OSHA OUTREACH COURSES

JOB AID

Hot Work

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Many insurance companies report that hot work losses are among the top causes of loss at the properties they insure. That's not surprising: a fire can do a lot of damage very quickly.

Most – if not all – hot work incidents are completely preventable. A fire watch, conducted properly, is one of the most important ways to keep workers safe during hot work and prevent damage and destruction to property.

What Is Hot Work?

Hot work refers to any type of work that produces or uses a spark, flame or heat sufficient for combustion.

Examples include:

- Welding
- Heat treating
- Grinding
- Thawing pipe
- Powder-driven fasteners
- Hot riveting
- Torch-applied roofing

Whenever possible, hot work should be avoided and alternative methods used.

- If hot work cannot be avoided, move it to a designated safe location
- If it is not possible to move work to a designated safe location, relocate all movable combustibles to a safe place
- If combustibles are not movable, safeguards should be used to protect the immovable combustibles and nearby personnel from the hazards of the hot work
- Inspect designated areas before beginning hot work. These areas must free of rags, cardboard, oils, grease, solvents and other combustibles

Where Is Hot Work Allowed?

- Hot work should only be performed in areas that are or that have been made fire safe
- Designated areas should be constructed of noncombustible or fire-resistant materials
    - If there is no designated area available, an area should be made fire safe by removing or protecting combustibles from ignition sources
    - Many companies follow a permit system for hot work in these areas
- Some areas are not safe for hot work and they include:
    - Areas with explosive atmospheres, such as flammable gases, vapors, liquids or dusts
    - Areas where there are unclean or improperly prepared drums, tanks or other containers and equipment that have previously contained materials that could develop explosive atmospheres
    - Areas with an accumulation of combustible dusts that could develop explosive atmospheres

When an area cannot be made safe, no hot work should be done in that area.

Hot Work Precautions

- Check that sprinklers, fire hoses and extinguishers are working properly and that all hot work equipment is in good repair
- Determine what flammable materials, hazardous processes and other potential fire hazards are present
- Shield or remove combustibles within 11 meters (35 feet) of the hot work
- Take special care if work is to take place on walls, ceilings or enclosed equipment
    - Make sure combustibles on the other sides of the walls are moved away
- Acquire a written permit, if required by your company
- Obtain a confined space entry permit, if necessary
- Apply lockout-tagout if it is needed
- Make sure that:
    - Heat is not being conducted from one area into another area, creating a dangerous situation
    - Fully charged and operable fire extinguishers are readily available at the site
    - The area is protected with fire protection systems
    - There is ample ventilation to remove any smoke or vapor from the area
- Take extra precautions when conducting hot work in special situations, such as confined spaces, rooftops, hazardous or classified locations, and areas with no fire protection systems
- Keep fire watch in place during and for at least 60 minutes after hot work
- After hot work is finished, the hot work area should be monitored for up to 3 hours

Responsibilities

Facility management ensures the safe operation of hot work activity by:

- Establishing permissible areas for hot work
- Designating a permit-authorizing individual to ensure that hot work operations are conducted safely
- Ensuring that only approved equipment is used
- Making sure that everyone involved in hot work (including contractors) is familiar with facility-specific hazards, knows safety processes and procedures and receives proper training on their equipment and the hot work process
- Educating everyone involved in hot work about the risks and emergency procedures
- Informing contractors of site-specific potential fire hazards

The ***person who authorizes permits*** is responsible for:

- Determining site-specific potential fire hazards
- Moving work to a location free from combustibles, or moving the combustibles to a safe distance or having them properly shielded against ignition
- Scheduling hot work so that production will not introduce combustibles to hot work operations
- Preventing hot work from taking place if conditions are not safe and stopping hot work if conditions become unsafe
- Making sure that fire protection and extinguishing equipment are properly located
- Ensuring that a fire watch is at the site, when required
- Inspect the area during work while permit is in effect
- Making a final check for smoldering fires after the completion of hot work operations

Hot work operator responsibilities include:

- Getting the approval of the permit-authorizing individual before starting hot work
- Making sure equipment is safe
- Stopping work if unsafe conditions develop

Fire watcher responsibilities include:

- Helping to prevent or extinguish small fires and watch out for the welder's safety
- Being trained to understand the hazards of the worksite and the hot work
- Ensuring that safe conditions are maintained during hot work
- Stopping hot work operations if unsafe conditions develop
- Having fire extinguishing equipment readily available and being trained to use it
- Being familiar with the facilities and procedures for sounding an alarm in the event of a fire

Emergencies

- Have a means to make emergency notifications (a working phone, cell phone, or a two-way radio)
- Know the right emergency numbers to call
- Know and follow the policy for emergency notifications where you are working
- Only try to extinguish small, easily controllable fires if you have been trained to do so
    - Company policies may require that you notify others even if you will be putting fires out yourself
    - Your health and safety are the first priority
    - You should evacuate if the situation exceeds your capabilities