for supervising the general conduct of their personnel and for their compliance with these policies.

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Students using these facilities must, at all times, follow instructions given by those providing supervision and must abide by those policies to ensure the safe and effective use of the facility outlined within this procedure.

## **4.0 Prerequisite Conditions**

This section describes pre-operational conditions necessary for live firefighting training at the facility.

### A. Students

Prior to participating in the live fire training evolutions, the student must have received training to meet the performance objectives for Firefighter Level I of the following sections of NFPA 1001, Standards for Fire Fighter Professional Qualifications, including General Information; Fire Behavior; Self Contained Breathing Apparatus; Personal Protective Equipment; Forcible Entry; Ventilation; Rescue; Ladders; Fire Hose, Nozzles, and Appliances; Fire Streams; and Water Supply. Outside agencies utilizing the facility will need to provide documentation that their students have met the standards listed above.

### B. Protective Equipment and Clothing

Each student and instructor participating in live firefighting operations shall be equipped with a full complement of structural personal protective equipment that meets the applicable NFPA Standard. This complement of equipment consists of a Firefighting Helmet; Firefighting Hood; Firefighting Coat; Firefighting Bunker Pants; Firefighting Boots; Firefighting Gloves; Self Contained Breathing Apparatus (SCBA); and a Personal Alert Safety System (PASS) device.

Additional clothing requirements shall include long pants (no short pants), shirts (no tank top or sleeveless shirts) and socks.

Students who have facial hair that will prevent the face piece from achieving a proper seal will not be allowed to participate in any part of the evolution requiring the use of SCBA's. NFPA 1500, Fire Department Occupational Health and Safety, very clearly states in 7-13.3, "Members who have a beard or facial hair at any point where the facepiece is designed to seal with the face or whose hair could interfere with the operation of the unit shall not be permitted to use respiratory protection at emergency incidents or in hazardous or potentially hazardous atmospheres." The following is quoted from Appendix A-7-13.3. "The employer shall not permit respirators with tight-fitting

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facepieces to be worn by employees who have: (A) Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or (B) Any condition that interferes with the face-to-facepiece seal or valve function.”

This prohibition applies to any negative- or positive-pressure personal respiratory protection device of a design relying on the principle of forming a face seal to perform at maximum effectiveness. A beard growing on the face at points where the seal with the respirator is to occur is a condition that has been shown to prevent a good face seal. This is so regardless of what fit test measurement can be obtained. However, if the beard is styled so no hair underlies the points where the SCBA facepiece is designed to seal with the face, then the employer may use the SCBA to protect the employee.”

All students, instructors, and safety personnel shall properly wear all protective clothing and equipment whenever they are involved in any evolution of fire suppression operation during live fire training evolutions.

All protective equipment and clothing shall be inspected by the Safety Officer prior to the start of the training session to ensure it is in serviceable condition. A PPE inspection checklist will be provided to the Safety Officer.

## C. The Facility

### **1. Burn Building**

Prior to the conduct of any live firefighting evolution at the facility, a complete inspection of the facility and its operating components shall be conducted. Doors, windows, window shutters, roof scuttles, and other building components within an area of proposed usage will be checked for ease of operation and overall integrity. Natural ventilation devices will be checked for proper operation, as will any mechanical ventilation system.

Both the inside and outside of the building will be inspected for construction defects and obstacles that could compromise the safe use of the building.

The Lead Instructor in consultation with the Safety Officer shall make the determination that the facility is safe and ready for use. If, during the inspection, they find conditions that prevent safe activities, they have the authority to determine that the facility is unsafe and stop the planned training exercises at the unsafe facility.

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## D. Water Supply

The water supply needed to conduct the evolution shall comply with NFPA 1403-3-6 with the following exception:

When conducting live fire evolutions, two independent water sources shall be established. These sources shall include structural firefighting apparatus with at least 500 gallons of tank water available, drafting equipment, or hydrant water supply. One source shall always be maintained as a backup supply and shall be ready to supply water instantaneously. The second source shall be utilized by attack training crews.

## E. Instructors

### ***1. Lead Instructor***

The Lead Instructor will be designated by the LPFD and shall be responsible for ensuring that the exercise is conducted in compliance with NFPA – 1403, Standard on Live Fire Training Evolutions in Structures (latest edition) and that all conditions and requirements outlined in these policies are followed. The Lead Instructor shall coordinate the areas of responsibilities of the remaining Instructors, and coordinate all activities prior to, during, and after the training exercise.

### ***2. Safety Officer***

A Safety Officer shall be appointed by the Lead Instructor. This person shall be familiar with the latest edition of NFPA 1500 Standards on Fire Department Occupational Safety and Health Program, and NFPA 1521 Standard for Fire Department Safety Officer. The Safety Officer shall not be assigned other duties that interfere with safety responsibilities.

The Safety Officer is expected to maintain a visible presence during the entire evolution. After each evolution and once all personnel are accounted for, the Safety Officer shall re-inspect the structure.

The Safety Officer is responsible and accountable for the safety of all persons on the training grounds, including spectators and the media. He shall have the responsibility for ensuring that the Lead Instructor has complied with the requirements of this procedure.

The Safety Officer shall have the authority to intervene and control any aspect of an operation when, in his/her judgment, a potential or real danger, or unsafe condition exists. This authority includes stopping an operation if necessary.

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## ***3. Assisting Instructors***

The Assisting Instructors will provide direct hose line and activity supervision to crews engaged in live firefighting training. Assisting instructors shall be assigned to maintain a student to instructor ratio of no greater than five to one. The Assisting Instructors are responsible for carrying out active supervision and readiness of students involved in live firefighting training operations. As such they shall function as interior crew supervisors and report directly to the Lead Instructor and Safety Officer.

An Assisting Instructor, appointed by the Lead Instructor, shall be responsible for the setup and ignition of the fire(s). All setup and ignition methods shall comply with NFPA 1403 and these policies. Assisting Instructors have the authority to take over hose line operations or stop their crew's operation should any condition arise that could compromise student safety. This should be utilized as standard operating procedures for interior operations.

## **5.0 Operations**

### **A. Pre-burn Activities**

Pre-burn Sessions – Prior to conducting actual fire training evolutions in the facility, briefings shall be conducted by the Lead Instructor for all participants. Assisting Instructors, likewise, will meet with the Lead Instructor who will outline assignments, explain the command structure, assign a Safety Officer, and provide a tour of the facility.

Students are to be screened for pre-requisite requirements, divided into appropriate groups for training, and given a tour of the building to ensure familiarity with the layout of the structure and points of egress

Once these independent briefings are conducted, the Lead Instructor will assemble all participants and review the evolutions to be conducted. The emergency evacuation signal shall be demonstrated and explained to all at this time. A review of the Incident Command System and Personnel Accountability System to be employed for the drill will be outlined.

Facility and Equipment Readiness – This facet of operations consists of an overall “checklist” that must be considered prior to the entry of each hose line crew. It consists of the following:

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## *a. Building Inspection*

The Safety Officer shall conduct an inspection of the building and fire loading to ensure for a safe operation.

## *b. Apparatus, Hose and Tools*

All apparatus are properly positioned with hose lines and tools in place.

## *c. Water Supply*

Water supply is established for “main attack” and “backup” hose lines. An independent water supply is established for the “safety” line. Appropriate hose lines are charged. For evolutions involving “Apparatus Response”, hose lines can be charged as part of the evolution with the exception of the safety line which must be charged and in place prior to the ignition of the fire.

## *d. Emergency Medical Services and Rehabilitation Support*

Staffed Basic Life Support equipment is set up and staffed in close proximity to the Lead Instructor position. A rehabilitation area will be established that will have the necessary equipment and supplies to provide hydration and medical monitoring.

## *e. Radio Communications*

Communications on a common frequency established between the Lead Instructor, Safety Officer, Interior Operations, Pump Operator, EMS Support, and Students (if possible). Readily available communications must be established with the Southern Ute Police Department communications center should external assistance be needed.

## *f. Operations Area*

A safety perimeter is established for all active training functions. Within this area, all participants must be in full protective clothing.

## *g. Fuel Loading*

The area of the actual training should be fueled and ready for ignition. Fire shall be made only in areas of the building designed for fire training evolutions. No fires shall be constructed in areas that will impede ingress or egress of the structure.

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Fires should be periodically moved from room to room to allow for the natural cooling of the shielding material and prevent damage to the structure and shielding material.

Only Class A material as defined in NFPA 1403-4-1.2 shall be used. Absolutely no flammable or combustible liquids are to be used at any time. The amount of material to be used will be regulated by many factors, including, but not limited to the maximum room temperature allowed, the room size (to include ceiling height), and the objective of the evolution to be performed. Experience has shown the 2 to 3 pallets and 1 bale of straw or excelsior will produce an adequate training fire. Fires shall be raised off the floor to prevent spalling of the concrete.

## *h. Monitoring System*

The system is to be activated and tested for the area(s) of training. It should be immediately accessible to the Lead Instructor and Safety Officer to signal unsafe temperature levels. If the system is unavailable or inoperable, the Lead Instructor shall take steps to assure that the fuel loading procedures are carefully monitored to protect both the structure and the students. Lead Instructor shall report the problem to the LPFD Senior Officer at the facility. A file must be maintained on every burn that takes place in the facility. This file may be either paper or diskette.

## **6.0 Fire Training Procedures**

Once the Lead Instructor has confirmed all readiness prerequisites, the training fire may be ignited. The training fire is to be monitored for overall progression and temperature by way of the temperature monitoring device (if applicable).

Great care must be utilized by the Lead Instructor in timing fire development with student entry. Any of the following conditions indicate that the fire has reached a maximum safe level:

Ceiling temperature of:

- 800 degrees Fahrenheit for rooms with no protective thermal linings
- 1000 degrees Fahrenheit for rooms with Padgenite, Westemp, or Marinite 1 Refractory boards on the ceiling
- 1200 degrees Fahrenheit for rooms with High Temperature Lining Systems 203 on the ceiling.

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Should any of these parameters be exceeded prior to student entry, the fire is to be cooled to acceptable interior condition.

No more than two fires shall be burning at the same time. This does not include ovens or “smoke pots” whose sole purpose is to generate additional heat or smoke.

Artificial smoke generating machines and fluids shall be used in accordance with smoke machine and fluid manufactures’ recommendations, guidelines, or instructions.

## **7.0 Post Training Activities**

### *a. Overall Critique and Accountability*

All students and instructors will gather and discuss the overall activities and make preparation for overhaul/clean up operations. Prior to releasing the students, the Lead Instructor shall ensure the welfare of any participants involved in the training activity.

### *b. Injury / Illness Reports*

Any participant who is injured or who becomes ill during the exercise shall immediately report his/her condition to the Lead Instructor. The Lead Instructor will ensure that a LPFD Accident Report Form is completed and procedures are followed regarding injury/illness.

### *c. Site Overhaul, Cleaning and Inspection*

The building and exterior will be thoroughly inspected for any remaining fire and for physical damage. All unusable burned materials will be extinguished and properly discarded in a dumpster or area provided at the facility. Any damage to the building as a result of the training evolution will be documented and reported to the LPFD Senior Officer at the facility. At the conclusion of the exercise, the building and grounds will be left in a safe and clean condition.

## **8.0 Logistics Checklist for Live Fire Burns**

The Safety Officer is expected to maintain a visible presence during the entire evolution. After each evolution and once all personnel are accounted for, the Safety Officer shall re-inspect the structure.

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This checklist is designed to assist the Lead Instructor in preparing all materials that are needed for a successful training evolution. This checklist can be used for Firefighter I and II live fire training. This checklist can be very helpful to the Lead Instructor when delegating logistics assignments to other Assisting Instructors involved in the live fire training evolution.

## *a. Accountability*

An accountability board system will be requested from the LPFD for the live fire evolution. This system includes a Command Board, Accountability/ID Tags, as well as Blank Accountability/ID Tags. You must have an Accountability/ID Tag for each individual who will participate in the evolution for that day. When the training is complete you will have to return this package to the LPFD Senior Officer at the facility.

## *b. Personal Alert Safety System (P.A.S.S.) Devices / Safety*

Each student and instructor will wear a device while inside the burn building. PASS devices must be operational.

## *c. Communications*

The Lead Instructor will request Portable Radios from his jurisdiction or the jurisdiction for which he/she is conducting the live fire training. These radios will be used for the following positions held in the evolution, to ensure communications and safety of all in the evolution:

- COMMAND
- SAFETY OFFICERS (1 each floor that is used for live burns)
- SQUAD INSTRUCTORS (1 each team) \*\*
- EMS SECTOR (1 Radio)
- STUDENTS (if possible)

\*\* Instructor Note: If it is a problem for the jurisdiction to outfit all squad instructors with radios, then you may use one radio for the entry squad and one radio for the back-up squad and trade off as you rotate squads through their evolutions.

## *d. EMS*

Emergency Medical Services shall be available on site to handle any injuries. Written reports (Patient Care Report) shall be made on all injuries and all medical aid rendered.



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It is recommended that the minimum of one BLS (Basic Life Support) provider should be on site during the time actual live fire evolutions are being conducted. Transport capabilities should either be available on site or available to respond to the training site within a reasonable response time.

If EMS agencies from outside the local EMS Council are to be used, contact the local EMS Medical Director in advance of the training evolution and advise the origin of the EMS agency to be used. The outside EMS agency may be required to follow protocols of the local EMS Council.

## *e. Rehab*

A rehab sector will be established away from the structure in a safe area. The rehab area provides the student and instructor an area free from smoke and contaminants to rest, replenish fluids, and to have their vitals taken when they arrive in this sector. The Lead Instructor will have the following items in this area for the students:

- 2 Coolers
  - (1 with ice and water)
  - (1 with ice and a quencher – replacement of electrolytes)
- Package of Cups
- Blood Pressure Cuff and Stethoscope
- Pad and Pencil to record vitals (Baseline and after evolutions)

It is recommended to follow all NFPA guidelines in regards to Extreme Temperature Training.

## *f. Personal Data Forms*

Before the day's training begins each student and instructor must fill out a personal data form and return it to the Lead Instructor. This form is essential. In the event that a student or instructor gets hurt or becomes unconscious, this form will have all of the emergency information about the individual. It will assist the EMS providers and hospital with updated information, who to call, any present conditions, and any medications, etc.

**STUDENTS AND INSTRUCTORS MUST FILL THESE FORMS OUT AND THEY MUST BE ON SITE WITH THE LEAD INSTRUCTOR OR THE EMS SECTOR OFFICER. IF THE FORM IS NOT COMPLETED THE INDIVIDUAL WILL NOT BE ALLOWED TO PARTICIPATE IN THE EVOLUTION.**

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## 9.0 Live Fire Training Standards and Document Conflict Resolution

The National Fire Protection Association 1403 Standard on Live Fire Training Evolutions in Structures is updated at regular intervals. These policies shall always be interpreted to refer to the latest edition of the standard. In the event of conflicting information in this document that is referenced in the NFPA 1403 standard, the interpretation of the current version of the standard shall be used.

The LPFD Burn Building Safety Plan (current version) also contains information regarding live training activities.

In the event of conflicting information in this document, NFPA 1403, or Safety Plan, the current NFPA 1403 standard shall prevail until the conflict can be resolved.

If any interpretations of these policies causes a conflict that affects the safety and well being of the participants in any live fire training activity in the facility, the Lead Instructor shall cease all live fire training activities until said conflict is resolved.

*Larry Behrens*

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Larry Behrens, Fire Chief

April 8<sup>th</sup>, 2010

Date