

**CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM**

**TOPIC: HOT WORK PROGRAM**

**EFFECTIVE DATE: 10/13/08**

**SUPERSEDES: N/A**

**SECTION: RCP #11**

**PURPOSE**

This document establishes the Hot Work Operations Program for all employees of the City of Sacramento as per CCR Title 8 Section 4848. The purpose of this program is to protect employees from injury and City buildings from damage associated with hot work. All hot work must be accomplished in accordance with this written program, the City's safe work practices for hot work and the manufacturers' recommended safety precautions for the equipment used in welding, cutting, grinding, or brazing processes.

**DEPARTMENT/DIVISION PROCEDURES AND REQUIREMENTS**

**Each department/division with workers covered by this program is responsible for the following:**

- a. Training and Authorization
  1. No employee will be allowed to perform hot work operations unless he/she has been trained and authorized to do so; and
  2. All training must be documented.
- b. Approved Equipment
  1. Only approved equipment (e.g. torches, manifolds, regulators, valves, etc.) may be used. Approved equipment is defined as unmodified equipment as received from the manufacturer and used as intended and designed.
- c. Hot Work Permits
  1. Hot work may be performed without a permit in the following locations:
    - a. Facility Management shops;
    - b. Blacksmith shop (24th Street Corp Yard);
    - c. Machine shops (35th Ave CWTP, Sacramento River WTP and Fairbairn WTP),
    - d. Fabrication shop (35th Ave);
    - e. Fleet shops;
    - f. Fire Department Emergency Operations; and
    - g. Maintenance Shops.

2. Only a hot work supervisor may approve the use of hot work in a location other than the pre-approved locations listed above. This is done by completing the Hot Work Permit (Attachment A). The completed hot work permit must remain at the site until the project is complete and the permit is closed.

d. Worksite Hazard Assessment and Mitigation

1. The hot work supervisor will determine combustible materials and hazardous areas present or likely to be present at the proposed work location. The supervisor will reduce or abate the hazardous condition(s) with one of the following methods:
  - a. Move the work to a location free from dangerous combustibles;
  - b. If the work cannot be moved, have the combustibles moved to a safe distance from the work (at least 35 feet) or have the combustibles properly shielded;
  - c. Schedule hot work operations at a time when combustibles are absent or can be moved from the work area.
2. The following restrictions apply to performing hot work in a permanent building or structure:
  - a. A hot work permit is required;
  - b. Nearby smoke alarms may be disabled prior to beginning work. If smoke alarms are disabled, affected employees must be notified of the exact location and duration of the work;
  - c. Disabled smoke alarms must be reactivated immediately after completion of the work;
  - d. When work is complete, affected employees must be notified that the work is complete and alarms have been reactivated.
3. Brazing, cutting or welding are permitted only in areas that are or have been made fire safe. Namely:
  - a. If combustible materials (e.g. paper, wood shavings and textiles) are on the floor, the floor must be swept clean for a radius of 35 feet. Combustible floors will be kept wet, covered with damp sand, or otherwise protected;
  - b. Where there are cracks or openings in the floor, walls, open doorways or windows exist and they which cannot be closed or covered, precautions will be taken so that no readily combustible materials on the floor below will be exposed to sparks which might drop through the floor or other openings;
  - c. Ducts, fans or conveyor systems that might carry sparks to distant combustibles or promote the migration of smoke and fume to occupied areas will be suitably protected or shut down. In the event that ducts, fans or conveyor systems cannot be shut down or protected, portable welding exhaust systems that produce velocities of 100 fpm in the welding zone will be utilized;

- d. If welding is to be done on a metal wall, partition, ceiling or roof, precautions must be taken to prevent ignition of combustibles on the other side due to conduction of radiation, preferably by relocating combustibles.
- 4. Brazing, cutting and welding operations will be conducted and permitted only when the following protections are in place:
  - a. Personnel are properly outfitted with personal protective equipment (PPE);
  - b. Shielding is in place to keep others from viewing the arc (as required by the hot work supervisor);
  - c. Adequate ventilation is in place and functioning to keep operators from inhaling toxic gases and fumes.
- e. Fire Watch
  - a. Fire watchers are required whenever welding or cutting is performed in locations where a hot work permit is required;
  - b. Fire watchers must be trained in the use of fire extinguishing equipment. They will be familiar with means for sounding an alarm in the event of a fire. They must watch for fires in all exposed areas, sound the alarm if necessary, and attempt to extinguish fires only when within the capability of the equipment available. A fire watch will be maintained for at least 30 minutes after completion of work;
  - c. Suitable fire extinguishing equipment must be maintained nearby and ready for use while brazing, welding, and cutting are being performed and during fire watch activities.
- f. Program Evaluation

This program is administered and maintained by the City of Sacramento's Environmental Health and Safety Office and will be reviewed at least every three years.

## Hot Work Permit (Attachment A)

Hot Work Supervisor Name:	Date and Time of Work:	Have emergency fire response procedures been reviewed?  ___Yes                      ___No
Is a confined space permit required?  ___Yes                      ___No	Is Lockout/Tagout required?  ___Yes                      ___No	Hot Work Equipment to be used:
Location and equipment to be worked on:		
Reason for completing this Hot Work Permit (check all that apply):  ___ Combustible materials in work area ___ Work area has potential for flammable vapors ___ Work area has potential for an oxygen-enriched atmosphere ___ Work will not be done in a permanent setting		
Fire Prevention Procedures to be used during hot work:		
Yes/No Lockout/Tagout Test for flammable vapors with gas detector Erect fire-resistant barriers Place fire extinguishers around worksite Wet down floor Cover floor with wet sand Welding ventilation Drums filled with wet sand Drums filled with water Fire watch	Yes/No Confined Space Entry Procedure Displace pipeline/tank with water Ventilate area to control flammable vapors Clear work area of combustibles Place water hoses around worksite Other (list below) Portable	
Persons Conducting Hot Work:		
Name and Department: _____		
Name and Department: _____		
Name and Department: _____		
Fire Watch, Name/Department: _____		
Fire Watch, Name/Department: _____		
Authorizing Hot Work Supervisor		
Name: _____ Signature: _____ Date: _____		
<b>Fire Watch has been maintained for 30 minutes after completion of hot work. All ignition sources have been extinguished. This permit is closed.</b>		
Date and Time: _____ Fire Watch Name: _____ Signature: _____		