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| **Live Fire Training** | Related Policies:  Training | |
| *This policy is for internal use only and does not enlarge an employee’s civil liability in any way. The policy should not be construed as creating a higher duty of care, in an evidentiary sense, with respect to third party civil claims against employees. A violation of this policy, if proven, can only form the basis of a complaint by this department for non-judicial administrative action in accordance with the laws governing employee discipline.* | | |
| Applicable KY Statutes:  Applicable KY Regulations: 401 KAR 63:005, .020, .021; 401 KAR 58:025, .040 | | |
| OSHA: | | |
| NFPA Standard: NFPA 1500 NFPA 1403 | | |
| Date Implemented: | | Review Date: |

1. **Purpose:** The purpose of the policy is to enhance firefighter safety during live fire training activities by ensuring compliance with all OSHA and NFPA standards
2. **Policy:** Safety shall be the primary consideration at all live fire training exercises. For that reason strict compliance with OSHA, NFPA 1403 and NFPA 1500 shall be required for all live fire training activities.
3. **General Procedures**
4. Live fire training is strictly prohibited within the fire department except as specifically authorized in this policy.
5. Due to the potential for serious injury or loss of life during live fire training, any member who conducts or engages in live fire training outside the parameters authorized by this policy will be deemed to have committed a serious offense for which termination is appropriate as a first offense, without regard to progressive discipline.
6. Live fire training shall only be permitted when authorized in writing by the fire chief, training officer and the safety officer. Prior to granting permission for members of the department to engage in any live fire training the fire chief, training officer and safety officer shall ensure that the exercise will be conducted in accordance with OSHA, NFPA 1403 and NFPA 1500.
7. Live fire training creates inevitable environmental concerns relating to air quality include toxic emissions from the combustion of asphaltic shingles, insulation on wiring, synthetic materials such as carpeting, carpet pads, upholstery; lead from lead-based painted materials; and asbestos emissions from pipe lagging, transite siding shingles or asbestos contained in asphalt roofing shingles. For this reason all live fire training must be conducted in accordance with the requirements of the Kentucky Division for Air Quality and the Kentucky Fire Commission.
8. At least fifteen (15) working days prior to a live fire training exercise being conducted, application shall be made to both the Kentucky Division for Air Quality and the Kentucky Fire Commission.
9. All instructors who deliver live fire training shall have successfully completed the 16 hour State Fire Rescue Training program for Live Fire Training Instructors course and obtained a minimum passing score of 80% on the written exam.
10. No alcoholic beverages or drugs shall be permitted on the training grounds where live fire training is taking place.

**Editor’s Note:** The following section is intended for fire departments that have their own burn facility. Departments that have their own facility probably have their own written policy already. This provision is offered only as a representative example. There are many types of burn facilities each of which requires a different policy based upon factors specific to that facility, such as construction, facility size, room size, fixed facility or mobile, fuel used, built in safety features, water supply (hydrants, drafting pit, tankers), etc.

1. **Live Fire Training at Fire Department Burn Facility**
2. **Positions:** Prior to conducting a live fire training exercise, the following personnel shall be designated:
3. **Instructor-In-Charge:** The instructor designated to be in overall command of the training evolutions. The instructor-in-charge may also be referred to herein as the incident commander.
4. **Ignition Officer:** An instructor shall be designated as the “ignition officer” to control the materials being burned.
5. **Pump Operator:** An instructor assigned to the operation of an engine during a live burn operation. One pump operator shall be assigned to each engine used for an evolution. The instructor shall be both authorized and qualified to operate the engine.
6. **Safety Officer:** A safety officer shall be appointed for all live fire training evolutions. The safety officer shall have the authority, regardless of rank, to intervene and control any aspect of the operations when, in his or her judgment, a potential or actual danger, accident, or unsafe condition exists. The responsibilities of the safety officer shall include, but shall not be limited to preventing unsafe acts and eliminating unsafe conditions. The safety officer shall provide for the safety of all persons on the scene including students, instructors, visitors, and spectators. The safety officer shall not be assigned other duties that interfere with safety responsibilities. The safety officer shall be knowledgeable in the operation and location of safety features available within the burn building, such as emergency shutoff switches, gas shutoff valves, and evacuation alarms.
7. **Inspection**
8. The Instructor-In-Charge and the safety officer shall visually inspect the burn building for damage prior to live fire training evolutions.
9. **Water Supply**
10. The instructor-in-charge of the live fire training evolutions shall determine, prior to each specific evolution, the number of training attack lines and backup lines that are necessary to ensure adequate water supply.
11. An Adequate Water Supply is defined as follows:
12. One (1) Attack line capable of flowing 125 GPM for at least 10 minutes
13. One (1) Backup line capable of flowing 125 GPM for at least 10 minutes
14. One (1) Safety Backup line capable of flowing at least 125 GPM for at least 1 hour

For a total of three (3) lines capable of flowing 375 gallons of water per minute, and a total of 10,000 gallon of available water.

1. Two separate sources of water shall be utilized, one supplying the attack line and backup line, and the second supplying the safety backup line. Examples: an engine at draft supplies an attack and backup line, with a second engine at draft supplying a safety backup line; or an engine fed by a 2500 gpm hydrant supplies an attack and backup line, and another engine off a separate 2000 gpm hydrant supplies a safety backup line.
2. For every attack line there shall be one backup line, and one safety backup line.
3. **Instructors**
4. All instructors shall be qualified to deliver fire fighter training.
5. The participating student-to-instructor ratio shall not be greater than 5 to 1.
6. Additional instructors shall be designated when factors such as extreme temperatures or large groups are present, and classes of long duration are planned.
7. Prior to the ignition of any fire, instructors shall ensure that all protective clothing and equipment specified in this chapter are being worn according to manufacturer’s instructions.
8. Instructors shall take a head count of personnel when entering and exiting the building during an actual attack evolution conducted in accordance with this policy.
9. Instructors shall monitor and supervise all assigned students closely during the live fire training evolution.
10. The instructor-in-charge shall consider the circumstances of each training session and make provisions for the rest and rehabilitation of members operating at the scene, including medical evaluation and treatment, food and fluid replenishment, and relief from climate conditions, in accordance with the circumstances of the training session.
11. **Assignments**
12. The instructor-in-charge shall assign:
13. One instructor to each functional crew, which shall not exceed five students
14. One instructor to each backup line
15. Additional personnel to backup lines to provide mobility
16. One additional instructor for each additional functional assignment
17. Backup lines shall be provided to ensure protection for personnel on training attack lines, and may be staffed by students in the class. The Safety Backup Line shall be staffed by Instructors or experienced firefighters (non-students) proficient at rapid intervention.
18. Additional safety personnel, as deemed necessary by the safety officer, shall be located strategically within the structure to react to any unplanned or threatening situation or condition.
19. **Fuel**
20. The fuels that are utilized in live fire training evolutions shall have known burning characteristics that are as controllable as possible.
21. Unidentified materials, such as debris found in or around the structure that could burn in unanticipated ways, react violently, or create environmental or health hazards, shall not be permitted to be used.
22. Fuel materials shall be used only in the amounts necessary to create the desired fire size.
23. Pressure-treated wood, rubber, and plastic, and straw or hay treated with pesticides or harmful chemicals shall not be permitted to be used.
24. The fuel load shall be limited to avoid conditions that could cause an uncontrolled flashover or backdraft.
25. The use of flammable or combustible liquids shall not be permitted to be used in live fire training evolutions in structures.
26. The instructor-in-charge shall assess the selected fire room environment for factors that can affect the growth, development, and spread of the fire.
27. The instructor-in-charge shall document fuel loading including all of the following:
    1. Furnishings
    2. Wall and floor coverings and ceiling materials
    3. Type of construction of the structure, including type of roof and combustible void spaces
    4. Dimensions of room
28. The training exercise shall be stopped immediately when the instructor-in-charge determines through ongoing assessment that the combustible nature of the environment represents a potential hazard.
29. The exercise shall continue only when the actions have been taken to reduce the hazard.
30. **Training Evolutions**
31. Additional safety personnel, as deemed necessary by the safety officer, shall be located strategically within the structure to react to any unplanned or threatening situation or condition.
32. A method of fireground communications shall be established to enable coordination among the incident commander, the interior and exterior sectors, the safety officer, and external requests for assistance.
33. A building evacuation plan shall be established, and conveyed to all instructors and students prior to live fire training beginning. An evacuation signal shall be demonstrated to all participants prior to live fire training beginning.
34. Emergency medical services including advanced life support transport vehicles shall be available on site to handle injuries.
35. A search of the structure shall be conducted immediately prior to ignition to ensure that no unauthorized persons, animals, or objects are in the building.
36. No person(s) shall play the role of a victim inside the building.
37. Fires shall not be located in any designated exit paths.
38. The training session shall be curtailed, postponed, or canceled, as necessary, to reduce the risk of injury or illness caused by extreme weather conditions.
39. Each participant shall be equipped with full protective clothing and self-contained breathing apparatus (SCBA).
40. All participants shall be inspected by the safety officer prior to entry into a live fire training evolution to ensure that the protective clothing and SCBA are being worn according to manufacturer’s instruction and are in serviceable condition.
41. During the training evolution, all personnel shall comply with NFPA 1500 and NFPA 1403 in all respects.

**Editor’s Note:** The following section is intended for fire departments that allow live burns in acquired structures. This practice poses a very clear risk to personnel and liability for the department. For this reason it is absolutely essential that departments who use acquired structures comply with NFPA 1403. It is also important that departments that do not intend to allow personnel to conduct live fire training have clear rules prohibiting the practice.

1. **Acquired Structures**
2. **Structures**
3. Before any acquired structure may be used for live fire training, permission must be obtained in writing from the fire chief, training officer and safety officer. Before permission is granted, ownership of the acquired building shall be determined. Evidence of a clear title shall be obtained via a title search that includes a search for any liens. Written consent to burn shall be obtained from the owner and any lienholder, and the sufficiency of the consent shall meet the requirements of legal counsel. The consent form shall include a clear description of the anticipated condition of the acquired building at the completion of the training along with the method by which control of the property will be returned to the owner.
4. Any building that is going to be used for a live fire training exercise shall be prepared in advance. Preparation for the live burn shall include application for and receipt of required permits and permissions.
5. Proof of insurance cancellation or a signed statement of nonexistence of insurance shall be provided by the owner of the structure prior to acceptance for use of the acquired building.
6. All hazardous storage conditions shall be removed from the structure or neutralized in such a manner as to not present a safety problem during use of the structure for live fire training evolutions. Closed containers and highly combustible materials shall be removed from the structure.
7. Oil tanks and similar closed vessels that cannot be removed shall be vented sufficiently to prevent an explosion or overpressure rupture. Any hazardous or combustible atmosphere within the tank or vessel shall be rendered inert.
8. 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.
9. Floor openings shall be covered.
10. Missing stair treads and rails shall be repaired or replaced.
11. Dangerous portions of any chimney shall be removed.
12. Holes in walls and ceilings shall be patched.
13. Low-density combustible fiberboard and other unconventional combustible interior finishes shall be removed.
14. Extraordinary weight (bath tubs, showers, etc.) above the training area shall be removed.
15. All hazardous environmental conditions shall be removed prior to conducting live fire training evolutions in the structure.
16. Debris creating or contributing to unsafe conditions shall be removed.
17. Roof ventilation openings that are normally closed but can be opened in the event of an emergency shall be permitted to be utilized.
18. Utilities shall be disconnected.
19. Any toxic weeds, insect hives, or vermin that could present a potential hazard shall be removed.
20. All forms of asbestos deemed hazardous to personnel shall be removed by an approved asbestos removal contractor. If a structure is to be demolished by intentional burning, all regulated asbestos containing material (RACM) including Category I and Category II nonfriable asbestos containing materials (ACM) must be removed in accordance with National Emission Standards for Hazardous Air Pollutants (NESHAP) before burning.
21. Exits from the building shall be identified and evaluated prior to each training burn.
22. Participants of the live fire training shall be made aware of exits from the building prior to each training burn.
23. Buildings that cannot be made safe as required by this chapter shall not be utilized for interior live fire training evolutions.
24. An acquired structure that has adjacent buildings or property that might become involved, shall not be used for live fire training.
25. Utility services that are adjacent to the live burn site shall be removed or protected.
26. Trees, brush, and surrounding vegetation that create a hazard to participants shall be removed.
27. 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.
28. Property adjacent to the training site that could be affected by the smoke from the live fire training evolution, such as railroads, airports or heliports, and nursing homes, hospitals, or other similar facilities, shall be identified in advance. The persons in charge of the adjacent properties shall be informed of the date and time of the live burn evolution.
29. Streets or highways in the vicinity of the training site shall be surveyed for potential effects from live fire training evolutions and safeguards shall be taken to eliminate possible hazards to motorists.
30. Fire lines shall be established to keep pedestrian traffic in the vicinity of the training site clear of the operations area of the live burn.
31. Awareness of weather conditions, wind velocity, and wind direction shall be maintained, including a final check for possible changes in weather conditions immediately before actual ignition.
32. **Positions:** Prior to conducting a live fire training exercise, the following personnel shall be designated:
33. **Instructor-In-Charge:** The instructor designated to be in overall command of the training evolutions. The instructor-in-charge may also be referred to herein as the incident commander.
34. **Ignition Officer:** An instructor shall be designated as the “ignition officer” to control the materials being burned.
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37. **Inspection**
38. The Instructor-In-Charge and the safety officer shall visually inspect the acquired structure for compliance with the requirements of NFPA 1403 and this policy prior to the training beginning.
39. **Water Supply**
40. The instructor-in-charge shall determine the rate and duration of water flow necessary for each individual live fire training evolution, including the water necessary for control and extinguishment of the training fire, the supply necessary for backup lines to protect personnel, and any water needed to protect exposed property.
41. The minimum water supply and delivery for live fire training evolutions shall meet the criteria identified in NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting. A minimum reserve of additional water in the amount of 50 percent of the fire flow demand shall be available to handle exposure protection or unforeseen situations. Under no circumstances shall the minimum water supply for an acquired structure shall be less than:
42. One (1) Attack line capable of flowing 125 GPM for at least 30 minutes
43. One (1) Backup line capable of flowing 125 GPM for at least 30 minutes
44. One (1) Safety Backup line capable of flowing at least 125 GPM for at least 1 hour

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6. Additional instructors shall be designated when factors such as extreme temperatures or large groups are present, and classes of long duration are planned.
7. Prior to the ignition of any fire, instructors shall ensure that all protective clothing and equipment specified in this chapter are being worn according to manufacturer’s instructions.
8. Instructors shall take a head count of personnel when entering and exiting the building during an actual attack evolution conducted in accordance with this policy.
9. Instructors shall monitor and supervise all assigned students closely during the live fire training evolution.
10. The instructor-in-charge shall consider the circumstances of each training session and make provisions for the rest and rehabilitation of members operating at the scene, including medical evaluation and treatment, food and fluid replenishment, and relief from climate conditions, in accordance with the circumstances of the training session.
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44. All participants shall be inspected by the safety officer prior to entry into a live fire training evolution to ensure that the protective clothing and SCBA are being worn according to manufacturer’s instruction and are in serviceable condition.
45. The instructor-in-charge, the safety officer, and all instructors shall take steps to ensure that structural members of the acquired structure do not become involved in or damaged by fire.
46. During the training evolution, all personnel shall comply with NFPA 1500 and NFPA 1403 in all respects.