National Grain and Feed Association

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NGFA Safety Tips: Hot Work

…Committed to promoting safety and health in the workplace…

Hot Work Can Pose Significant Fire and Explosion Hazards

Fires and explosions potentially can occur when hot work is performed in areas with proven combustible properties. Given the level of risk associated with hot work, OSHA provides regulations concerning its use in the *grain handling standard* 1910.272 (f) and the welding, cutting and brazing standard 1910.252. Additional information can be found in the *National Fire Protection Association (NFPA) 61, Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities, Chapter 9 Management Systems.*

Hot work is any work process that produces flames or sparks which present a fire ignition hazard to the surrounding environment and personnel. This definition encompasses electric and gas welding, plasma and torch cutting, brazing and other similar extreme heat- or flame-producing activities. Within the grain handling and feed industry, the list normally is expanded to include spark-producing tasks, such as grinding and electrical arcing from portable power tools.

Is Hot Work or a Hot Work Permit Necessary to Complete the Task?

It is inevitable that certain situations will require hot work to complete the task appropriately. However, if it is possible to complete the task using hand tools or other methods, then avoiding hot work and its associated risks should be considered.

OSHA in Section 1910.272(f) of its regulations allows hot work to be performed without a permit in the following situations:

- When the employer or a representative (who would otherwise authorize the permit) is present while the hot work is being performed.
- In welding shops authorized by the employer.
- In hot work areas authorized by the employer located outside the grain handling structure ***(50 feet or beyond from the grain handling facility).***

When possible, it is best to move items requiring hot work to a location where a permit is not required. When removal is not an option and a permit must be issued:

- The area within 35 feet of the work shall be cleaned of dust.
- Other combustibles within 35 feet shall be moved or protected with covers, guards or shields.
- Combustible floors or equipment in or below the work area shall be wet down or be covered with wet sand, metal shields, or fire-retardant blankets or tarps.
- Floor and wall openings within 35 feet of the work shall be covered or closed, and all open spouts in the work area shall be sealed or plugged.

NOTE: *If a permit is required, the person filling it out must certify that the requirements of Section 1910.252 have been met and fully implemented prior to the hot work being performed. The permit must be kept until completion of the hot work operations. It is a good practice to retain the permit for a longer time period (e.g., one year) to demonstrate compliance.*

NGFA Safety Program

- The NGFA is committed to promoting safety and health in the workplace, and shares the Occupational Safety and Health Administration's (OSHA's) commitment to protecting employees.
- The NGFA's extensive efforts to enhance safety include unprecedented research and education efforts launched in the early 1980s that helped lead to a dramatic reduction in the number of fire and explosion incidents in commercial grain-handling facilities.
- Each year, NGFA jointly sponsors regional safety seminars with affiliated state and regional grain and feed associations. The one-day conferences focus on keeping grain handling employees physically safe.

Personal Protective Equipment (PPE) shall be appropriate for the task and be in good working order. Those involved in the hot work operation should assess their PPE usage by considering exposure and environmental conditions.

Roles and Responsibilities for Hot Work Personnel

The employee:

- Prepares the work area and reports any safety issues to the supervisor.
- Follows fire-prevention and other safety-related procedures, such as lockout/tagout.
- Uses PPE and project equipment correctly and safely.

The supervisor:

- Conducts hazard assessment and identifies safety precautions.
- Communicates and enforces safety procedures.
- Assigns fire watch and secures permit authorization.
- Assures equipment is in good repair and tells employee when to proceed.

The employer:

- Appoints a qualified supervisor and advises contractors of hazards.
- Assures employee training is satisfactory.
- Establishes the proper locations, policies and procedures for the hot work program.

Sample Hot Work Permit

Hot Work Permit

NOTE: This permit must be filled out completely before hot work is started. All work must stop immediately if the condition changes and hazards become present.

Date:	
Time Begins:	am / pm
Time Expires (not to exceed 1 shift):	am / pm
Location of the work:	
Description of the work:	
Person(s) performing the work:	
Name 1:	Signature 1:
Name 2:	Signature 2:
☐	The flame or spark producing equipment has been inspected and found to be in safe condition.
☐	All necessary PPE has been provided to workers. Instructions for use and inspection completed.

All of the following precautions must be taken before cutting, welding, or other heat or spark producing is started:

YES	N/A	
		The area within 35 feet of the work shall be cleaned of dust.
		Other combustibles within 35 feet of the work shall be moved or protected with covers, guards, or shields.
		Combustible floors or equipment in or below the work area shall be wet down or covered with damp sand, metal shields, or fire retardant blankets or tarps.
		All equipment shall be thoroughly cleaned of combustible material and oil residues, and any exposed combustible linings shall be removed.
		Used welding rods shall not be thrown on the floor or ground. Used rods shall be collected and placed in a container for disposal.
		Combustible dust or flammable vapor-producing machinery or operations in the area shall not be permitted to be operating during the work.
		Floor and wall openings within 35 feet of the work shall be covered or closed, and all open spouts in the work area shall be sealed or plugged.
		Affected Team Members notified.
		A fire watch supplied with suitable portable extinguishers or a water hose shall be maintained during the work and after the job completion for 30 minutes continuously onsite and 30 minutes periodically for the next 30 minutes. The total fire watch time is at least one hour.
		After work is completed, complete a thorough inspection to insure all equipment and leftover material has been picked up before restarting operations. No hot embers or hot materials may remain.
		The duration of the permit shall not exceed one shift.
		Hot work shall not be permitted on equipment that is operating.
		Fire watch has been assigned to a trained person(s) who has access to proper fire extinguishing equipment. The fire watch is to include watching for dangerous sparks in the area, as well as floors above and below, during the hot work procedure. The fire watch has been assigned to: _____ . During the actual hot work, fire watch may not have other duties.
		Fire watch personnel will also perform fire watch duties during any lunch or rest periods and at least one hour after the hot work procedure is finished. The fire watch end time was: _____am / pm
		If a fire occurs the alarm notification will be made by: _____and the emergency phone number to summon the fire department is: _____

Permit Authorization

I have personally examined the hot work area and took the above precautions.

Name of Authorizer:

Signature or authorizer:

NGFA Reference Corner

OSHA Grain Handling Standard

CLICK HERE

OSHA 1910.252 Welding, Cutting and Brazing

CLICK HERE

OSHA General Safety and Health eTool Hot Work/Welding

CLICK HERE

NFPA 61 Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities

CLICK HERE

More safety information at www.ngfa.org

Contact VP Safety and Regulatory Affairs Jess McCluer or Manager of Safety Training and Education Jim Seibert at 202-289-0873

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