**12.08.02 LIVE FIRE TRAINING**

**1.0 REFERENCE**

WAC 296-305-05502

**2.0 POLICY**

**2.1** All members who engage in emergency operations shall be trained commensurate with their duties and responsibilities. Training shall be as frequent as necessary to ensure that members can perform their assigned duties in a safe and competent manner but shall not be less than the frequencies specified in this Policy or before they perform emergency activities.

**2.2** Members expected to who engage in interior structural firefighting in IDLH conditions shall be provided live fire training appropriate to their assigned duties and the functions they are expected to perform at least every three years (year periods must be defined by calendar year). Firefighters who do not receive this training in a three-year period will not be eligible to return to an interior structural firefighting assignment until they do. See Section 2.3

**2.2.1** Responding to a fire scene with a full alarm assignment, with a post-incident analysis will meet policy requirement 2.2 for no more than 2 continuing education training requirements out a 9 year period.

**2.3** **Live fire training conducted by the department will be in accordance with the NFPA 1403 standard in its entirety.** The live fire training shall be documented in such a way to show the training was in compliance with the NFPA 1403 standard and such documentation shall be reviewed by the Safety committee. This SOG does not replace NFPA 1403 and is a summary of the requirements for Live Fire training in a stuctural prop or acquired building only. It does not include the requirements for gas fired props.

**2.3** The instructor-in-charge shall be a Fire Instructor I in accordance with NFPA 1041 and shall be responsible for full compliance with the NFPA 1403 standard. The Instructor in charge will act as Incident Commander for the drill and coordinate all fireground activities.

**2.4** One additional instructor (qualified by the AHJ) will be assigned to each functional crew and backup line, each of which shall not exceed five students. These instructors should be rotated through assignments when possible.

2.4.1 All instructors shall wear full structural firefighting PPE during the training.

**2.5** The instructors and the safety officer responsible for conducting live fire training evolutions with a gas-fueled training system or with other specialty props (such as flashover simulator) shall be trained in the complete operations of any prop.

**2.6** Prior to being permitted to participate in live structure-fire training evolutions, members shall be trained in IFSAC FF1 skills in the following topics:

(1) Safety

(2) Fire behavior

(3) Portable extinguishers

(4) Personal protective equipment

(5) Ladders

(6) Fire hose and streams

(7) Overhaul

(8) Water supply

(9) Ventilation

(10) Forcible entry

(11) Building construction

**2.7** A Safety Officer, with no other duties, must be assigned to the burn and have the authority, regardless of rank, to prevent unsafe acts and eliminate unsafe conditions. There assignment will be to prevent unsafe acts and eliminate unsafe conditions. Safety officers shall be knowledgable on all aspects of NFPA 1403, 1500, and specific instructions on live fire props before being assigned this position.

**2.7.1** Additional Safety Officers may be assigned as necessary.

2.8 A fire control team shall consist of a minimum of two

personnel, including a fire ignition officer and someone to monitor the fire ignition officer. The fire control team cannot consist of a student or safety officer.

2.8.1 The Instructor in Charge shall coordinate with the ignition officer to ignite, maintain, and control the materials being burned.

2.9 Training will be rescheduled in the event of extreme weather. Weather conditions, wind velocity, and wind direction shall be monitored, including a final check weather changes immediately before actual ignition.

2.10 All trainees, instructors, and safety officers must be in full structural firefighting gear compliant with NFPA 1971.

2.11 All students, instructors, and safety officers shall be wearing an SCBA compliant with NFPA 1981, including a PASS device compliant with NFPA 1982 in the following conditions:

* In an atmosphere that is suspected of being oxygen deficient or contaminated by products of combustion, or both
* Below ground

2.12 A tactical channel shall be established and used for both internal and external sectors.

2.13 A building evacuation plan must be established and communicated to students, instructors, and safety personnel.

2.14 Basic life support emergency medical services with transport capability must be available on site during live fire training. This must be staged for prompt care and transport.

2.15 Rehabilitation for participants operating at the scene, including any necessary medical evaluation and treatment, food and fluid replenishment, and relief from climatic conditions must be available for the entire training session.

2.16 Water supply must for the burn must be calculated according to NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting. A minimum reserve of 50% of the calculated amount must be remain available throughout the training for unforeseen conditions.

2.17 No crew may enter the training structure without a charged attack line. A backup line must be provided for each training attack line capable of delivering 95 gpm.

Note:A single water source shall be sufficient at a training center facility where the water system has been engineered to provide adequate volume for the evolutions conducted and a backup power source or backup pumps.

2.18 The fuels that are utilized in live fire training evolutions shall only be wood products, in amounts necessary to create the desired fire size. Flammable or combustible liquids, pressure-treated wood, rubber, plastic, polyurethane foam, upholstered furniture, and chemically treated or pesticide-treated straw or hay shall not be used.

Note:The fuel load shall be limited to avoid conditions that could cause an uncontrolled flashover or backdraft.

2.19 The training exercise shall be stopped immediately when the instructor-in-charge or the safety officer determines through ongoing assessment that the combustible nature of the environment represents a potential hazard.

2.20 A preburn plan shall be prepared and shall be utilized during the preburn briefing sessions. (see Preburn Form attached).

Note: Properties and roads adjacent to the training facility such as railroads, airports or heliports, and nursing homes, hospitals, or other similar facilities, shall be identified.

2.21 If Acquired Structure the following checklist must be completed before using the structure:

* Clear Title
* Written Permission for Owner
* Proof of Insurance Cancelled
* Description of Evolution to owner
* Local Building Dept Permit
* Ecology/Runoff Permit
* AHERA Asbestos Inspection
* Asbestos Abatement if required
* LNI/NESHAP Permit
* Air Quality Permit
* Hazards (Tanks and Structural Conditions) addressed (See 2.22)
* Structural Conditions Assessed/Hazards Repaired
* Debris/Furniture/Weight Removed
* Utilities Disconnected
* Toxic Weeds/Pests Removed
* Exits Marked

**2.22** All structures used for training must be surveyed for potential hazardous substances, such as asbestos, prior to the initiation of any training activities. If the hazardous substances are to be disturbed during any training activity they must be removed prior to beginning that activity. All forms of asbestos deemed hazardous shall be removed by a licensed Asbestos Abatement Contractor. If the training activity will not disturb the hazardous substance, the material must be clearly marked and all participants must be shown the location of the substance and directed not to disturb the materials.

**2.23** In preparation for training, an inspection of a training building shall be made to determine that the floors, walls, stairs and other structure components are capable of withstanding the weight of contents, participants and accumulated water. All hazardous environmental conditions shall be removed before live fire training evolutions are conducted in the structure.

**2.23.1** Closed containers and highly combustible materials shall be removed. Oil tanks and similar closed vessels that cannot easily be removed shall be vented sufficiently to eliminate an explosion or rupture. Any hazardous or combustible atmosphere within the tank or other vessel shall be rendered inert.

**2.23.2** All hazardous structural conditions shall be removed or repaired so as to not present a safety problem during use of the structure for live fire training evolutions.

**2.23.3** Floor openings shall be covered to be made structurally sound. **2.23.4** Missing stair treads and rails shall be repaired or replaced.

**2.23.5** Dangerous portions of any chimney shall be removed.

**2.23.6**Holes in walls and ceilings shall be patched.

**2.23.7** Roof ventilation openings that are normally closed but can be opened in the event of an emergency shall be permitted to be utilized.

**2.23.8** Low-density combustible fiberboard and other highly combustible interior finishes shall be removed.

**2.23.9** Extraordinary weight above the training area shall be removed.

**2.23.10** Debris creating or contributing to unsafe conditions shall be removed.

**2.23.11**  Any toxic weeds, insect hives, or vermin that could present a potential hazard shall be removed.

**2.23.12** Trees, brush, and surrounding vegetation that create a hazard to participants shall be removed.

**2.23.13**  Combustible materials, other than those intended for the live fire training evolution, shall be removed or stored in a protected area to preclude accidental ignition.

**2.23.14** Disconnect all utilities.

**2.23.15** Mark all identify, evaluate, and mark all exits in structure.

**2.24** The AHJ shall develop and utilize a safe live fire training action plan when multiple sequential burn evolutions are to be conducted per day in each burn room.

**2.24.1** A burn sequence matrix chart shall be developed for the burn rooms in a live fire training structure.

**2.24.2** The burn sequence matrix chart shall include the maximum fuel loading per evolution and maximum number of sequential live fire evolutions that can be conducted per day in each burn room.

**3.0 DEFINITIONS**

N/A

**4.0 RESPONSIBILITY**

**4.1** The Instructor in Charge shall be responsible for the overall coordination and safety of all participants and shall serve as the Incident Commander for the training evolution.

4.2 The Department Safety Officer shall be responsible for ensuring that the structural integrity of the live fire training building has been assessed.

**4.3** An incident safety officer shall be appointed for all live fire training evolutions. The incident safety officer function shall be filled by a person who is trained and qualified in the IMS/Incident safety officer duties and who is not responsible for any other function at the training evolution other than the role of incident safety officer.

**4.4** One member shall be designated to the fire control team and shall direct the materials being burned and ignite the training fire in the presence and under the direction of the safety officer. This member shall not be a student and shall wear full protective clothing, including SCBA.

**4.5** Instructors at the training evolution shall maintain an awareness of the condition of members operating within the span of their control. They shall ensure adequate steps are taken to provide for the safety and health of the participants and relief or reassignment of fatigued members.

**5.0 PROCEDURES**

**5.1** Instructor in Charge develops a pre-burn plan using the Live Fire Evolution Form in Appendix 7 of this policy.

**5.2** IC will describe the evolution in detail on the form, including drawing of structure, apparatus, water supplies, attack and backup lines, EMS, crews, rehab, fuel load, and IC post.

**5.3** A PAR followed by a stop/go procedure will be initiated before ignition and crews entering the burn structure.

**6.0 ADDITIONAL REFERENCES**

**NFPA 1403, 2007 Edition**

**7.0 APPENDIX**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evolution Title:** |  | | | **Evolution Number:** | |  |
| **Describe Evolution:** Incident Commander, Ignition Officer, and Safety Officer review plan and evolution form. Pre-burn briefs completed for Public and Instructor Team. Building is inspected by Competent Person. After establishing Incident Command, IC uses Radio Tactical Channel to call for Single Alarm response to Structure Fire. 1st arriving Engine company establishes a supply line and an attack line. 2nd arriving company establishes 2nd water supply, backup line and R.I.C. crew with attack line. Rehab is established upon arrival of transport ready Ambulance or Rescue unit. When all units are staged and water supply lines established, Incident Commander initiates Stop/Go Sequence. Once wood only fuel is ignited by Ignition Officer, IC determines when enough smoke and heat has been generated for attack crew to enter. Attack crew enters the building and extinguishes the fire. Once the fire is extinguished, a Competent Person will evaluate the building structure for another burn. If building structure is deemed sound, the evolution is reset with crews rotating positions. The Stop/Go Sequence is re-initiated and the drill is repeated until all crews have extinguished the fire or the drill is stopped if the building is unsafe. | | **If Acquired Structure:**   * Clear Title * Written Permission * Insurance Cancelled * Description of Evolution to owner * Building Dept Permit * Ecology/Runoff Permit * AHERA Inspection * Asbestos Abatement * Lead Testing Pre-1978 * LNI/NESHAP Permit * Air Quality Permit * Hazards (Tanks) Removed * Structural Conditions Assessed/Hazards Repaired * Debris/Furniture/Weight Removed * Utilities Disconnected * Toxic Weeds/Pests Removed * Exits Marked   **Objectives:**   * Direct Attack * Indirect Attack * Combination Attack | | **Stop/Go Sequence:**  The Go/Stop sequence is the last step prior to ignition. The Lead Instructor announces  by radio “All personnel stand by for a Go/Stop roll call.” All positions share in responsibility and can stop the Go/Stop sequence. The order should be as follows:  (a) Staging (if used)  (b) Rehab/Medical  (c) Engine/Water Supply (d) Engine Water Supply (2)  (e) Entry Crew  (f) RIC/Back-up  (g) Safety  (h) Once the Safety Officer gives the “Go” signal, Lead Instructor announces, “We have a ‘Go’ for ignition.”  Once ignition has occurred, the Ignition Officer announces, “We have ignition.”  Any time operations are shut down, a Go/Stop sequence should take place before continuing. | | **Notes:**  All Live Fire Training must be per the 2007 edition of the NFPA 1403, Standard on Live Fire Training Evolutions. No person can be used as a victim and no mannequin may be dressed in Firefighter gear or clothing for the Live Fire Training.  Adequate Ventilation must be used in the acquired structure.  Water supply must be calculated from NFPA 1142. A main hoseline and backup lines flow at 95 gpm. Main line and backup lines must come from separate sources. Hoses must be tested according to NFPA Standards. |
| Lead Instructor (Fire Instructor 2): | | | Additional Instructors (required for each function and backup line Instructor Ratio 1-5 max): | | | |
| Instructor in Charge (Incident Commander : |  | Risk Assessment Completed by: |  | | Evacuation Plan and Signal (*Evacuate, Evacuate, Evacuate*) **ALL EXITS MARKED:** |  |
| Safety Officer: |  | Radio Emergency Procedures Reviewed by (*Mayday, LUNAR*): |  | | Radio Tactical Channel: |  |
| Staging: |  | Weather Conditions Report: |  | | Pre-Burn Brief Public Date and Time: |  |
| Ignition Officer (Fire Control Team) |  | Pre-burn Brief for Instructors/Fire Control (Give Time): |  | | Pre-Burn Brief for Firefighters (Give Time): |  |
| Fire Control Observer (Fire Control Team): |  | Wood only fuel confirmed: |  | | Roofing Material: |  |
| EMS (Transport Ready) /Rehab Setup: |  | Ceiling Material: |  | | Void Spaces Materials: |  |
| Engine/Water Supply: |  | Flooring Material: |  | | Other Materials: |  |
| Trained R.I.C. assigned: |  | Wall Material: |  | | Ignition Source and Material: |  |

|  |
| --- |
| Draw the Evolution, document the following, dimensions of the room, hose line placement, entrance and exit paths, victim placement, location of the command post, staging, rapid intervention, rehabilitation, operations area, apparatus, water sources, hose lines, SCBA, fuel load, and other equipment. |
|  |
| Note: Local Clean Air Authority should be contacted if for permission to burn. List contact, phone number, and approval date : |
| Competent Person Evaluation Approved to Use Structure: Date: |