



Operational Guideline for Live Fire Training Evolutions

This guideline shall serve as an overview for conducting and operating live burn drills at the Abington Township Fire Training Facility.

The purpose of this guideline shall be to provide a process for conducting live fire training evolutions to ensure that they are conducted in safe facilities and that the exposure to health and safety hazards for the firefighter receiving the training is minimized.

The Fire Training Center, also known as the Burn Building, is a structure specifically designed for conducting live fire training evolutions on a repetitive basis.

This guideline is based on NFPA 1403, Standard on Live Fire Training Evolutions.

Participant Prerequisites

Prior to being permitted to participate in live fire training evolutions, the participant shall have received training to meet the performance requirements for Fire Fighter I of NFPA 1001, Standard for Fire Fighter Qualifications, related to the following subjects:

✓ Safety	✓ Fire Behavior
✓ Portable Extinguishers	✓ Personal Protective Equipment
✓ Ladders	✓ Water Supply
✓ Hose, Appliances & Streams	✓ Overhaul
✓ Ventilation	✓ Forcible Entry

General

A1.0 The Burn Building is to be inspected visually for any damage prior to live fire training evolutions. Special attention should be given to that of any missing or dislodged burn panels.

A1.1 The Burn Building shall be left in a safe & clean condition upon completion of live fire training evolutions.

A1.2 The minimum water supply and delivery for live fire training evolutions shall meet the criteria identified by NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting.

Note: The water supply for fire protection/fire fighting is from a proven supply. There are two hydrants available for use. The water supply feeding these

hydrants is from a well gridded gravity fed public water supply. A bulk water supply storage facility is located less than a mile away, which is the Hillside/Moreland Storage Facility and contains 12.5 million gallons of water. The water supply from the fire hydrants within the training facility is able to deliver over 1000 gpm at a residual pressure of 20 psi.

The water supply for the training center is fed from a gridded supply off Easton Road via Florey Lane.

Typical water flow test results for hydrants at the training facility:

- Static pressure 85 psi, Residual pressure 58 psi, with a flow of 1,065 gallons per minute.

A1.3 A minimum reserve of additional water in the amount of 50 percent of the fire flow demand for the evolution shall be available to handle exposure protection or unforeseen situations.

Note: Acceptable secondary water supplies shall consist of the following, based on the NFF for the Burn Building:

750 gallon water tank of an apparatus

or

Utilization of both fire hydrants at the facility

A1.4 Separate sources shall be utilized for the supply of attack lines and back up lines in order to preclude the loss of both water supply sources at the same time.

Note: A charged water supply line to the total flooding Burn Building sprinkler system(gated at the connection) shall serve as a back up line, so long as an instructor with a radio is positioned at the gated connection at all times while the exercise is in session.

A1.5 Prior to conducting actual live burn drills, a pre-burn briefing session shall be conducted for all participants.

A1.6 A pre-burn plan shall be prepared and shall be utilized during the pre-burn briefing sessions.

A1.7 All possible sources of ignition, other than those that are under the direct supervision of the person responsible for the start of the training fire, shall be removed from the operations area.

A1.8 Excelsior shall be the only material used for performing live burn evolutions.

Note: There may be occasions when a reduced visibility smoke condition is sought for the exercise. If this is the case, the smoke generator may be utilized in conjunction with the burning of excelsior, so long as the smoke generator is not left within the burn building, near the heat source, during the exercise. An example may be to “charge” the Burn Building from the Drill Tower, prior to igniting the fire. Use of the cold smoke distribution system is preferred.

Note: The amount of excelsior used for each fire should be consistent with the design of the building. In example, a half bale of excelsior flaked in a 12 ft x 12 ft area will produce 1000 degree temperatures within 3 minutes at the ceiling. The burn panels that line the interior of the building are rated for 1200 degrees of continuous exposure. Thus, it is important to recognize the value of the panels relative to exposing the steel frame of the building. A ½ bale to ¾ of a bale is the appropriate amount of excelsior to be used for each burn cycle while conducting a burn exercise.

Note: To reduce the exposure to spalling of the concrete floor or deformation of the steel flooring from direct heat impingement, fires shall be placed on the burn racks provided in the building.

A1.9 Burning of excelsior is to be restricted to the Burn Building. No fires are to be set within the old masonry Drill Tower.

A1.10 Roadway flares are the only device to be used for igniting the material. The use of flammable or combustible liquids shall not be permitted to be used in live fire training evolutions. The ignition officer shall be responsible for the safe use and disposition of the flares being used during the exercise. The flame from a flare should not come in contact with any aspects of the building.

A1.11 The instructor in charge shall assess the arrangement for the fuel loading that can affect the growth, development, and spread of fire.

A1.12 A Safety Officer shall be appointed for all live fire training evolutions.

A1.13 The Safety Officer shall provide for the safety of all persons at the facility, including students, instructors, visitors, and spectators.

A1.14 The instructor in charge of the live fire training exercise shall determine, prior to each evolution, the number of attack lines and back-up lines that are necessary.

A1.15 The Incident Command Structure is to be utilized for all live fire training exercises.

A1.16 A method of scene communications shall be established to enable coordination among the incident commander, the interior and exterior sectors, the safety officer, and external requests for assistance.

A1.17 A building evacuation plan shall be established, including an evacuation signal to be demonstrated to all participants in an interior fire training evolution.

A1.18 Emergency medical services shall be available.

Note: For company in-service training of less than 3 hours, the notification of the EMS provider officer in charge shall be sufficient as far as EMS availability. The local responding staffed(floating) ambulance will then be notified of the activity. This is to be accomplished by contacting Second Alarmers' Chief Matt McVoy @ 484-324-8691.

For exercises/sessions extending beyond 3 hours, an ambulance is to be provided and will be coordinated by Larry Siefken.

A1.19 A search of the Burn Building shall be conducted to ensure that no unauthorized persons are in the building immediately prior to ignition.

A1.20 Fires shall not be located in any designated exit paths.

A1.21 Each area of the Burn Building shall have two means of egress.

Note: All sections of the Burn Building are provided with appropriate egress, except for the 3rd floor. A ground ladder shall be placed to this level to serve as a secondary means of egress. This can be done prior to the start of the exercise or at the onset of an exercise.

Egress is available from the 3rd floor to the roof of the two story building and is considered acceptable, as long as the window/door panel of the Drill Tower is open during the evolution.

A1.22 Each participant shall be equipped with full protective clothing and self contained breathing apparatus.

A1.23 All participants shall be inspected by the Safety Officer prior to entry into the Burn Building to ensure that the protective clothing and SCBA are being worn according to best practices and are in serviceable condition.

A1.24 Protective coats, pants, hoods, footwear, helmets, and gloves shall have been manufactured to meet the requirements of NFPA 1971, Standard on Protective Ensemble for Structural Fire Fighting.

Note: A long sleeve & long pant under-garment shall not be required to be worn for company in-service training evolutions lasting less than 3 hours. For exercises/sessions extending beyond 3 hours, a long sleeve & long pant under-garment is to be worn.

A1.25 One person who is not participating in the exercise shall be designated the “ignition officer” to control the materials being burned.

A1.26 The decision to ignite the training fire shall be made by the instructor in charge in coordination with the Safety Officer.

A1.27 The fire shall be ignited by the ignition officer in the presence of and under the direct supervision of the Safety Officer.

A1.28 An accountability system shall be utilized while operating at the training facility.

A1.29 All instructors shall be qualified to deliver fire fighter training according to the authority having jurisdiction.

A1.30 The participating student-to-instructor ratio shall not be greater than 5 to 1.

A1.31 The designated training officer for each fire company accepts responsibility for the use of the training facility and is responsible for being familiar with this guideline.

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L. Siefken