INSTRUCTOR GUIDE

TOPIC: CONDUCTING A SAFE STRUCTURAL BURN TRAINING DRILL

LEVEL OF INSTRUCTION:

TIME REQUIRED: FOUR TO SIX HOURS

MATERIALS: TWO FULLY EQUIPPED PUMPERS (AT A MINIMUM), ONE STAFFED EMS UNIT, SCBA CYLINDER REFILLIING CAPABILITY, DRINKING WATER AND CUPS, CONTINUOUS WATER SUPPLY, CLASS A FUEL, INSTRUCTORS (AT LEAST ONE FOR EVERY FIVE STUDENTS PLUS SAFETY OFFICER, STOKER AND INSTRUCTOR-IN-CHARGE), ACQUIRED STRUCTURE

REFERENCES:
ESSENTIALS OF FIRE FIGHTING, 4TH EDITION, IFSTA

NFPA 1403, LIVE FIRE TRAINING EVOLUTIONS (2002), NFPA
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PREPARATION:

MOTIVATION: Providing realistic training should be the goal of any training evolution so that personnel are better prepared and equipped to respond to a real emergency. Coupled with realism is safety. Nothing can turn a good training activity into a disaster more so than the injury or, even worse, the death of a trainee. Safety in training is not negotiable and must be the guide for any training activity.

OBJECTIVE (SPO): 1-1

The individual will demonstrate a basic understanding of structural fire attack including fire behavior, hose handling, use of personal protective clothing and self-contained breathing apparatus, and teamwork.

OVERVIEW:

CONDUCTING A SAFE STRUCTURAL BURN TRAINING DRILL

* Preparation of the Training Site
* Preparation of the Students
* Safety Briefing
* Evolutions
* Post Evaluation and Cleanup

CONDUCTING A SAFE STRUCTURAL BURN TRAINING DRILL

SPO 1-1 The individual will demonstrate a basic understanding of structural fire attack including fire behavior, hose handling, use of personal protective clothing and self-contained breathing apparatus, and teamwork.

EO 1-1 Describe the items that must take place to prepare the site and the acquired structure for use in a training activity.

EO 1-2 Describe the student preparation requirements necessary to conduct a safe and successful structure training activity.

EO 1-3 Describe the items that should be included in the safety briefing to be conducted place prior to commencement of the training activity including the structure walk-through.

EO 1-4 Describe the activities that will take place during the individual team evolutions, especially those necessary to maintain control and safety of personnel.

EO 1-5 Describe the items that should be included in the post evaluation and cleanup phase of the training activity.

NOTE: This drill has been prepared for use with an acquired structure. It can also be adapted to a training facility.

A. PREPARATION OF THE TRAINING SITE (EO 1-1)

1. Identify any permit requirements such as burn permits and health clearances that are needed to conduct the training activity

2. Make sure of the structure ownership and obtain written permission from the owner for the training activity as well as burning the structure

3. Make sure that there are no liens on the structure and that the insurance has been cancelled

4. Make sure that the structure is structurally sound if you are planning on conducting interior operations

5. Remove any hazardous storage items such as closed containers

6. Repair any hazardous conditions or secure the areas so that they would not be used (examples include holes in floors and missing/damaged railings on stairs)

7. Secure any hazardous conditions on the site such as wells

8. Remove or secure any hazardous environmental conditions such as asbestos

9. Arrange to protect exposures that the property owner may want saved such as trees, shrubs, or out buildings

10. Make sure all flammable and combustible materials have been removed from the structure and adjacent area

11. Inform neighbors of the training activity and any road closures, extra traffic, water usage in hydrant areas , and smoke conditions

12. Establish and identify zones for operational personnel, support personnel, and spectators including staging of students and apparatus

13. Stay abreast of weather conditions that may impact on the training activity

14. Identify available water sources and supply capability

15. Remove any unwanted sources of ignition such as utility service

16. Monitor fuel types and quantities to avoid any materials other than class A fuels with known characteristics; care should be taken when using furniture containing foam from

cushions due to the soot production and its affect on facepiece visibility

17. Make a ventilation hole in the roof to relieve convected currents

18. Notch any chimneys at a low point so that they will fall down when the structure burns down

19. Make sure there is a continuous supply of water with adequate reserve on apparatus

B. PREPARATION OF THE STUDENTS (EO 1-2)

1. Verify the level of training of the students to confirm that have had some prior training in personal protective clothing and self-contained breathing apparatus, nozzle operations and hose handling, and fire behavior

2. Make sure all students are in good health and physical conditions

3. Make sure all students are adequately and continuously hydrated

4. Make sure all students have accountability tags

5. Make sure each student has personal protective clothing including a helmet with ear protection and a suspension system, turnout coat and pants with vapor barrier and protective liner, boots with steel toes and insoles, fire retardant leather gloves, and fire retardant hood to make sure that it will provide adequate protection for the students. All protective clothing shall be clean and in good condition. Nomex or PBI coats and pants and non-metallic helmets are recommended. Nylon quilted liners in coats or pants or plastic or rubber covered gloves will not be permitted. It is recommended that long pants and long sleeve shirts, both of cotton, be worn under the protective clothing to reduce the possibility of steam burns.

6. Review the accountability system, personnel accountability reporting system, and emergency evacuation signals being used

7. Advise the students that the structure will not be overhauled after each evolution to reduce the likelihood of extension

8. Each student will have a positive pressure self-contained breathing apparatus and a personal alert safety system (PASS) in place as part of their protective clothing prior to entering the structure. Both items will be activated at all times while in the structure.

9. Conduct dry hose handling evolutions if needed

C. SAFETY BRIEFING (EO 1-3)

1. Identify the safety officer and any assistants and make their identification, roles, and responsibilities known to all participants

2. Advise all participants that the safety officer has the authority to interrupt any evolution or activity determined to be unsafe

3. Conduct a walk-through of the structure to identify the fuels being used, the locations of the burns, the locations of safety lines, and the location of exits

4. Explain that there will be only one burn taking place at any time

5. Identify the radio frequencies being used

6. Advise the location of the rehab and EMS stations

7. Advise the rehab requirements and advise that rehab should occur after each SCBA cylinder is expended

8. Advise that no human victims will be used during the activity

9. Advise that there will be an instructor with each crew operating in the structure, an instructor with the backup crew, and two instructors serving as stokers and interior safety personnel

10. Advise that there will be one hoseline with the operating crew, one hoseline with the backup crew, and an additional hoseline available to the stokers/interior safety

11. Explain that portions of the structure such as the attic will be checked periodically for fire extension

12. Review general safety precautions including staying out of openings, opening and closing nozzles at the direction of the instructor, hose handling entering and exiting the structure, staying low, staying dry, and accounting for all crew members at all times.

13. Prior to entering the structure, each student is to be inspected by the safety officer to insure that all protective clothing and equipment is in place, providing proper protection, and operating properly.

14. The safety officer will be responsible for monitoring the personal accountability system and knowing who is in the building, there SCBA pressure at the time of entry, and how long they have been in the building.

15. Make sure that there are sufficient lengths of hose on each attack line to reach the further-most point in the structure

16. Make sure that all nozzles are operating correctly

17. Make sure that all self-contained breathing apparatus is operating correctly

D. EVOLUTIONS (EO 1-4)

1. Make sure that all instructors are qualified to serve as instructors for structural burn activities based on prior training and experience

2. Maintain personnel accountability both in the structure and on the training site

3. Brief introduction of all instructors participating in the evolution.

4. Upon completion of all safety inspections and clearance of the safety officer, the students will enter the structure. One instructor will be positioned at the front of the attack crew and the other instructor will be positioned at the rear of the attack crew.

5. All students will be on the same side of the hose line with the nozzle person and back-up person within arms reach of each other. Other crew members will be positions appropriately to advance the hose line.

6. Students will enter the burn area in a crawling position with the hose line between the students and the fire.

7. All students are to be either in the burn area or outside it before the instructor authorizes the nozzle to be opened. The nozzle person should account for all crew members before initiating attack.

8. At the conclusion of the attack, all crew members are to position themselves in a manner to reduce body surface area to avoid steam burns.

9. At the direction of the instructor, the person on the nozzle will go around the nozzle and move to the rear of the crew. Other crew members will move forward and assume their new positions on the hose line.

10. The attack process outlined above will resume until every crew member has had an opportunity to operate the nozzle.

11. The crew will then retreat from the building with the nozzle person and back-up person maintaining control of the nozzle in the event of re-ignition. Other crew members will be positioned to assist with hose line removal.

12. Upon exiting the structure, the instructors will conduct a brief review of the activities and check for any injuries. The students should check their air supply and rehydrate prior to re-entry.

13. The instructional process will continue until all students have been rotated through the structure.

14. The students will be instructed in the proper nozzle pattern and setting for better coverage.

15. The nozzle pattern and flow should be checked prior to entering the structure. Upon entering the structure, the nozzle should not be opened until advised by the instructor. The instructor will also advise where the stream is to be directed and the pattern and method of attack to be used.

16. The nozzle should be closed when advised by the instructor.

17. The "buddy system" will be used while in the structure. Everyone should be watching for everyone else.

18. The minimum size hose line permitted for structural firefighting is 1-1/2-inch.

19. Three hoselines must be in place and ready for use prior to any individuals entering the structure for firefighting. One hose line will be used by the attack crew, one hoseline with the backup crew, and one hose line will be used by the stokers and kept in the burn area as a safety line. Consideration should be given to a separate water supply for the attack and backup lines and the safety line.

20. The instructors and the firefighting crews should be reminded of the importance of ventilation at part of the activity. Adequate provisions must be made to allow the steam to vent when attacking the fires to prevent steam burns.

E. POST EVALUATION AND CLEANUP (EO 1-5)

1. The class is responsible for cleaning up the surrounding area. This includes making sure all burned materials are extinguished

2. A critique should be conducted at the conclusion of each training activity. This should include a check of the students to insure that no injuries went unreported and that any equipment repairs are reported.

3. Before dismissal of the group, all equipment and apparatus must be returned to service and the area must be cleaned.

REVIEW:

CONDUCTING A SAFE STRUCTURAL TRAINING DRILL

* Preparation of the Training Site
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REMOTIVATION: As with any training activity, it is important that the instructors have the proper knowledge and skill to conduct the activity. It is also important that all the training participants go home safely at the conclusion of the activity.

ASSIGNMENT:

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