

MARSH

Hot Work



Topics for discussion

The importance and use of Hot Work Permits.

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WHAT: Is Hot Work?

Using National Fire Protection Association (NFPA) 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work (2024 Edition) Chapter 3 Section 3.3.4, Work involving burning, welding, or similar operation that is capable of initiating fires or explosions constitutes as hot work.



The importance and use of Hot Work Permits.

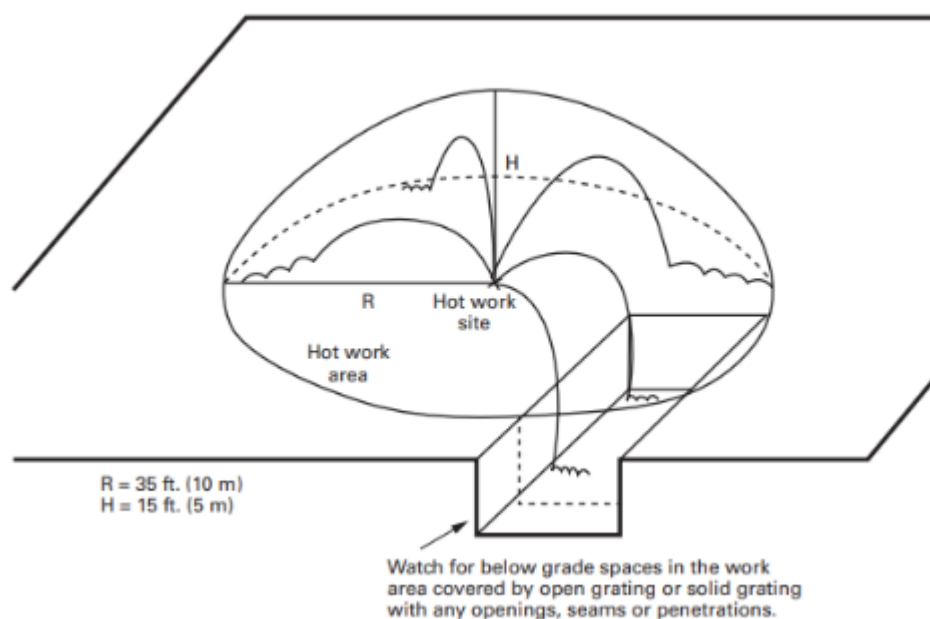
WHY: Is This A Fire Hazard?

Inadequately controlled hot work can result in a serious fire, leading to property loss (building, stock, contents and/or equipment), as well as significant business interruption. The risks associated with hot work arise from the potential of a fire to start, spreading to combustible materials that may be within the area, in which hot work is being performed. This can be prevented by following the necessary steps and having the proper documentation and understanding.

Hot Work Fires are 100% preventable!

THE IMPORTANCE AND USE OF HOT WORK PERMITS – LOSSES PER FM

- ▶ 50% of losses are started by outside contractors
- ▶ The average hot work fire loss is \$1.7M
- ▶ 1 out of every 20 fires reported to FM is due to hot work
- ▶ Over \$700M in losses to FM clients during the recent 10-year period



THE IMPORTANCE AND USE OF HOT WORK PERMITS – LOSSES PER NFPA

During the last five-year period per NFPA, local fire departments responded to an estimated annual average of 3,396 structure fires involving equipment associated with hot work. These fires resulted in an estimated 19 civilian deaths, 120 civilian injuries, and \$292 million in direct property damage.

THE IMPORTANCE AND USE OF HOT WORK PERMITS – LOSSES PER NFPA

B.2.14 New Orleans, LA, Office Building.

An outside contractor installing new elevator equipment in a seven-story office building with plank floors set a number of fires as a result of cutting and welding operations, but the contractor's employees extinguished all but one. That fire occurred toward the end of the day's work, and the four employees, without discovering the fire, went home. Later in the evening, the night porter noticed the old elevator penthouse, which was partly of wooden construction, ablaze as he was summoning the elevator to perform his normal duties. **Two hours later**, the fire department, using many large hose lines, brought the fire under control. The loss, mainly to the top story from fire and to lower stories from water, was **\$530,000**.

There was **no formal fire watch** nor, following the last use of the welder, was there any inspection of the area during a set period after the welding.

B.2.17 Billings, MT, Auditorium.

While remodeling the auditorium at a fairground, workers were welding straps on channel iron, which had been placed on each side of 12 in. × 12 in. (30.5 cm × 30.5 cm) wooden uprights to provide more strength to the columns. The heat from the torch apparently caused some smoldering in the columns. Approximately **5 hours** later, the caretaker noticed that the roof was ablaze. It was too late to save the building, which was of ordinary construction and nonsprinklered. **The total loss was \$266,000.**

What can you do to reduce the possibility of a hot work fire

- **Consider alternative cold work methods**
- **Relocate to a hot work designated area**
- **Plan the hot work activity**
- **Maintain housekeeping**
- **Use Approved pads, blankets, curtains, fire extinguishers**
- **Provide ongoing training and designate specific, knowledgeable personnel**



HOT WORK PERMIT

Post this permit at the site of any work involving open flames or the production of heat and sparks. Return all completed permits to building management for retention.

PERMIT GOOD FOR ONE DAY

HOT WORK PERFORMED BY:		
DATE:		
BUILDING:		
LOCATION:		
DESCRIPTION OF HOT WORK:		
NAME OF HOT WORK OPERATOR(S):		
I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for work.		
NAME of local Contact or designee (Print):		
Contact phone #:		
PERMIT REQUEST	DATE	TIME
PERMIT EXPIRES	DATE	TIME
I certify that I have personally checked the hot work area and that the necessary items of preparation are present and that I have found them satisfactory.		
SIGNATURE of local Contact or designee:		
Date & Time:		

REQUIRED PRECAUTIONS CHECKLIST

- ☐ Available sprinklers and extinguishers are in service.
- ☐ Hot work equipment in good repair.

REQUIREMENTS WITHIN 35 FT. OF WORK

- ☐ Flammable liquids and combustible materials removed or covered with fire retardant tarps or metal shields.
- ☐ Floors swept clean of combustibles.
- ☐ Explosive atmosphere in area eliminated.
- ☐ All walls and floor openings covered.

WORK ON WALLS OR CEILINGS/ENCLOSED EQUIPMENT

- ☐ Construction is noncombustible and without covering or insulation.
- ☐ Combustibles on other side of walls moved away.
- ☐ No danger exists by conduction of heat into another room or area.
- ☐ Enclosed equipment cleaned of all combustibles.
- ☐ Containers purged of flammable liquids and vapors.

FIRE WATCH/HOT WORK AREA MONITORING

- ☐ Fire watch will be provided during and continuously for 60 minutes after work, including any work break.
- ☐ Fire watch is supplied with suitable extinguisher(s).
- ☐ Fire watch is trained in use of this equipment and sounding alarms.
- ☐ Hot work area inspected 3-hours after job is completed if determined by the Permit Authorizing Individual.

OTHER PRECAUTIONS TAKEN

- ☐ Ample ventilation to remove smoke/vapor from work area.
- ☐ Welding screens in place if required.
- ☐ Proper PPE being worn

Source: NFPA 51B 2024, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work.



Contractor Management: Why Bother?

- Because contractors caused over \$2B of loss at client properties over the last 20 years.
- Because contractors are not your employees and don't feel required to follow your rules.

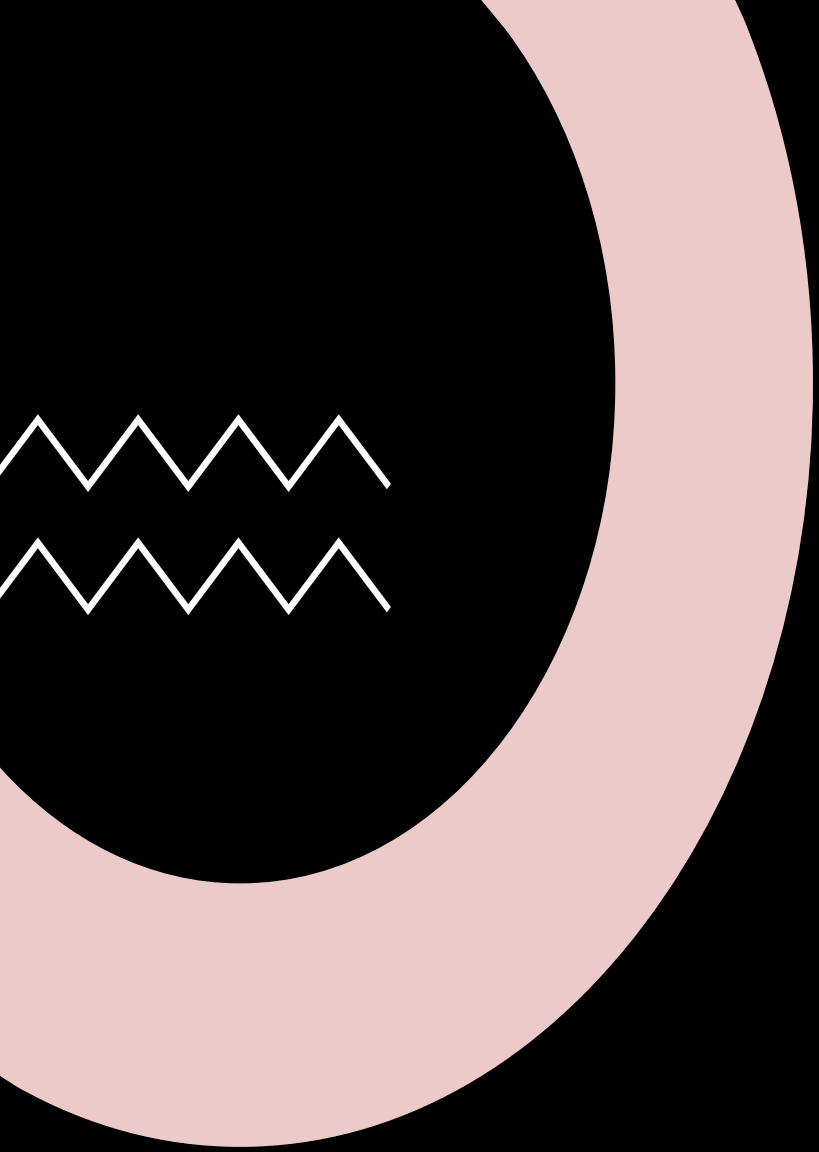
Contractor Management with Risk Related to it.

Contractor
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A contractor safety program is a set of policies and procedures that protect the health and safety of contractors working for a business. These programs are important for businesses that often use contractors.

Typical Safety procedures to be included in the program should include the following:

- Hot Work safety
- Fire Protection impairment handling
- Utility management control
- Visitor smoking control
- Building access



For any questions or queries contact

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