

	<b>Hampton-Valley Forge Vol. Fire Dept. Standard Operating Guidelines</b>	
	Subject: Live Fire Training Evolutions in Structures	SOG # 2-19
		Initiated 01/01/2019
Approved: Fire Chief Chris Isaacs	Revised 01/01/2019	

## PURPOSE

This procedure establishes guidelines for training of fire suppression personnel engaged in structural firefighting operations under live fire conditions as set forth in NFPA 1403. This procedure focuses on training for coordinated interior fire suppression operations with a minimum exposure to risk for the participants. The evolutions conducted within these guidelines shall be managed by means of a documented incident management system. The line of authority shall be made clear to all participants in order that both expected and unforeseen situations will be managed with the most efficiency possible and that reasonable margins of safety will be provided.

### 1. Minimum Training

- a. In order to ensure safe operations during a live fire training exercise, all participating students shall have completed the Hampton-Valley Forge Volunteer Fire Department 64 hour Basic Fire training program or be in the process of completing it.

*Note: All participants shall have completed SCBA familiarization.*

- b. Participants from other companies must meet the same criteria above, provide documentation of same, or will not be allowed to take part in the exercise.

### 2. Structures

- a. Members must keep in mind that acquired structures were never designed or intended for burn applications and through lack of maintenance or disrepair may lack even the fundamental elements of fire resistance. For that reason strict safety practices shall be applied at all times when doing live fire training evolutions.
- b. Any building that is considered for a structural fire training exercise shall be properly prepared for the live fire training evolution.

This is to include the proper permits, which may include the following:

- i. burn permit
  - ii. fire department waiver (which relieves the responsibility off the fire department if the owner tries to collect insurance money etc.)
- c. The property owner must be the only individual to sign the permits and prior to the burn, the owner must show proof of ownership, cancellation of insurance or a signed statement of nonexistence of insurance.
- d. In preparation for live fire training, an inspection of the structure shall be made to determine that the floors, walls, stairs and other structural components are capable of withstanding the weight of contents, participants and accumulated water that will result from the exercise. Any hazards potentially dangerous to participants such as floor openings, missing stair treads and rails and other such hazards shall be repaired or made inaccessible.

*Note: Particular attention should be made in that all walls/ceilings shall be intact, utilities shall be disconnected, adequate ventilation openings shall be made in the roof, any excessive debris is removed and any hazards of insect hives, toxic weeds are disposed of accordingly.*

*Note: Any structures containing forms of asbestos shall not be used by the Hampton-Valley Forge Volunteer Fire Department for live fire training unless the owner has the asbestos removed by an approved contractor and has the proper paperwork documenting same from the contractor that performed the work..*

- e. Any exposures that might be damaged by the live fire training shall be properly protected or removed if applicable.
  - f. Property adjacent to the structure that could be affected by the smoke shall be identified and the owner/caretaker informed about the date and time of the fire training exercise.
  - g. Appropriate safeguards shall be taken when the structure is in the vicinity of streets/highways to protect motorists. These may include road closures or traffic rerouting which may warrant assistance from the State Highway Administration and/or one of the local police agencies.
  - h. A fire line utilizing barrier tape shall be roped off completely around the structure to keep the general public at a safe distance. This area shall be defined by the safety officer.
3. Water Supply
- a. The water supply for any individual live fire training evolution shall be assessed based on the extent of the evolutions, size and construction of the building and

contents to be involved, method of attack to be used, protection of exposures and reserves for potential unexpected problems.

- b. The minimum water supply and delivery for the live fire training evolutions shall meet the criteria identified in NFPA 1231.

*Note: The minimum water supply required for any single structure, without exposure hazards, shall not be less than 2000 gallons.*

*The minimum water supply required for any single structure with exposure hazards shall not be less than 3000 gallons.*

*A minimum reserve of additional water in the amount of 50% of the fire flow demand shall be available to handle exposure protection or unforeseen situations*

- c. Separate sources shall be utilized for supply of attack lines and backup lines in order to preclude the loss of both water supply sources at the same time.

*Note: Two separate pumpers shall be utilized, one for attack and one for backup as stated above. It will be the policy of the Hampton-Valley Forge Volunteer Fire Department to deploy two folding tanks capable of holding a minimum of 2000 gallons of water each (one for attack apparatus, the other for backup apparatus).*

#### 4. Apparatus Staging/Parking

- a. Adequate areas for staging, operating and parking of fire apparatus that will be used in the live fire training evolution shall be designated. Consideration for emergency medical services shall be included in the process.
- b. An area shall be designated to park apparatus and vehicles that are not part of the evolution so as to not interfere with fire ground operations. This area shall be designated for prompt response of apparatus that will be handling true emergencies.
- c. Any personnel that respond in their own vehicle (pov) shall park in an area that is not to interfere with operating or staging areas and will be designated by the incident commander. *Note: This is to be done as a last resort and is highly discouraged.*

#### 5. Preburn Briefing Session(s)

- a. Prior to conducting an actual live fire training evolution in the structure, a preburn briefing session shall be conducted for all participants.
- b. All aspects of every evolution to be conducted shall be discussed and assignments shall be made for all crews participating in the training sessions.

- c. A plan shall be prepared for the structure and shall be utilized in the briefing sessions.  
All interior rooms, hallways and exterior openings shall be indicated on the plan.
- d. Prior to conducting any live fire training in the structure, all participants shall have a knowledge and familiarity with the layout of the building in order to facilitate necessary evacuation of the building.
- e. Prior to conducting any live fire training in the structure, all participants of the evolution shall be required to have a walk-through of the structure.

#### 6. Spectator Safety

- a. All spectators shall be restricted to an area outside the fire line or the operations area established by the Safety Officer.
- d. Visitors allowed to observe operations and allowed within the operations area perimeter shall be escorted at all times and shall be equipped with and properly wear complete protective equipment.

#### 7. Fuel Materials

- a. The fuels that are utilized in live fire training evolutions shall have known burning characteristics of such a nature to be as controllable as possible. Unidentified materials, such as debris found in or around the structure, which may burn in unanticipated ways, react violently or create environmental or health hazards, shall not be used at all.
- b. Class “A” materials shall be used in only the amounts necessary to create the size fire desired.  
  
*Note: There are some exceptions, which include, pressure treated wood, rubber and plastic materials. These materials shall not be used.*
- c. The use of flammable or combustible liquids shall be *prohibited* for use in live fire training evolutions.
- d. The officer/instructor in charge of operations shall assess the selected fire room environment for factors that will affect the growth, development and spread of fire.
- e. The officer/instructor in charge of operations shall also monitor fuel loading, including furnishings, wall and floor coverings and ceiling materials.

*Note: The training exercise shall be immediately stopped if the officer/instructor determines a potential hazard. The exercise shall continue only when the*

*appropriate actions have been taken to reduce the hazard.*

8. Safety

- a. A safety officer shall be appointed for all live fire training evolutions, if the safety officer is unable to participate in the training exercise.
- b. The safety officer shall have the authority, regardless of rank, to intervene and control any aspect of the operations when, in their judgement, a potential or real danger, accident or unsafe condition exists.
- c. The safety officers responsibilities may include but not limited to the following:
  - 1) prevention of unsafe acts
  - 2) elimination of unsafe conditions
- d. The safety officer shall provide for the safety of everyone at the training exercise, this includes visitors and spectators.

*Note: The safety officer shall not be assigned other duties that interfere with safety responsibilities.*

- e. Sufficient back up lines shall be provided to ensure adequate protection for personnel on the attack lines during live fire training exercises.
- f. The number of attack lines and back up lines shall be determined prior to each exercise by the officer/instructor in charge.

*Note: Each hoseline shall be capable of delivering a minimum of 95 g.p.m.*

- g. The officer/instructor in charge shall assign the following:
  - 1) an officer to each functional crew, which shall not exceed 4 personnel
  - 2) an officer to each “back-up line”
  - 3) sufficient additional personnel to “back-up lines” to provide mobility
  - 4) an additional officer/instructor for each additional functional assignment
- h. If the safety officer deems it necessary, additional safety personnel shall be placed within the structure to react to any unplanned, threatening situation or condition.
- i. A method of fireground communications shall be established, preferably by radio, to allow coordination among the incident commander, the interior and exterior sectors, the safety officer and any other functional assignment operating at the exercise.

*Note: Should the need arise for an evacuation of the building, all personnel will adhere to the Hampton-Valley Forge Volunteer Fire Department SOP on emergency evacuations. (see SOP 2-10)*

- j. Emergency medical services shall be available on site to handle any injuries.

*Note: If anyone is injured, a copy of the MIEMSS run sheet will be obtained and kept with a copy of the Hampton-Valley Forge Volunteer Fire Department drill sheet and placed in the individuals personal file.*

- k. One person shall be designated as the “ignition officer” to control the materials being burned. Keep in mind that this position may be altered due to the rehab of personnel on the training exercise.

*Note: This person shall be an officer/instructor, not a student. A charged hoseline shall accompany the ignition officer when igniting any fire.*

This person shall wear full protective equipment including SCBA and PASS device.

- l. A thorough search of the structure shall be conducted to ensure no unauthorized personnel or objects are in the building prior to ignition.
- m. It will be the decision of the officer in charge in coordination with the safety officer when to ignite any training fires. The safety officer shall supervise the ignition officer when the fire is ignited.

*Note: No more than one fire shall be permitted within the structure at any given time.*

- n. No person(s) shall be placed inside the building to play the role of a victim.

## 9. Protective Clothing

- full a. Each participant that is partaking in the training exercise shall be equipped with protective equipment including SCBA and PASS device.
- b. All participants shall be inspected by the safety officer prior to entry into a live fire training evolution to ensure that all protective equipment is being worn properly and is in serviceable condition.
- c. All protective gear shall meet the requirements of the NFPA standard applicable for that particular year of manufacture.
- d. All participants at the exercise will follow Hampton-Valley Forge Volunteer Fire Department SOP (see SOP 1-11) on wearing of air mask and will wear SCBA when operating below ground level at all times.

10. Instructors

- a. Instructors shall be at least officer level to deliver structural firefighting training.
- b. The ratio of students to officer shall not exceed 5 to 1.
- c. Other factors such as extreme temperatures (summer), large groups and long duration exercises shall be taken into consideration and additional instructors shall be designated as deemed necessary to ensure proper levels of safety.
- d. The officer in charge shall try to comply with NFPA 1403 and this guideline to the best of his/her ability.
- e. Prior to ignition of any fire, officers shall ensure that all protective equipment is being worn.

*Note: PAT tags will be grouped by teams and kept at the command post on the accountability board.*

- f. Officers shall make a head count when entering and after exiting the structure during an actual attack evolution. They shall closely monitor and supervise all assigned personnel during the live fire training evolution.

11. Reports and Records

- a. The following records and reports (documentation) shall be maintained on all live fire training evolutions in accordance with NFPA 1403, which will include the following:
  - 1. an accounting of the activities conducted
  - 2. a listing of instructors present and their assignments
  - 3. a listing of all participants
  - 4. documentation of any unusual conditions encountered
  - 5. any injuries incurred
  - 6. any changes in the structure
  - 7. the condition of the premises and adjacent are at the conclusion of the training exercise
- b. A post training critique session, complete with documentation, shall be conducted to evaluate student performance and to reinforce the learning experiences of all participants. At this time, an over all evaluation of the exercise should be done so that any problems encountered can be corrected to prevent them from happening again.