Safety Talk

Hot work procedures

Before you begin

- Become familiar with your current hot work permit and fire prevention program.
- Have an example of a hot work permit on hand.
- Become familiar with specialized equipment like fire blankets, portable extinguishers, etc.
- Become familiar with specific requirements like NFPA 51B safe distance of combustible materials 35 feet.
- Burning.
- Oxyacetylene cutting.
- Use of powder-actuated tools, portable electric tools, and any other open flame or spark-producing equipment.

Introduction

A hot work permit is used when there is a task that may cause a potential spark or flame. The task is outside of the scope of where normal welding, cutting, or grinding may take place. The permit ensures that preplanning has been conducted before someone begins the task. The permit must review the task location to ensure all combustible materials are removed from the area if possible. A fire watch is required for all hot work permit activities. Fire watch also requires special equipment and training.

Definitions

Hot work – task that involves either an open flame or spark producing or other sources that produce and generate heat that could possibly ignite other materials in a work location.

Fire Watch – Is the task that involves being able to use portable fire suppression equipment like fire extinguishers and fire blankets and be able to summon help in case of a fire.

Hot Work Permit – is the document used to list the task procedures, how preventive measures will be used during and after the task, and names of individuals performing the work.

Discussion

Why is a hot work permit needed? Has there been a history of past incidents either within your company or industry?

What is considered Hot Work and when is a Permit Required? Answer: Any hot work that is completed where combustible materials are nearby.

Fire prevention planning includes a hot work permit program.

Tasks that are considered Hot work:

- Welding.
- Brazing.
- Propane soldering.
- Grinding that could generate a spark.
- Burning.
- Oxyacetylene cutting.
- Use of powder-actuated tools, portable electric tools, and any other open flame or spark-producing equipment.

Is there any history of past incidents in your company or industry that fire was started from a task involving hot work?

Who signs off on the hot work permit at your company?

Roles of personnel involved with hot work: Authorizer, Supervisor, End User, Fire Watch.

Permit Authorizer

The individual designated to be the permit authorizer must be familiar with the complete program. They must have knowledge of what the limitations are for each permit. After the assessment is completed, is it possible to remove all combustible materials or will other preventative measures be needed? If fire blankets are used it must be determined if the area would also need wet down before starting the hot work. Ventilation should be considered also. Communication to bystanders or other employees before the hot work begins.

Supervisor and End User

Ensure that the hot work is needed. Has the end user inspected the area for combustible materials or potential ignition sources? Ensure that a person that has had fire extinguisher training will be on the fire watch task. Will other preventative measures for fire prevention be needed because of the pre-inspection? What task will be performed involving hot work? What is the duration expected to complete the task and who will be affected? All sections on the written permit must be filled out and followed. Post the permit at the work site. Would there be any other compliance or safety concerns that may cross over to the hot work permit before the work starts (i.e., Lock out, confined space, line breaking etc.)?

Fire Watch

Individuals must be familiar with the limitations and use of a portable fire extinguisher. They must be competent in basic fire protection skills. Persons who are assigned as fire watch cannot perform any other tasks while the work is being performed. Training competency (It is highly recommended that the individual for fire watch has used a portable fire extinguisher during the training). Fire watch may need more than one or a larger type of extinguishing media. Review of procedures used to summon help and outside authorities if needed. Review how long fire watch is needed after the hot work is completed.

Pre-work review:

- Has the location where the work is to be performed been inspected for any combustible material?
- Do all employees and contractors involved with the hot work task understand the hazards and permit requirements?
- Have all combustible materials been removed or moved at least 35 feet away from the work area in all directions?
- If the combustible materials can't be removed, have they been covered with a fire blanket as per the permit requirements?
- Has the fire watch equipment been inspected to ensure it is functional?
- Have all affected employees been notified?
- Have emergency response contacts been posted and do individuals know how they will be notified in case of an emergency?
- Is the permit posted at the work area and do individuals know and understand the scope and limitations of the task?

Conclusion

Hot work is part of a company welding and fire prevention program. Before any hot work is permitted, an evaluation must be conducted to find out if any potential combustible material is present. If the evaluation shows that combustible material is present, then it must be removed or wetted and covered with a special fire blanket. Whenever hot work is performed, a trained fire watch person must be present with portable fire extinguishing media. The fire watch should be discussed with the Authorizer to determine how long it is needed after the task is completed. The hot work permit Authorizer must ensure that the hot work program is being followed. The program owner and Permit Authorizer should review the program at least annually to ensure compliance. They should also make sure all bystanders understand the permit process if they are affected by the work location.

Group activity

The questions below should serve to determine if your employees have a thorough understanding of your hot work permit process.

Discuss whether they can think of any past incidents or history that involved hot work.

Ask the following questions:

- Who handles inspecting the area prior to hot work?
- Who reviews how long the permit is valid for before signing off once the work is completed?
- How is notification conducted to affected individuals prior to beginning the hot work?
- Who will keep records of the permit and retention for past permits?

Once the above questions have been answered try to visit a location within your company to discuss what potential combustible materials should be removed.

Ask the group, once hot work is complete, what needs to be performed before leaving the area. Inspect the area within 30 minutes to verify there are no smoldering fires.

Resources

- OSHA Safety and Health Topics: Welding, Cutting, and Brazing
- Ohio Fire Code 1301:7-7-35 Welding and Other Hot Work
- NFPA 51B: Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- Canadian Centre for Occupational Health and Safety: Welding – Hot Work