

# PHOENIX REGIONAL STANDARD OPERATING PROCEDURES

## TRAINING FIRES

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### PURPOSE

The purpose of this procedure is to establish standard guidelines for conducting structural training fires while complying with NFPA Standard 1403. All other Phoenix Regional procedures will also apply to training fires where applicable.

The objective of a training fire is to provide realistic fire ground training under actual fire conditions for recruit and uniformed firefighters while providing high levels of safety and minimizing risk to firefighters.

Training fires will be designed to minimize the risk and to control the fire conditions so that firefighters are not unnecessarily exposed to hazards or injuries.

Training fires present the same hazards as those encountered at actual field incidents. The Incident Command System employed at actual fire incidents will be Standard Operating Procedure at all structural training fires. Refer to Volume II, Standard Operating Procedures.

### PROCEDURES FOR ON OR OFF SITE BURNING

#### PERMITS

The Training Academy holds a burn permit issued by Maricopa County Environmental Services Department. The officer in charge is responsible for complying with the conditions stated on the burn permit. This includes burning only during the months and hours specified on the permit. Check the burn permit located in the main office to verify that the permit is current and has not expired.

The officer in charge is also responsible for calling the Air Quality Division each morning of the day of burning to obtain permission to burn that day. The phone number is (602) 506-6700. You must fill in the log at the time of the phone call with your name, the person you spoke to, type of burn, and time of day.

Note: Burns conducted outside the City of Phoenix boundaries may require local permits in addition to the county permit. Check with local jurisdiction before burning.

All burns, (off-site and on-site) must be conducted in compliance with the Fire Department's Burn Permit issued by the Maricopa County Department of Environmental Services, Air Quality Division. This includes limitations on the times when burns are allowed and pre-approval of all burns to ensure that they do not contribute to violations of the air quality health standards. Burn permits conducted off the training academy campus MAY require a burn permit specific to site/property where the burn is to occur.

All structural off-site burns require an asbestos survey and filing a completed NESHAPs form with Maricopa County Department of Environmental Services, Air Quality Division at least ten (10) working days prior to the scheduled burn.

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## **COMMAND**

One officer on the scene shall be designated as "Command" and will assume the Command functions.

A Command Post shall be established and positioned to afford maximum visibility of the structure, operating companies and fire conditions.

## **COMMUNICATIONS**

Command is responsible for establishing radio communications with each company officer or training officer involved in the drill. Channel assignment must be coordinated with Dispatch and Deployment and all companies involved. Companies operating at the training fire will continuously monitor the assigned radio channel. All radios will be checked for proper functioning and correct channel prior to initiating training fire operations.

## **SECTORS**

To eliminate confusion, and provide adequate scene control, all personnel operating within the fireground perimeter shall operate under the direction of a sector officer. The fireground perimeter shall be defined as the hazardous area surrounding the burn structure and shall be determined by Command following guidelines stated in Fireground Safety.

The following sectors shall be established on all structural training fires.

- Interior - Company or training officer directing interior suppression activities.
- Exposure - Provide manned, charged hose line positioned to protect exposed property. More than one hose line (and therefore, more than one sector) may be required, depending on the exposures present.
- Rescue - Provide a manned, charged back-up line for each fire attack team, in position to assist in fire extinguishment and rescue of interior personnel. This sector will be manned by experienced firefighting personnel (not recruit firefighters) and each Rapid Intervention Crew (RIC) shall consist of a minimum of three firefighters. A company officer shall be in charge of each RIC unit. There shall be one rescue (RIC) team for each fire attack team. The RIC will be positioned in a ready state near the exterior point of entry.  
(RIC)
- Rehab - All personnel not assigned to other sectors will be under the direction of Rehab. Rehab area will be established in a location that reduces congestion around the fire building.
- Safety - The Safety Officer (or a safety representative) will be in attendance at all structural training fires and will assume safety sector responsibilities. The safety sector will monitor personnel and fire conditions, and work with Command to ensure all safety procedures are complied with, and that risk to personnel is minimized.

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Other Sectors - Other sectors may be established as necessary to control training/fire control operations and to minimize risk to firefighters.

## **SAFETY**

The Safety Officer shall have full authority to intervene and control or stop any aspect of the operations when in his/her judgment; a potential or real risk to personnel exists. He/she will not be assigned other duties that would distract from his/her safety responsibilities.

Additional Safety Officers may be assigned to the training fire if the conditions dictate. Responsibilities of the Safety Officer(s) will include but not be limited to the prevention of unsafe acts and elimination of unsafe conditions.

Company officers acting as instructors will be responsible for the direct supervision of assigned students and their safety and welfare, including the prevention of unsafe acts and the elimination of unsafe conditions.

Fire Department personnel will not be permitted to operate on the roof during active fire conditions in the building.

The number of personnel involved in training fires often exceeds the number normally assigned at actual incidents. To reduce risk, and assist with scene management, training fire participants shall be formed into individual companies consisting of no more than four (4) members and supervised by a company officer.

Exposing recruit firefighters to structural training fires presents special safety considerations. All sector officers should anticipate that a recruit firefighter's exposure to interior fire conditions may be less than orderly. To reduce the possibility of injury, the span of control for interior operations shall not exceed two recruits for each company or training officer.

All firefighters involved in structural training fires shall have received training to meet the performance objectives of Firefighter I, NFPA 1001 in:

- Forcible Entry
- Protective Breathing Apparatus
- Fire Hose, Nozzles and Appliances
- Fire Streams
- Ladders
- Ventilation
- Rescue
- Safety
- Fire Behavior

No personnel shall be permitted to act as a victim(s) during live training fires.

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To reinforce safety procedures, a protective clothing and equipment inspection shall be conducted on all firefighters immediately prior to and after engaging in suppression activities. The inspection shall insure that all clothing and equipment is serviceable and worn in a manner to provide the maximum personal protection.

The Safety Officer will be responsible for completing the safety checklist prior to initiating the training exercise.

One officer on the scene shall be designated as an accountability officer and will assume the accountability functions.

To enhance accountability and to improve tracking of firefighters in the Hot Zone, the "PASSPORT" system shall be used,

Personnel Accountability Report or "PAR" shall be used at the following accountability benchmarks:

- Upon entering the structure
- Any report of a trapped or missing firefighter
- By all crews reporting an "All Clear"
- At a report of fire under control
- Upon exiting the structure
- Sudden hazardous event
- Change from offensive to defensive strategy
- At the discretion of Command

Passports will remain with the designated accountability officer near the "point of entry" to the Hot Zone. Upon entry, crews will turn in their PASSPORT. Upon exit, the crew must retrieve their PASSPORT. The accountability status board will contain only the PASSPORTS of those crews in the Hot Zone.

Access to the training fire building will be controlled by fire line tape that shall be stretched around the fire-building perimeter.

Personnel within this perimeter may be permitted to operate with the SCBA facepiece removed. All other protective clothing items shall be in place.

All personnel not wearing appropriate protective clothing and equipment shall remain outside the fire line perimeter.

**REQUIRED FIRE EQUIPMENT AND COMPANIES**

Two separate sources of hydrant water supply shall be established (two Engine Companies minimum). The water supply shall be test flowed by the forward pumper to insure adequate water supply of a minimum of 500 gallons per minute.

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All fire attack hose lines shall be supplied by one pumper. The RIC unit backup hose lines shall be supplied by a second pumper. All hose lines will be flow tested to confirm a minimum of 95 gpm.

An on-duty battalion chief or other chief officer designated by the Training Academy staff shall be on scene to supervise the overall operation.

A utility truck and a rescue shall be on scene prior to the start of the training fire. An ALS company shall also be on scene.

Access to the scene shall be controlled to permit emergency access to and from the site.

All apparatus will be appropriately placed or staged in accordance with the Phoenix Regional Standard Operating Procedures.

### **STARTING THE FIRE**

The use of flammable or combustible liquids, as defined in NFPA-30, shall be prohibited for use in live fire training evolutions. Only Class A materials shall be used in live fire training. The ignition process will be conducted under the direct supervision of the Safety Officer. Command shall assign an experienced firefighter to become "FIRESTARTER." It is the responsibility of the FIRESTARTER to initially ignite the fire. FIRESTARTER shall also regulate the fuel load for each evolution to maintain a tenable atmosphere inside the training fire rooms. The RIC unit shall be in place with a charged hose line prior to ignition.

### **ATTACK PLAN**

The officer in charge shall develop an attack plan based upon information obtained during the pre-plan and building preparation stages.

The Attack Plan shall specify:

- Points of ignition
- Amount of fire load
- Position of entry attack lines
- Position of RIC units
- A Rescue Plan

All personnel involved in the drill shall be instructed on each element of the attack plan prior to igniting the structure and shall receive a walk through briefing of the building prior to each training fire. An evacuation plan and signal shall be reviewed and agreed upon.

### **RE-USE OF LIVE TRAINING FIRE BUILDING**

The building will be re-inspected by the Safety Officer for structural integrity and for any hazards or unsafe conditions prior to each additional training fire in the structure.

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**RECORDS AND REPORTS**

The following records and reports shall be maintained on all live fire training for two years.

- a. An accounting of the activities conducted.
- b. Roll call of all participants, including the Safety Officer and other support personnel.
- c. Documentation of unusual conditions or events encountered.
- d. Any injuries and treatment provided.
- e. Copy of "Transfer of Authority" form signed by property owner.
- f. Copies of all permits, releases or other documents relating to the training fire.
- g. Records of critiques.

**OFF SITE TRAINING BURNS**

**PRE-PLANNING**

The officer in charge of the drill will conduct an initial inspection of the training fire site. If the building appears acceptable, he/she will make an appointment with the Safety Officer to inspect the building.

Single-story structures shall always be considered first choice when selecting training in interior firefighting operations. Two-story structures will only be considered when the building has been thoroughly inspected by the Safety Officer and the Command officer. Both officers must agree that the building is structurally sound for training burns. Adequate egress/access points on the second floor must be readily available.

The officer coordinating the training fire will inspect the building with the Safety Officer. The building must meet fire safety and structural integrity criteria before approval to conduct a training fire is given by the Safety Officer. The Safety Officer shall have full authority to deny approval if the building is determined unsafe. Buildings incapable of withstanding exposure to fire conditions shall not be utilized. Buildings with bars on windows or doors that cannot be removed shall not be utilized.

Traffic control will also be a major factor for consideration in approving live structural training fires. Approval will not be given where traffic cannot be effectively controlled or re-routed.

**ASBESTOS CONSIDERATIONS**

Prior to scheduling any training activities an asbestos consideration must be conducted by an AHERA accredited asbestos building inspector to ensure that no asbestos is present in the structure. The asbestos survey must follow AHERA guidelines and in addition include sampling of all materials, which are determined by the inspector to be suspect for asbestos. This MAY include roofing components, ceiling tiles and finishes, flooring or interior and exterior textured wall treatment layers including but not limited to stucco and paint. Metals, wood and glass are recognized as having no potential for asbestos.

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If asbestos is determined in any layer of material, in concentrations greater than 1%, the structure/house may not be used for any type of training activities, including burns, forcible entry, etc.

If the building is found to be free of asbestos materials (<1% by layer), a NESHAPs form must be filed with Maricopa County Air Quality Asbestos Unit at least 10 working days before the scheduled burn.

**RESTRICTED AREAS**

Training fires are not permitted in the following locations:

- The Central Corridor (Seventh Avenue on the West and Seventh Street on the East).
- The Airport Relocation area (24th Street on the East and 14th Street on the West. The freeway on the South and Jackson Street on the North).

Drills that draw opposition from neighbors or other members of the community should be discontinued.

**BUILDING PREPARATION OBTAINING PERMISSION AND PERMITS**

The training officer coordinating the live structure burn shall be responsible for obtaining all releases, permits and other approvals and releases relating to the training fire. They shall include, but not necessarily be limited to the following:

1. Confirm a clear title on the property.
2. Obtain written permission from the building owner.
3. Verify ownership of the selected building.
4. Obtain documented proof of cancellation of insurance on the selected building.
5. Obtain a burn permit from Urban Services.
6. Obtain permission to burn from Air Quality Control.
7. Obtain approval from immediate supervisor.
8. Obtain approval of Safety Officer.
9. Review requirements and restrictions in the Fire Department's Burn Permit with Maricopa County Department of Environmental Services. Review expiration date on the permit.
10. Request and confirm completion of an asbestos NESHAPS survey to be completed by a AHERA Certified Building Inspector and submit a completed NESHAPS to Maricopa County Air Quality for approval 10 working days prior to a burn day.
11. Request and confirm completion of an inspection by the Fire Department's Industrial Hygienist fro City Safety to evaluate the presence of hazardous waste, mercury, lead, and other regulatory issues.
12. If asbestos, in any form, is determined in the structure, the structure will not be considered for training burn or any other type of training activity.

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## **SITE PREPARATION**

The following preparations will be made prior to conducting a training fire in a structure:

- Request a walk-through of the property by the Fire Department's Industrial Hygienist or a representative Industrial Hygienist from City Safety. The walk through should include a review of asbestos testing results, ad results or inspector for hazardous waste, mercury, lead and other results of previous inspection.
- Confirm that utility service (gas and electric, etc.) has been disconnected.
- All debris will be cleared from entrances and exits and from the immediate exterior area.
- At least two points of egress shall be provided in all training fire structures.
- All interior contents shall be arranged to permit free access to and egress from all rooms.
- No additional combustible, or smoke generating substance other than wood pallets or other Class A materials will be added to any structure.
- The fire load shall be conservative.
- Low-density combustible fiberboard and unconventional interior finishes shall be removed.
- All windows and doors to be used for egress or emergency evacuation will be checked for and made capable of unrestricted opening.
- Structures will be pre-vented at the roof. The roof vent opening may be covered with an appropriate material. A metal cable will be attached to prevent burn-through and the cable will be extended to the ground. The vent cover will be removed at an appropriate time during fire attack operations to permit ventilation and prevent flashover or backdraft.
- Heavy roof, attic, or ceiling equipment or fixtures, etc., shall be removed.
- Pre-training fire checklist shall be completed.

## **NOTIFICATION OF TRAINING FIRE ACTIVITIES**

Prior to conducting structural training fires, the following notification must be made.

- Fire Prevention—Obtain a burn permit from Fire Prevention. A burning permit must be obtained for all training fires conducted off Training Academy grounds.
- Dispatch & Deployment--location, time, type of burn, companies being utilized.
- Obtain permission to burn from Maricopa County Department of Environmental Services Air Quality Control Division.
- On-duty Public Information Officer (PIO)
- Shift Commander
- Battalion chief whose battalion the training fire will be in.
- Safety Officer
- District commander in whose district the training fire is being conducted.
- Occupants of adjoining property
- Police Department
- The office of the Deputy City Manager
- The office of the District Council member

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**OFF SITE PRE-TRAINING FIRE CHECKLIST**

- Call Maricopa County Department of Environmental Services Air Quality Division for permission to burn on morning of burn day (phone number is listed on permit)
- On-site building inspection by Safety Officer
- Inspection by Fire or City Industrial Hygienist (for asbestos, hazardous waste, mercury, lead, etc.)
- Building structure was analyzed for structural integrity
- Exposures evaluated
- Special Hazards considered
- Access to site and all sides of building adequate
- Water supply from two hydrants/adequate
- Street traffic blockage considered
- Exterior debris, trees, and brush cleared
- Two points of egress/exits available
- Windows/doors unrestricted
- Interior access unobstructed; uncomplicated
- Ceiling fixtures removed
- Class A fuel only for fire starting
- Interior combustibles fire load reasonable/conservative
- Permits/permission and other documentation obtained
- Evidence of prerequisite training (NFPA 1001) obtained for students from outside agencies
- Adjacent property owners notified
- All utilities disconnected
- Heavy attic or roof objects removed
- Porches, steps, or railing made safe
- Notifications made
  1. Maricopa County Department of Environmental Services: permission to burn on morning of burn day (phone number is listed on permit)
  2. Fire Department or Personnel Safety Industrial Hygienist
  3. Request and confirm asbestos NESHAPs form filed 10 working days before the burn
  4. Fire Prevention
  5. Dispatch & Deployment
  6. Public Information Officer
  7. Shift Commander
  8. Battalion chief in training area
  9. Safety Officer
  10. District commander
  11. Police
  12. Air Quality Control
  13. Deputy City Manager
  14. District Council member

Signed: \_\_\_\_\_

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**ON-SITE TRAINING FIRE OPERATIONS CHECKLIST**

- Call Maricopa County Department of Environmental Services Air Quality Division for permission to burn on morning of burn day (phone number is listed on permit). Verify that the permit has not expired.
- Class A Fuel only
- Adequate fire apparatus on site
- ALS company on-scene
- Rescue on-scene
- Rehab on-scene
- Utility truck on-scene
- Two separate hydrant water sources secured
- Pumpers flow tested for a minimum 500 gpm water supply
- Roof pre-vented with adequate opening
- Vent covers with cable to ground
- Fire load; conservative; not excessive
- Ignition location determined
- Safe ignition fuel utilized
- Igniter person fully protected with protective clothing/SCBA
- Protective line for igniter person; manned and charged
- Ignition from exterior only
- Chief officer on site as Incident Commander
- Safety Officer (or representative) on-scene
- Command and sectors established
- Command location identified and announced
- All radios checked for proper functioning/channel
- Sectors established
  1. Interior
  2. Exposure(s)
  3. RIC(s)
  4. Rehab
  5. Safety
  6. Other
- Attack lines in place, flow tested for a minimum of 95 gpm each
- RIC unit in place, flow tested for a minimum of 95 gpm each
- RIC unit staffed by minimum of three firefighters
- One backup RIC unit in place (with hose line) for each fire attack entry team
- Attack lines from one pumper, RIC lines from a separate pumper
- Fire attack entry and RIC unit fully "suited up" in protective equipment, PASS unit and SCBA checked for proper functioning
- Company officers in charge of each entry and RIC unit
- Specific plan of operation established, understood by all
- Walk through briefing conducted for all crews
- Rescue plan established, understood by all
- Emergency evacuation plan and signal determined and agreed upon
- Fire Line tapes in place
- Provision for on site sanitary facilities/"Porta Jon," etc.
- Accountability Officer established

Signed: \_\_\_\_\_

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**POST TRAINING FIRE CHECKLIST**

- \_\_\_ All personnel accounted for
- \_\_\_ Equipment and clothing checked for damage
- \_\_\_ Remaining fires overhauled/controlled
- \_\_\_ Critique conducted
- \_\_\_ Total extinguishment completed at end of training operations
- \_\_\_ Copy of "Transfer of Authority" form signed by building owner
- \_\_\_ Building secured or made safe
- \_\_\_ Bunker gear and equipment decontaminated

Signed: \_\_\_\_\_