

# Hot Work Permit Procedure

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## **I. Purpose**

This procedure provides guidance for persons, contractor, subcontractors and their lower-tier contractors, who manage, supervise, and perform hot work.

## **II. Scope**

This procedure covers provisions to prevent loss of life and property from fire or explosion as a result of hot work in the Town of Foxborough. This procedure covers any hot work process, such as burning and welding and similar operations capable of initiating fires or explosions. Examples of hot work processes include:

- 1) Welding and allied processes
- 2) Heat treating
- 3) Grinding
- 4) Thawing pipe
- 5) Powder-driven fasteners
- 6) Hot riveting
- 7) Torch-applied roofing. Torch applied roofing operations are also subject to the requirements of National Fire Prevention Association (NFPA) 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations
- 8) Similar applications producing or using a spark, flame, or heat

## **III. Equivalency**

Nothing in this procedure shall be intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard, provided technical documentation is submitted to the Authority Having Jurisdiction (AHJ) to demonstrate equivalency and the system, method, or device is approved for the intended purpose.

## **IV. Definitions**

**Approved** - Acceptable to the Authority Having Jurisdiction.

**Authority Having Jurisdiction (AHJ)** - The organization, office, or individual responsible for oversight and enforcement of this procedure. For the purposes of this procedure, the AHJ is represented by a member of the Foxborough Fire Department.

**Designated Area** - Permanent location approved for hot work operations to be performed regularly.

*Fire Watch* - An individual or individuals whose primary responsibility is the surveillance of all exposed areas to ensure that safe conditions are maintained during hot work. The responsibilities of the Fire Watch are further defined in Section VI, Qualifications.

*Hot Work* - Any work involving burning, welding, or similar operations capable of initiating fires or explosions. Examples of hot work operations covered by this procedure are listed in Section II, Scope.

Hot Work Operator. A qualified person and if required, shall be certified pursuant to the provisions of this chapter and standards referenced in this chapter.

*Management* - For the purpose of hot work, all persons, including owners, contractors, educators, and so on, who are responsible for hot work operations.

Permissible Areas.

- a) Designated Area. A specific location designed and approved for hot work operations that is maintained fire-safe, such as a maintenance shop or a detached outside location, that is of noncombustible or fire-resistive construction, essentially free of combustible and flammable contents, and suitably segregated from adjacent areas.
- b) Permit-Required Area. Any location other than a designated area that is approved for hot work and is made fire-safe by removing or protecting combustibles from ignition sources.

Permit - For the purposes of hot work, a document issued, by the AHJ, to a qualified person as defined in Qualifications Section for the purpose of authorizing that individual to carry out the activity of hot work.

*Permit Authorizing Individual (PAI)* - In conjunction with management and in consultation with the AHJ if required, the PAI shall be responsible for the safe operation of hot work activities. The hot work operator shall be permitted to be the PAI.

*Shall* - Indicates a mandatory requirement. *Welding and Allied Processes* - Those processes such as arc welding, oxy-fuel gas welding, open-flame soldering, brazing, thermal spraying, oxygen cutting, arc cutting, flame cutting, and similar operations.

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## **V. Responsibility for Hot Work**

### **Authority Having Jurisdiction**

The AHJ shall have oversight and enforcement authority for implementation of this procedure. The AHJ shall also have the authority to interpret or modify the requirements of this procedure.

## **Management**

Management shall be responsible for the safe operation of hot work activities. For the purpose of this procedure, Management functions are performed by the contractor, sub-contractors, and their lower-tier sub-contractors.

### **Contractor shall;**

- a. Establish permissible Designated Areas for hot work.
- b. Ensure that only approved apparatus, such as torches, manifolds, regulators or pressure reducing valves and acetylene generators, be used by contract employees.
- c. Ensure that all contractor employees involved in the hot work operations understand and comply with the provisions of this standard and have a valid Hot Work Safety Certificate issued by NFPA.
- d. Advise sub-contractors with regard to the content of this standard, site-specific flammable materials, hazardous processes or conditions, or potential fire or otherwise hazardous conditions.
- e. Ensure that the responsibilities delineated herein for subcontractors and lower tier subcontractors are complied with.

### **Sub-contractors and Their Lower-Tier Contractors shall;**

- a. Ensure that only approved apparatus, such as torches, manifolds, regulators or pressure reducing valves and acetylene generators, be used by sub-contractor and lower-tier contractor employees.
- b. Ensure that all sub-contractor and lower-tier contractor employees involved in the hot work operations understand and comply with the provisions of this standard.
- c. Advise lower-tier contractors with regard to the content of this standard, site-specific flammable materials, hazardous processes or conditions, or potential fire or otherwise hazardous conditions.
- d. Ensure that all lower-tier contractors comply as required. Permit Authorizing Individual (PAI) The PAI (listed above in section IV) shall be responsible for inspection of areas where hot work is to be performed and issuance of permits for hot work activities.

### **Additionally, the PAI shall;**

- a. Require that a Fire Watch is established at the site.
- b. Require more than one Fire Watch if combustible materials that could be ignited by the hot work operation cannot be directly observed by a single Fire Watch.
- c. Determine site-specific flammable materials, hazardous processes, or other potential fire hazards present or likely to be present in the work location.
- d. Determine that fire protection and extinguishing equipment are properly located at the site.

- e. Ensure the protection of combustibles from ignition by the following means:
  - i. Ensure the work is moved to a location free from combustibles
  - ii. If the work cannot be moved, ensure the combustibles are moved to a safe distance or have the combustibles properly shielded against ignition.
  - iii. Ensure hot work is scheduled such that operations that could expose combustibles to ignition are not started during hot work operations.
  - iv. **If i, ii, or iii cannot be met, then hot work shall not be performed.**

## **VI. Qualifications**

As of July 1, 2018, an individual to be qualified to be a PAI, perform fire watches, perform, supervise or delegate any activities of hot work as defined in this chapter shall first provide documentation that he or she has successfully completed training approved by the State Fire Marshal in the following areas:

Successfully completed as used here means an education program covering materials provided in sections (1) through (5) below and further, the material was completed by the individual within the past 12 months; and that a certificate of completion has been issued to the individual with the date of completion on the certificate and a providers/instructors signature acknowledging such individual attended and completed the program containing all of the following subject matter;

(1) Massachusetts Comprehensive Fire Safety Code, 527 CMR: 1.00, Chapter 41, Hot Work Operations

(2) 29 CFR 1910.252 Subpart Q-Welding, cutting and brazing

(3) NFPA 51B Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2014 edition

(4) NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition operations, 2013 edition.

(5) ANSI Z49, Safety in Welding, Cutting, and Allied Processes, 2012 edition

### **Hot Work Operator**

#### **Effective January 1, 2017 each contracting company MUST have a valid NFPA Hot Work Safety Certification**

The Hot Work Operator shall;

- a. Be trained in the safe operation of their equipment and the safe use of the process.

- a. Have an awareness of the inherent risks involved and understand the emergency procedures in the event of a fire.
- b. Handle the equipment safely and use it as described in this procedure so as not to endanger life or property.
- c. Have the PAI's approval before starting hot work operations and comply with the requirements of the permit.
- d. Cease hot work operations if unsafe conditions develop and shall notify management, the area supervisor, or the PAI for reassessment of the situation.

### **Fire Watch**

The Fire Watch shall be an individual or individuals dedicated primarily to performing the duties of the fire watch. No other functions may be performed by the Fire Watch that may interfere with their ability to perform these duties;

AHJ has the right to require a paid detail from the Foxborough Fire Department. Some of the criteria used for this are if the Hot Work will be conducted in an occupied building at any time of the day. For clarification of this requirement, please set up a meeting at Fire Department Headquarters.

The Fire Watch shall;

- a. Be present during hot work operations and remain for a minimum of 30 minutes after completion of hot work in order to detect and extinguish smoldering fires. Be aware of the inherent hazards of the work site and of the hot work.
- b. Ensure that safe conditions are maintained during hot work operations.
- c. Have the authority to stop the hot work operations if unsafe conditions develop.
- d. Have fire-extinguishing equipment, supplied by the welding contractor, readily available and shall be trained in its use.
- e. Be familiar with the facilities and procedures for sounding an alarm in the event of a fire.
- f. Watch for fires in all exposed areas surrounding the hot work operation and try to extinguish them only when the fires are obviously within the capacity of the equipment and fire-fighting skills available.
- g. If the Fire Watch determines that the fire may grow beyond control, he or she shall immediately contact the Foxborough Fire Department.

### **Hot Work Areas Designated Area**

A designated area shall be a specific area approved for such work, such as a maintenance shop or a detached outside location that is of noncombustible or fire-resistive construction, essentially free of combustible and flammable contents, and suitably segregated from adjacent areas. These designations are generally long-term for facilities in which specific operations are repeatedly performed. A Fire Watch is not normally required in a Designated Area.

The AHJ shall be permitted to require annual inspection for designated areas.

The AHJ shall be permitted to inspect a premise for compliance before any hot work is carried out.

### **Permit-Required Area**

A permit-required area shall be an area that is made fire safe by removing or protecting combustibles from ignition sources. Permit-required areas are generally transient in nature during the performance of varied procedures.

### **Permission Letter Criteria**

All applications for Cutting/Welding and Other Hot Work must have a permission letter from the property owner, manager, or agent at the time of submittal, there are **NO EXCEPTIONS**.

Permission Letters must follow the following criteria:

- If electronically submitted must be a .pdf file
- Be on letterhead
- Must be dated
- Specify the exact work location and/or address
- Specific Location(s) on the property
  - i. If the work is being performed in certain area(s) like the basement, or the elevator lobby, or the roof, the letter must specify these locations and the reason why the work is being performed
  - ii. List all floors where work is being performed, a floor and area must be individually listed, "ALL FLOORS" IS NOT ACCEPTABLE AND THERE ARE NO EXCEPTIONS
- List the name of every contractor performing Cutting/Welding and Other Hot Work on the property and their Certification Number
- Complete scope and description of work being performed must be included in all letters
- List the reason(s) for the work being performed must also be clearly stated

### **Hot Work Permit**

Before a hot work permit is issued, the following conditions shall be verified by the PAI:

- a. Hot work equipment to be used shall be in satisfactory operating condition and in good repair.
- b. Where combustible materials, such as paper clippings, wood shavings, or textile fibers, are on the floor, the floor shall be swept clean for a radius of 35 feet (11 m). Combustible floors (except wood on concrete) shall be kept wet, be covered with damp sand, or be protected by noncombustible or fire-retardant shields. Where floors have

been wetted down, personnel operating arc welding or cutting equipment shall be protected from possible shock.

- c. All combustibles shall be relocated at least 35 feet (11 m) horizontally from the work site. If relocation is impractical, combustibles shall be protected with fire-retardant covers or otherwise shielded with metal or fire-retardant guards or curtains. Edges of covers at the floor shall be tight to prevent sparks from going under them, including where several covers overlap when protecting a large pile.
- d. Openings or cracks in walls, floors, or ducts within 35 feet (11 m) of the site shall be tightly covered with fire-retardant or noncombustible material to prevent the passage of sparks to adjacent areas.
- e. Conveyor systems that might carry sparks to distant combustibles shall be shielded.
- f. If hot work is done near walls, partitions, ceilings, or roofs of combustible construction, fire-retardant shields or guards shall be provided to prevent ignition.
- g. If hot work is to be done on a wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side by relocating combustibles. If it is impractical to relocate combustibles, a fire watch on the opposite side from the work shall be provided.
- h. Hot work shall not be attempted on a partition, wall, ceiling, or roof that has a combustible covering or insulation, or on walls or partitions of combustible sandwich-type panel construction.
- i. Hot work that is performed on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs, or other combustibles shall not be undertaken if the work is close enough to cause ignition by conduction.
- j. Fully charged and operable fire extinguishers that are appropriate for the type of possible fire shall be available immediately at the work area.
- k. If hot work is done in close proximity to a sprinkler head, a wet rag shall be laid over the head and then removed at the conclusion of the welding or cutting operation. During hot work, special precautions shall be taken to avoid accidental operation of automatic fire detection or suppression systems (for example, special extinguishing systems or sprinklers).

Nearby personnel shall be suitably protected against heat, sparks, slag, and so on. Based on local conditions, the PAI shall determine the length of the period for which the hot work permit is valid.

### **Points of Contact**

To request an inspection for issuance of a Hot Work Permit inside the Town of Foxborough, contact Foxborough Fire Department at (508) 543-1230 or (508) 543-1238.



**TOWN OF FOXBOROUGH**  
**Department of Fire/Rescue & Emergency Services**  
8 Chestnut Street, Foxborough, Massachusetts 02035-2324  
Tel (508) 543-1230 • Tel (508) 543-1238

**OFF DUTY DETAIL RATES & POLICIES**

GENERAL TERMS AND CONDITIONS 7/13/2015

- All billing will include a 10% administration fee on the total amount of the bill.
- Detail Cancellations: Any Detail cancelled, regardless of reason, will be billed a minimum of four (4) hours per firefighter requested unless notice is given to the Foxborough Fire/Rescue Department at least one (1) hour before the scheduled start time of the Detail.

**PERSONNEL DETAIL RATE**

	<u>Straight Time</u>	<u>Overtime Rate</u>
<i>Captain</i>	<i>52.00/hr.</i>	<i>78.00/hr.</i>
<i>Lieutenant</i>	<i>51.00/hr.</i>	<i>76.50/hr.</i>
<i>Firefighter</i>	<i>50.00/hr.</i>	<i>75.00/hr.</i>
<i>Out-of-Town Firefighter</i>	<i>47.00/hr.</i>	

**TERMS:**

- Minimum billing for all details shall be four (4) hours (Straight Time).
- Details beyond four (4) hours or more will be billed a minimum of eight (8) hours (Straight Time).
- Hours beyond first eight (8) hours will be billed at time and one half (Overtime Rate).
- Detail billings will be in not less than 1/2 (half) hour increments. Partial half hours are always rounded up to the next full hour.

**EQUIPMENT DETAIL RATES**

- Command Vehicle \$9.00/hr per vehicle
- Squad \$25.00/hr per vehicle
- Engine \$25.00/hr per vehicle

**TERMS:**

- Rate does not include personnel.
- Minimum billing for equipment shall be four (4) hours. After four (4) hours billing will be for actual time used, rounded up to the next 1/2 (half) hour.
- Fire Chief or his designee may mandate equipment usage for the safety of the public or the detail personnel.

Roger P. Hatfield  
*Chief of Department*

Michael P. Kelleher  
*Deputy Chief of Operations*

Thomas F. Buckley  
*Deputy Chief of Admin / Fire Prevention*



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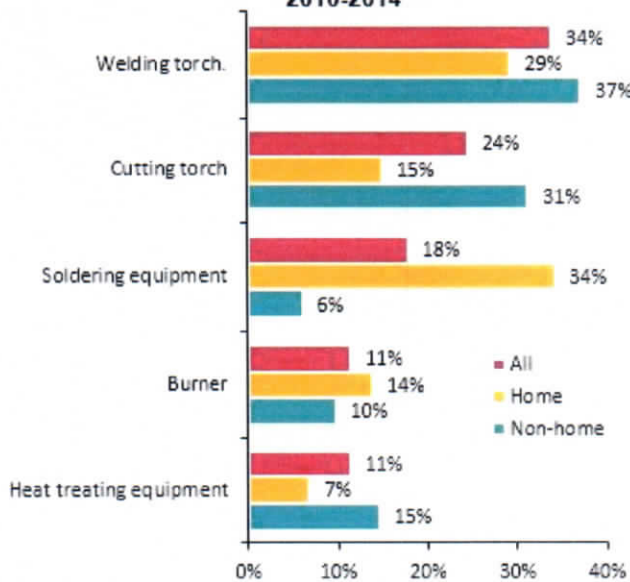
## Hot work activities are involved in an average of 4,440 U.S. structure fires per year

Blog Post created by **Marty Ahrens** on Dec 13, 2016

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**All, home and non-home hot work fires by leading equipment involved 2010-2014**



Hot work is an important part of manufacturing, repair, renovation, construction and demolition activities. Professional contractors and do-it-yourselfers can get in trouble when they don't follow the basic safety precautions.

NFPA's new report, *Structure Fires Started by Hot Work*, shows that in 2010-2014, U.S. fire departments responded to an estimated average of 4,440 structure fires involving hot work per year. These fires caused an average of 12 civilian deaths, 208 civilian injuries and \$287 million in direct property damage per year.

I suspect that those who regularly conduct hot work or oversee contractors who do so will not be surprised by the statistics from the report.

Forty-two percent of hot work fires occurred in or on homes.

Welding torches were involved in one-third (34%) of total hot work structure fires. Cutting torches were involved in one-quarter (24%), soldering equipment in 18%, burners in 11%, and heat treating equipment in another 11%. The leading types of hot work equipment involved in fires are different in

homes than in non-home properties. As the graph shows, soldering equipment was the most common type of hot work involved in home fires while welding torches were the most common in non-home fires.

Home fires involving hot work were most likely to start in either wall assemblies or concealed spaces (15%), and bathrooms or lavatories (14%). For non-homes, the peak areas of origin were exterior roof surfaces (12%) and process or manufacturing areas (9%). The majority of hot work fires started when the work was done too close to something that could catch fire.

One-quarter (25%) of home hot work fires began with the ignition of structural members or framing; 22% started when insulation ignited. Fifteen percent of non-home hot work fires occurred when flammable or combustible liquids or gases caught fire; 10% started with exterior roof coverings or framing; another 10% began with structural members or framing; and 9% started with insulation.

The report also contains descriptions of hot work fires from *NFPA Journal* and *OSHA's accident investigation summaries* to provide more information about how these events can occur.

*NFPA 51B, Standard for Fire Prevention during Welding, Cutting, and Other Hot Work* provides guidelines to prevent these incidents.

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