

Purpose

This document is intended to serve as a reminder of safe work practices and is not a complete presentation of this topic. It should be used by individuals trained and competent in this subject. It is not intended to replace or supersede company procedures, industry standards and/or applicable governmental laws and regulations.

Definition

Hot Work - any activity performed in a hazardous location which may introduce an ignition source into a potentially flammable atmosphere.

Hazardous Locations - Locations that may contain a flammable material or atmosphere such as:

- Production, water injection or chemical storage facilities; tank batteries; compressors; pipeline connections; and valves or well heads
- Areas established by the supervisor
- Areas within plant or facility boundaries
- Portable flammable storage containers or equipment
- Areas with dry vegetation

Applications

- Use of electrical hand tools
- Operation of internal combustion engines, vehicles, generators
- Opening of energized electrical junction boxes
- Use of brazing or cutting torches
- Use of welding machines
- Operation of hot oil or vacuum trucks
- Operation of steamers
- Operation of spark-producing power tools
- Sand blasting and chipping operations
- Hot tapping operations

Hazards

Ignition of a flammable atmosphere

General Information

All Hot Work performed in potentially hazardous locations should be started only after receiving approval from the person in charge who has ensured completion of the following guidelines. The person in charge of the job should be knowledgeable of Hot Work requirements and the tasks being performed.

Guidelines

The following guidelines should be followed for all Hot Work operations. The individual in charge should determine which operations require a written permit. Although the use of the written hot work permit is not mandatory, the following procedures should be followed:

- 1) Work and equipment should be relocated outside hazardous areas when possible.
- 2) Inspect the work area to ensure all fuel and ignition sources are isolated, either by shielding, clearing area of spilled flammable/combustible substances, blinding lines, tightening valve stem packings, lockout/tagout, soaking vegetation with water, etc.
- 3) Conduct a pre-job safety meeting to plan the job and discuss all safety aspects with employees or contractors involved. If a permit is used, review it with everyone involved.
- 4) Assure that a "fire watch" person is assigned and this is their only duty during the hot work. Instructions should be given that fire extinguishers are not to be pressured up nor the seals broken unless a fire actually occurs. Also ensure that the "fire watch" is trained in the proper use of fire extinguishers.
- 5) Periodically monitor the atmosphere with the gas detector, documenting the results. If the combustible/flammable gas exceeds 10% LEL, the job must be stopped until the cause for the increased LEL is determined and corrected.
- 6) Confirm that the welder is qualified with the appropriate certification for the task to be performed. See also the **Welding and Hot Tapping** topic for certification requirements.
- 7) If required by the supervisor, complete a Hot Work Permit. Signing the permit acknowledges that all preparations for the hot work have been made. Post the permit near the job site until the work is completed.
- 8) The "fire watch" should remain on site for at least 30 minutes following completion of the hot work to ensure there has been no spread of sparks or heat and the facility is ready to return to normal service.

References

OSHA 29CFR1910.252-.257, .106

API RP54, 2201

ANSI Z49.1-67 Safety in Welding and Cutting

NFPA 30,51-B

AWS Z49.1-88