



PALO ALTO FIRE DEPARTMENT
OFFICE OF THE FIRE MARSHAL

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HOT WORK PERMIT GUIDE

Any onsite construction activity that emits or produces heat or flame including welding, brazing, heating or use of large or small generators requires a Hot Work Permit from the Palo Alto Fire Department. Email ‘fire@cityofpaloalto.org’ to obtain a Hot Work Permit prior to hot work activity. The Palo Alto Fire Department recognizes the fire hazard posed by hot work operations. The adoption of the procedures in this document can help mitigate this fire hazard.

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1.0 Purpose

The purpose of this program is to provide guidance for persons, including outside contractors and property managers, who manage, supervise, and perform hot work operations. The program will establish written procedures and a permit system to prevent fires resulting from hot work operations involving open flames or operations that may produce heat or sparks set forth by the following standards NFPA 51B, OSHA 1910.252, OSHA 1926.352.

2.0 Definitions

Hot Work - any temporary maintenance, renovation or construction activity using gas or electrically powered equipment, which produces flames, sparks, or heat that is sufficient to start a fire or ignite flammable or combustible materials. For example: open flame, torch, welders, molten slag or metal, or sparks from cutting or grinding.

Designated Area - the area that has been set chosen to perform hot work operations such as welding, torching, grinding, cutting, etc.

Permit - a HOT WORK PERMIT is a document that will be required when the task requires the use of a flame, sufficient heat or sparks to generate or serve as a source of ignition.

Fire watch - a person who maintains awareness for the presence of fire or hazardous conditions within the hot work area before and at least 30 minutes after the hot work. The fire watch personnel shall be trained in the following items:

- Hazards of the work site in correlation with the hot work
- Use of an appropriate fire extinguisher
- Procedures for initiating the fire alarm and calling 911
- Practices to safely extinguish any small fire using the extinguisher or welding blankets at the job site

3.0 Hot Work Operations

The following operations have been identified as hot work operations: These are activities that occur away from the designated workshop.

1. Welding
2. Acetylene/oxygen metal cutting
3. Soldering
4. Electric soldering
5. Metal grinding
6. Thawing pipes

4.0 Hot Work Procedures

4.1 Supervisor and Permit Administrators' Responsibilities

1. Perform site-specific inspections of the hot work area to identify flammable materials, hazardous processes, or other potential fire hazards that could be present
2. Ensure the protection of combustibles from the ignition by meeting the following criteria:
 - Moving hot work to a location free of combustible materials
 - If work cannot be moved, sweeping combustible to a safe distance from the operation or shielding from ignition source
3. Provide appropriate PPE based upon a hazard assessment for employees performing the task
4. Notify the alarm company before disconnecting any fire alarm system. Sprinkler heads or fire alarm systems shall not be covered or manipulated during hot work operations.
5. Provide appropriate fire extinguishing equipment in the hot work area or locate one in the building that is reasonably accessible for the duration of the hot work and for 30 minutes following the task
6. Define if fire watch is required
7. Administer hot work permit for all operations in which it is required

4.2 Employee and Hot Work Operators' Responsibilities

1. Remove all flammable or combustible materials within thirty-five-foot radius of hot work area
2. Remove all combustible debris (i.e. paper clippings, wood shaving, or textile fibers) from hot work area
3. Shield combustibles in the hot work area that cannot be removed with non-combustible blankets or other non-combustible materials
4. Use noncombustible spray, such as *No-Char* or *Char-Guard*, on combustible floors, walls, or ceiling areas around hot work operations if possible
5. Seal all cracks and openings through which hot sparks or slag may enter. A fire-resistant shield may be used to block openings
6. Place non-combustible or flame-resistant screens to protect personnel in adjacent work areas from heat, flames, UV, radiant energy and weld splatter
7. Ensure all cutting and welding equipment is in satisfactory condition and good repair
8. Ensure employees are suitably trained in the safe operation of equipment and understand the hot work process

5.0 Employee Training

5.1 Initial Training

Initial training will be provided within 30 days of assignment. The supervisor must ensure that all employees meet the requirements before assignment. The names of each employee shall be documented on the list provided in Appendix A and documented as record for completion of the training.

The supervisor will ensure that all new employees receive training before conducting a task that meets the criteria of hot work operations in the written program. An employee can be utilized as a helper, prior to receiving the initial training, as long as they work directly under a trained employee.

The initial training should include the following topics:

- Written program
- Hot work procedures, including how to obtain a permit
- Proper equipment operation
- Handling and storage of welding materials
- Compressed gas cylinder safety
- Fire watch
- Fire precautions
- Fire extinguisher training
- Physical and chemical hazards
- Hazard control
- PPE selection and use

5.2 Refresher Training

Employees will receive refresher training in hot work at least three years after the initial training. The refresher training will include the topics set forth by the initial training. It will also provide updates or new requirements, if applicable.

6.0 Hot Work Permit System

A hot work permit (See Appendix B) shall be utilized before hot work operations begin.

The procedures for the permits are:

1. The contractor will inspect the area before applying for a hot work permit.
2. The employee/hot work operator will complete the hot work permit at the job site and post until completion of the job or the duration of the permit.
3. The employee/hot work operator will return the hot work permit to the supervisor after the task is complete.
4. Permits will then be maintained by the Safety Officer, as needed.

7.0 Program Evaluation

The hot work programs shall be evaluated on an annual basis utilizing the protocols set forth in Appendix C. The evaluation team will consist of the department safety officer and a designee from Occupational Health and Safety. Occupational Health and Safety will define the scope of the evaluation. The safety officer and OHS will coordinate the schedule for the audit utilizing Microsoft Project. The final report will be developed the safety officer and OHS utilizing the information received during the evaluation. The deficiencies determined in the report will be documented and corrective action plans will be developed.

The evaluation should at least include the following:

- Written Program
- Permit System
- Designated Areas
- Individual Shops
- Training and Retraining

Appendix A Employee Training

- Employee full name
- Last 4 digits of social security number
- Date

The following employees have received training in The Hot Works Program:

	Name:	Last 4 digits SSN:	Date:
1.			
2.			
3.			
4.			
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20.			

Appendix B Hot Work Permit

BEFORE INITIATING HOT WORK, ENSURE PRECAUTIONS ARE IN PLACE!

MAKE SURE AN APPROPRIATE FIRE EXTINGUISHER IS READILY AVAILABLE

This Hot Work Permit is required for any operation involving open flames or producing heat and or sparks. This includes, but is not limited to:

Brazing, Cutting, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding

INSTRUCTIONS:

Verify precautions listed on next page (or do not proceed with the work).

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HOT WORK BEING DONE BY:

Date: _____

Employee: _____ Contractor: _____

Job No: _____

Address: _____ Building/Floor: _____

Nature of Job: _____

I verify the above locations has been examined, the precautions checked on the Require Precautions Checklist have been taken to prevent fire, and permission is authorized for work.

Signed: _____ Date: _____

Time: _____AM _____PM

Permit Expires: _____

Required Precautions Checklist

- Available sprinklers, hose streams and Extinguishers are in service/operational.
- Hot work equipment in good repair. Requirements within 35 ft. of work.
- Flammable liquids, dust, lint and oil deposits removed.
- Explosive atmosphere in area eliminated.
- Floors swept clean.
- Combustible floors wet down, covered with damp sand or fire-resistant sheets.
- Remove other combustibles where possible. Otherwise protect with fire-resistant tarpaulins or metal shields.
- All wall and floor openings covered.
- Fire-resistant tarpaulins suspended beneath work. Work on walls or ceilings/enclosed area.
- Construction is noncombustible and without combustible covering or insulation.
- Combustibles on other side of walls moved away.
- Danger exists by conduction of heat into another area.
- Enclosed equipment cleaned of all combustibles.
- Containers purged of flammable liquids/vapors.
- Fire watch/Hot Work area monitoring
- Fire watch will be provided during and for (30minutes) after work, including any coffee or lunch breaks.
- Fire watch is supplied with suitable extinguishers.
- Fire watch is trained in use of this equipment and in sounding alarm.
- Fire watch may be required for adjoining areas, above and below.
- Monitor Hot Work area for 30 minutes after job is completed.

Appendix C Audit Checklist

Hot Work Operations (Welding and Cutting) Checklist

Building/Shop: _____ Room: _____

Supervisor: _____

Assessment performed by: _____

Type of hot work performed: _____

Date: _____

A. General Welding and Cutting Controls

	YES	NO	N/A
1. Hot work permit obtained	_____	_____	_____
2. Welding and cutting operations restricted to authorized employees	_____	_____	_____
3. Hot work performed in designated area	_____	_____	_____
4. Combustible materials moved at least 35 feet from worksite	_____	_____	_____
5. Floor and wall openings covered at least 35 feet from worksite	_____	_____	_____
6. Procedures developed to prevent welding and cutting in the presence of explosive or toxic air contaminants	_____	_____	_____
7. Fire resistant curtains and/or tinted shields provided	_____	_____	_____
8. Local or general exhaust ventilation adequately used	_____	_____	_____
9. Appropriate personal protective equipment provided and used	_____	_____	_____
10. Appropriate fire extinguisher and/or fire suppression equipment provided in the vicinity of hot work	_____	_____	_____
11. Building sprinkler system operational during hot work operations	_____	_____	_____
12. Procedures developed to establish and maintain fire watch in hot work areas	_____	_____	_____
13. Hot work permit used	_____	_____	_____

B. Welding or Cutting in Confined Spaces

YES NO N/A

- 1. Procedures developed for confined space entry and rescue _____
- 2. Ventilation and/or respiratory protection provided _____
- 3. Electrodes removed from holders and/or gas supply shut off when operations are suspended for any substantial period _____
- 4. Hot work permit used _____

C. Compressed Gas Cylinders

YES NO N/A

- 1. Oxygen and fuel gas cylinders stored separately with protective valve caps in place _____
- 2. Regulators compatible with gas cylinder _____
- 3. Cylinder carts used for transport _____
- 4. Cylinders secured from tipping while in use _____
- 5. Empty or unused gas cylinders returned to supplier _____

D. Training

YES NO N/A

- 1. Workers trained in use of welding and cutting equipment, material hazards, and control methods _____
- 2. Personal protective equipment training provided _____
- 3. Confined space entry training provided, where necessary _____
- 4. Workers trained in the written hot work program and/or permit system _____
- 5. Employees trained in the use of fire extinguishers _____

Comments: