SAFETY TRAINING

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HOT WORK SAFETY AND THE PERMITTING PROCESS

Leader's Guide, Fact Sheet & Quiz

Item Number: 4879

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.

PREPARING FOR THE MEETING

Here are a few suggestions for using this program:

a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.

b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.

c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.

d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes *before* the quiz itself, which is on the final page.

CONDUCTING THE PRESENTATION

a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.

b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.

c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.

d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

4879 HOT WORK SAFETY AND THE PERMITTING PROCESS
FACT SHEET

LENGTH: 14 MINUTES

PROGRAM SYNOPSIS:
Hot work such as welding and cutting causes an average of more than 12,000 accidental fires per year, resulting in more than $300 million dollars in property damage and more than 30 fatalities. To perform hot work safely, employees need to understand the hazards that it creates and how a hot work permitting system can help to control and even eliminate them. They should also know the procedures they need to follow in order to reduce the risk of hot work accidents as much as possible. This program reminds employees of the hazards of hot work and safe work practices that can control or eliminate them. Upon completion of the program, employees should:

PROGRAM OBJECTIVES: After watching the program, the participant should:
- Know the most common types of hot work operations.
- Understand the fire hazards associated with hot work.
- Know how they can help ensure that hot work is performed safely in their facility.
- Know the stages in the hot work permitting process.
- Know the types of information that must be recorded on a Hot Work Permit.
- Understand how a Hot Work Permit is used to control

or eliminate fire hazards in areas where hot work will be performed.
- Understand what types of safety precautions are most likely to be required to make a work area fire-safe.
- Recognize the need for extreme caution when performing hot work in confined spaces.

PROGRAM OUTLINE

HOT WORK HAZARDS

- **When industrial fires occur, there's a one-in-five chance that they were started by "hot work" that was being performed on the site.**
  - "Hot work" can create major problems on construction sites as well.
- **"Hot work causes an average of more than 12,000 fires per year, resulting in more than $300 million dollars in property damage and more than 30 fatalities."**
  - But these fires are preventable.
- **"Hot work" is any task that produces high heat, sparks, or slag that could ignite flammable materials in the area.**
- **Hot work can include:**
  - Welding, cutting, brazing, and soldering.
  - Heating objects with propane torches or heat guns.
  - Some types of chipping, grinding, drilling and sawing operations.
- **The sparks and heated particles that hot work produces can:**
  - Reach temperatures above 1,000 degrees Fahrenheit.
  - Be thrown more than 30 feet from their source.
- **This high heat can easily ignite:**
  - Paper, cardboard or wood.
  - Flammable liquids and vapors.
  - Materials that are used in walls or flooring.
  - Accumulated oil or grease on machinery.
- **The equipment that is used to perform hot work can create hazards as well.**
  - Oxy-fuel welding rigs can leak flammable gases.
  - Arc-welding machines and some power tools may produce sparks.
- **Many companies attempt to control these fire hazards by creating special locations where hot work can be performed safely, isolated from the rest of the facility.**
  - These "designated areas" are always kept in a "fire-safe" condition.
- **But hot work can't always be picked up and moved to these areas.**
  - Some of this work must be performed "where the need is".

— Any fire hazards in these "non-designated areas" must be controlled or eliminated before hot work begins.

HOT WORK PERMITS

- **OSHA requires employers to implement a "hot work permitting system" for these locations.**

— That's why they are known as "permit- required" spaces.

- **The OSHA standards that require employers to implement hot work permitting systems are based on guidelines that were created by the National Fire Protection Association.**
- **The written Hot Work Permit and the procedures that go with it have been developed to help companies:**

— Manage any hot work that is performed on their sites.
— Reduce the fire hazards associated with that work.
— Prevent the damage, injuries and fatalities that fires and explosions can cause.

- **Under this system, no hot work may be performed outside of a designated, fire-safe area until a permit has been completed, approved and signed by a Hot Work Safety Manager.**

— This applies to any work that will be performed by contractors as well.

- **Each Hot Work Permit describes a specific job that will be performed at a specific time.**

— A separate permit is required for each location where hot work will be done.

- **The most important section on the permit is a checklist of hazards that may exist in the hot work area and the safety precautions that must be taken to control or eliminate these hazards.**

— The employees who perform the hot work, including the "operator" and "fire watchers", can use the checklist as a step-by-step guide for getting the job done safely.

- **This permitting process reduces the risks that are associated with hot work by requiring workers to focus on:**

— The hazards that are involved in the work they'll be doing.
— The precautions they should take to avoid these hazards.

- **The permit also ensures "accountability" by requiring the names of the hot work operator and the fire watch personnel, in addition to the signature of the Hot Work Fire Safety Managers.**

— This leaves no doubt about the responsibility each one has for maintaining a "fire-safe" environment.

DUTIES OF THE PERMIT AUTHORIZING INDIVIDUAL (PAI)

- **The person we have been calling the "Hot Work Safety Manager" is the individual who is designated by an employer to authorize and oversee any hot work that will be done on the site.**

— This person is also in charge of the hot work permitting process and is known as the "permit authorizing individual", or "PAI".

- **The PAI begins the permitting process by inspecting the location where the proposed hot work will be performed.**
- **The checklist on the Hot Work Permit guides them in:**

— Identifying any potential fire hazards that exist in or around the space.
— Determining what precautions should be taken to control or eliminate them.

- **By entering this information on the checklist, the PAI specifies what conditions must exist in the location before the hot work itself can begin.**

FIRE SAFETY PREPARATIONS

- **You'll be working from just such a checklist when you perform hot work, so you should understand the types precautions that you may need to implement. For instance:**

— Any fire suppression equipment in the space, such as sprinklers and fire hoses, must be working properly.
— Flammable materials must be moved at least 35 feet away from where the work will be done.
— Floors should be swept clean of combustibles for a 35-foot radius.
— Combustibles that cannot be removed must be protected by welding curtains, screens or fire- resistant blankets.

- **Openings in walls or floors within 35 feet of the hot work should be covered, to prevent sparks and other hot particles from flying or falling through them.**

— Combustible walls, floors and ceilings within 35 feet of the work must be wetted down, covered with fire-resistant blankets or be otherwise protected.

- **The materials and equipment that the hot work will be performed on must be cleaned of oil and grease, emptied of flammable liquids and purged of gases or vapors that could catch fire or explode.**
- **All the equipment that will be used in the hot work, such as welding machines or power tools, must be checked to ensure that they are undamaged and in good operating condition.**

- **It's critically important to make the worksite "fire-safe" before beginning hot work.**

— The hot work permitting process helps you do this systematically and effectively.

- **As we've discussed, the permit itself serves as a blueprint for fire safety preparations.**

— It enables you to address each hazard that has been identified in the work location, and control or eliminate it, step-by-step.

- **When you complete these preparations, the PAI will inspect the work site again.**

— If they are satisfied that all of the required fire prevention measures have been taken and that the work area is "fire-safe", the PAI will sign off on the permit so that the hot work itself can proceed.

SAFE WORK PRACTICES

- **While they are performing hot work, it's the responsibility of the operator and the fire watchers to ensure that:**

— Safe conditions are maintained.
— The work is completed in compliance with what is specified on the permit.
— Once their job is completed, they leave the site in a safe condition.

- **The permit is only valid for one job being performed in one location under specific conditions.**

— If conditions change or new hazards arise, the hot work should be stopped.
— In some cases, the permit may be cancelled as well.

- **Some fires can be slow to start, so the fire watch should be maintained for at least 1/2 hour after the hot work itself has been completed.**

— The PAI will then inspect the site again, this time examining the work that has been done as well.

- **When they are satisfied that the job has been done properly and that no further fire danger exists, the PAI will sign the permit again, officially bringing the hot work project and the permitting process to a close.**

- **Completed hot work permits are often kept by employers for a year or more to document fire safety compliance and for reference in developing improved hot work safety practices within the company.**

HOT WORK IN CONFINED SPACES

- **It's hazardous to perform any work in a confined space, because the space itself is hazardous.**

— Doing hot work inside a confined space creates a number of additional hazards.

- **Confined spaces are "limited-access structures", such as tanks, storage bins, vaults, manholes and tunnels.**

— They're not meant for continuous occupation by people, and they're difficult to get into and out of.

- **Confined spaces can contain:**

— Dangerous machinery.
— Toxic atmospheres.
— Explosive gases.
— High-voltage electricity.
— And other hazards.

- **They are so hazardous that confined spaces are involved in as many as two worker fatalities in the U.S. every week.**

— To reduce these hazards, OSHA requires employers to implement their own permit system for any work that needs to be performed in a confined space.

- **When hot work has to be performed in a confined space, it can add hazards such as flammable gases, electricity, high heat and the possibility of igniting a fire or explosion.**

— A Hot Work Permit provides an important additional level of safety within the confined space permitting process by ensuring that these hazards are controlled or eliminated.

- **To do hot work safely in confined spaces, you'll need to understand the hazards that can be encountered there as well as the OSHA safety standards that address them.**

— To find out more, talk to your supervisor.

HOT WORK SAFETY AND THE PERMITTING PROCESS

ANSWERS TO THE REVIEW QUIZ

1. a
2. a
3. a
4. a
5. b
6. b
7. b
8. b
9. a
10. b

HOT WORK SAFETY AND THE PERMITTING PROCESS
REVIEW QUIZ

The following questions are provided to determine how well you understand the information presented in this program.

Name_____Date_____

1. The sparks and heated particles produced by hot work can reach temperatures above 1,000 degrees Fahrenheit.

a. True
b. False

2. The most important section on a Hot Work Permit is a checklist of the precautions that must be taken to control or eliminate fire hazards in the work area.

a. True
b. False

3. The requirements of a hot work permitting system apply equally to employees and contractors who are working on a site.

a. True
b. False

4. The person who is in charge of the hot work permitting process is known as the "permit authorizing individual" or PAI.

a. True
b. False

5. The PAI begins the hot work permitting process by selecting a location where hot work will be performed.

a. True
b. False

6. Because the hot work permitting process removes all fire hazards, the sprinklers or fire hoses located in a hot work area do not have to be functioning when hot work is performed.

a. True
b. False

7. Once all the necessary precautions have been taken by the hot work operator to make a hot work area fire-safe, the hot work may begin.

a. True
b. False

8. The hot work permitting process is officially completed when the fire watcher goes off duty.

a. True
b. False

9. A fire watch must be maintained in a hot work area for at least a half an hour after the hot work itself has been completed.

a. True
b. False

10. OSHA does not require that any permitting system be followed when ordinary work is being performed in a confined space.

a. True
b. False