



DuPage County Environmental Health, Safety & Property Loss Control Program Hot Work Procedure

Purpose: This program is to establish written procedures to prevent fires resulting from any temporary operation involving open flames or producing heat or sparks, as required by IDOL/OSHA 29 CFR Subpart Q and National Fire Protection Association Standard for Fire Prevention During Welding, Cutting and other Hot Work (NFPA 51B).

Some examples are: brazing, cutting, welding, grinding, soldering, thawing pipes, and torch applied roofing.

Policy: To prevent loss of life and property from fire or explosion as a result of Hot Work. This policy applies to Hot Work performed by staff and contractors. A Hot Work Permit shall be required to perform Hot Work outside of designated areas.

This policy does not apply to areas that are specifically designed and equipped for such operations, i.e. designated welding areas in a maintenance shops, repair garages etc.

Hot Tapping or other cutting and welding on a flammable gas or liquid transmission or distribution pipelines shall be performed by qualified public utility company personnel or contractors specializing in such work.

Definitions:

PAI: designated Hot Work Permit Authorized Individual.

Permissible Areas: Hot Work shall be allowed only in areas that are or have been made fire safe.

Designated Areas: Specifically designed or approved for Hot Work, i.e. shop with welding area within, free of combustible or flammable contents and suitably segregated from adjacent areas.

Background: Most Hot Work fires occur during lunch, breaks, and shift changes and after hours. 70% of Hot Work fires are attributed to being too close to combustibles such as wood, paper, cloth and plastic.

Program: Management responsible for the work/site shall:

- a) Ensure that all staff involved in Hot Work operations including contractors are familiar with our permit program and adhere to it. A recent study showed 67% of all fires caused by Hot Work were caused by contractors.
- b) Establish permanent permissible Hot Work Areas.
- c) Designate Permit Authorizing Individuals (PAI).
- d) Ensure only approved apparatus are in a safe condition, i.e. torches, hoses, regulators.
- e) Advise all contractors about site specific hazardous process, flammable and combustible materials or other fire hazards likely to be present or adjacent to the work location.



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PAI Responsibilities: In conjunction with management is responsible for safe Hot Work operations:

- a) Determine site specific hazardous processes, flammable and combustible materials likely to be present in the work location including combustible insulation in ceilings, walls or ducts. (Note: Fire Retardant Insulation may smolder and generate smoke if it comes in contact with hot slag or a spark.)
- b) If at all possible remove flammable liquids and combustible contents from within 35 feet, horizontally and vertically of the work area or arranges for non-combustible shielding of combustibles that cannot be removed. Edges of fire-retardant covers shall be tight to the floor to prevent sparks from going under them.
- c) Openings or cracks in walls, floors, or ducts within 35 ft of the Hot Work area shall be tightly covered with fire-retardant or non-combustible material to prevent passage of sparks to adjacent areas.
- d) If Hot work is to be done in close proximity to a sprinkler head, ensures a wet rag is placed around the head to prevent accidental operation and kept moist until Hot Work is finished. Then removes after Hot Work is completed.
- e) If Hot Work is to be done in an area with smoke detection systems ensures the heads are covered with manufacturers supplied head coverings and removed after Hot Work is completed.
- f) Ensures fire detection and automatic suppression systems are in working order.
- g) Ensures portable fire extinguisher(s) are made available at the work area.
- h) Ensures a Fire Watch is present and trained in their duties when the following conditions exist:
 1. Combustible materials in building construction or contents are closer than 35ft to the point of Hot Work.
 2. Combustible materials are more than 35 ft away but are easily ignited by sparks.
 3. Wall, floor or duct openings within a 35 ft radius expose combustible materials in adjacent areas or concealed spaces.
 4. Combustible materials are adjacent to the opposite side of partitions, walls, ceilings or roofs and are likely to be ignited.
 5. Fire Watch is maintained during the Hot Work including all breaks by Operators and a minimum of 30 minutes after Hot Work is completed for the day/shift.
- i) Issues a Hot Work Permit for a specific area and date/shift. (Exhibit 1) If work extends into other shifts or days a separate Work Permit is needed for each shift and/or day.
- j) Inspects work area at least once during the shift to assure that it remains a fire-safe area.
- k) Performs final check of work area 30 minutes after completion of Hot Work.



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- l) For campus buildings informs Security Ext 5262 that Hot Work will be taking place and ask that work area be included in after hour's tours.
- m) For off campus buildings obtains site manager approval for any after hour tours of work location.
- n) Completed permits shall be maintained for 12 months in a file marked Hot Work Permits on off

Hot Work Operator's Responsibilities:

- a) Obtains PAI permit before starting Hot Work.
- b) Ensures all Hot Work equipment is in good, safe working order.
- c) Ceases Hot Work if conditions become unsafe and notifies PAI or management of the reason work has been suspended.

Fire Watch Responsibilities:

- a) Understands the work area hazards.
- b) Ensures fire safe conditions throughout the work process.
- c) Has authority to stop Hot Work if they believe conditions have become unsafe.
- d) Has a Fire Extinguisher at hand and knows how to operate it.
- e) Knows how to sound a fire alarm.

Prohibited Areas for Hot Work Operations:

- a) Any area not authorized by management.
- b) On any uncleaned or improperly prepared containers or tanks where flammable /combustible liquids, gases, dusts or vapors have been present.
- c) Any area where the automatic fire suppression system is impaired.
- d) In an explosive atmosphere (i.e. combustible dusts, flammable gases, liquids or vapors).
- e) On a partition, wall, ceiling or roof that has a combustible covering or insulation, including walls or partitions of combustible sandwich-type panel construction.
- f) Hot Work on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs, or other combustibles if the work is close enough to cause ignition by conduction.