

HOT WORK PERMITS

1. Introduction

The Contra Costa Water District uses a hot work permitting system to ensure that affected employees are aware of hot work being performed and appropriate safety precautions are taken prior to beginning the hot work. A Hot Work Permit Program is used to ensure safe performance of hot work activity. The procedures for implementing the Hot Work Permit Program are provided in the following sections.

2. Purpose/Scope

Hot Work Permit requirements apply to all hot work conducted at CCWD facilities (office buildings, pump stations/plants and treatment plants) with the exception of hot work performed at designated welding/maintenance shops. Hot work includes electric or gas welding, cutting, brazing or similar flame or spark-producing operations (such as grinding).

3. Objectives

1. Ensure the work area is inspected and combustibles and flammables are isolated from the hot work.
2. Establish fire watches when applicable.
3. Provide communication with all departments concerned.
4. Control how open flame or spark-producing equipment is used.
5. Formally document all hazardous conditions and special requirements of the work area.

4. Permit Initiation

The Maintenance Crew Leader, Water Treatment Supervisor, or Construction Project Manager will initiate or authorize the initiation of the permit.

5. Responsibilities

5.1 Maintenance Crew Leader:

1. Inspect the work area and adjacent areas for a distance at least 35' around the hot work site, including the other side of any wall or barrier, to which sparks or heat might spread.
2. Ensure that only approved equipment (i.e. torches, manifolds, regulators etc.) is used and the area has been properly prepared and is ready for the safe performance of the work.
3. Ensure that any lines to be demolished or removed are properly identified and marked.

4. Make necessary tests for flammable and/or other hazardous conditions. No hot work will be allowed if the gas concentration is above 20% LEL.
5. Show the persons doing the work the locations of the nearest communications equipment and applicable safety devices.
6. Check placement and condition of proper fire extinguishers and other safety equipment.
7. Inform fire watch of potential fire hazards.
8. Review checklist on back of Hot Work Permit.
9. List special precautions as necessary.
10. Sign the permit after the above conditions have been met.
11. Ensure that the hard copy of the permit has been posted at the work location.
12. Prevent an operation from being performed which has the potential to cause the area or equipment to become unsafe while the permit is in effect.
13. Monitor the work as it progresses to ensure that the conditions of the permit are not changing.
14. Stop the work if a change occurs which creates an unsafe condition. Work shall not resume until a safe condition is restored.
15. Inspect and gas check the work area continuously.
16. Advise relief operators of any permit in effect.
17. Inspect the work site after any interruption has occurred prior to resuming work.
18. Immediately after the work is completed, inspect the work area and adjacent areas to determine that they are in a safe condition.

5.2 Maintenance Supervisor, Water Treatment Supervisor, Construction Project Manager:

1. Ensure that facility operations, construction or maintenance will not be adversely affected by the proposed work activities.
2. Ensure that the proper precautions for hot work have been taken.
3. Sign the Hot Work Permit, certifying that the job is ready to proceed.
4. Ensure all participants in the Hot Work Permit process have fulfilled their duties and responsibilities.
5. Hold hard copies of the permits until the work is ready to start.
6. Notify the Unit Operator when the permit is closed out.

5.3 Person Performing Hot Work:

1. Read, understand and follow the conditions listed on the Hot Work Permit.
2. Advise other workers of any special precautions or conditions pertaining to the job.
3. Survey the work area to confirm safe work conditions. Know the location of the nearest telephone, fire alarm, emergency communication system, fire extinguisher, safety shower, first aid kit, etc., before starting work, and know how to use them.
4. Confine all sparks and slag as close to the work area as possible.
5. Be constantly aware of conditions in the immediate work area, and be ready to stop work if conditions change. Do not resume work without approval of the

Treatment Plant Supervisor or Maintenance Supervisor, and the Maintenance Crew Leader.

6. Clean up and secure the work area after completion of work each shift. At the end of the shift or upon completion of the work, whichever comes first, return the permit to the Control Room or designated location, and sign the original. If the job is incomplete and the person or crew temporarily leaves the unit, the worker must notify the Senior Treatment Plant Operator and the Maintenance Crew Leader.
7. When any alarm or emergency Announcement is made, stop all work, disconnect all electrical equipment, and secure all gas cylinders. Do not resume any work until notified by the Unit operator.

5.4 Fire Watch:

1. Observe an area of at least 35' around the hot work site, including the other side of any wall or barrier, and maintain the area free of combustibles and tripping hazards.
2. Have no other duties assigned while on watch.
3. Understand and follow the conditions listed on the Hot Work Permit.
4. Be trained in the use of fire extinguishing equipment provided.
5. Understand the alarms and where and how to activate them.
6. Notify the person doing the work if any sparks are not contained at the work area.
7. Sound the alarm for assistance and extinguish any small fires started by sparks or slag.
8. Remain on the scene from the start until 60 minutes after the completion of all hot work.

6. Special Considerations

Hot work will not be performed:

1. On in-service piping or equipment, especially ozone systems.
2. In areas where flammable vapors may be present, precautions must be taken to prevent ignition by eliminating or controlling sources of ignition. Examples of sources of ignition are motors, switches, tools, (electric or manual) which may give off sparks, generators of static electricity, lighting fixtures, vehicle starting or running, etc.

7. Duration of Permits/Permit Close Out / Permit Retention Policy

1. Permits will be in effect until job completion or until an inactive period of two hours has elapsed unless test(s) determine the LEL is less than 20%. The permit will not extend beyond the end of the shift in which the permits were issued.
2. Completed hot work permits will be retained by the Treatment Plant Supervisor or Maintenance Supervisor six months from the date of issue.

HOT WORK PERMIT

Before starting this work, check to see if this job can be avoided or if there is a safer way to proceed.

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This Hot Work Permit is required for any operation involving open flames or excess heat or sparks, including brazing, cutting, grinding, soldering and thawing pipe, torch-applied roofing and welding.

Part 1: For Crew Leader, Supervisor, Project Manager

INSTRUCTIONS:

1. Verify that the required Precautions Checklist is completed.
2. Complete and retain Section 1.
3. Issue Section 2 to the person who will perform the hot-work.

The person doing hot-work is an:

Employee: _____

Contractor: _____

Date: _____

Job
Number: _____

Location, Building and room: _____

Description of Job: _____

Person doing Hot-work: _____

I verify that the hot-work location has been examined, the precautions checked on the Required Precautions Checklist (page 2) have been taken to prevent fire, and permission is authorized for this work.

Crew Leader/Supervisor/Project Manager's Signature: _____

Permit Expiration date and time: _____

Precautions Checklist

To be filled out by Crew Leader, Supervisor, Project Manager

- Check that available sprinklers, hose streams and extinguishers are in service and operable.
- Check that hot-work equipment is in good repair and that only approved apparatus (torches, manifolds, regulators, etc.) are used.
- Prior to beginning hot work test and document that flammable gas or vapor is in concentration of less than 20% of LEL within 35 feet of hot work area.
- Remove flammable liquids, dust, lint and oily deposits from within 35ft of hot-work.
- Ducts or conveyors that might carry sparks to distant combustibles are protected or shut down.
- Sweep the floors from within 35 ft of hot-work.
- Wet down or cover all combustible flooring within 35 ft of hot-work with damp sand or fire-resistant sheets.
- Remove any other combustible material within 35 ft or protect with fire-resistant sheets.
- Cover all wall or floor openings within 35 ft.
- Suspend fire-resistant tarpaulins beneath work.
- For any work on floors or ceilings, assure that the construction is noncombustible and free of combustible covering or insulation
- For any work on floors or ceilings, assure that combustibles on the other side of the wall are moved away.
- For work on enclosed equipment, ensure that the equipment is cleaned out of all combustibles.
- For work on enclosed equipment, ensure that the containers are purged of flammable liquids and vapors.
- Ensure fire watch will be provided during and for 60 minutes after hot-work.
- Ensure fire watch is supplied with suitable extinguishers.
- Ensure fire watch is trained in the use of the fire safety equipment and alarms.
- Ensure fire watch knows to monitor applicable adjoining areas.
- Ensure hot-work area will be monitored for 3 hours after the job is completed.
- Ensure hot work permit is canceled due to inactivity of permitted hot work in excess of two hours unless test(s) determine the LEL is less than 20%.

Other precautions taken: _____

WARNING

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Hot Work in Progress Watch for Fire!

Part 2: For the Person Doing the Hot-Work, The Fire-Watch and The Monitor

INSTRUCTIONS:

- Person Doing the Hot-Work:** Indicate the time the work is started and post this permit at the hot-work location. Survey the work area to confirm safe work conditions. After completion, indicate the time the hot-work is completed and leave the permit posted for fire-watch.
- Fire-Watch:** Before leaving the work area, perform a final inspection, sign the permit and leave it posted and notify the Fire-safety Supervisor.
- Monitor:** 3 hours after the work is completed, do a final inspection, sign this form and return it to the Fire-safety Supervisor.

The person doing hot-work is an: I verify that the hot-work

Employee

Contractor:

Name _____

Date: _____

Job

Number: _____

Location, Building and
room: _____

Description of
Job: _____

Person doing hot work:
Hot work area is safe to
do the work
Signature: _____

location has been
examined, the precautions
checked on the Required
Precautions Checklist
(page 2) have been taken
to prevent fire, and
permission is authorized
for this work.

Crew Leader, Supervisor's
Signature: _____

Time hot-work is
started: _____

Time hot-work is
finished: _____

Permit Expiration date
and
time: _____

Fire-Watch Sign-off:

The work area and all
adjacent areas where
sparks and heat might
have spread were
inspected and were
determined to be fire-
safe.

Fire-Watch

Signature: _____

Monitor Sign-off:

The work area was
inspected for 3 hours
following the hot-work
and found to be fire-safe.

Monitor

Signature: _____

Precautions Checklist

Must be retained 6 months as record of Hot-Work Activity

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- Remove flammable liquids, dust, lint and oily deposits from within 35 ft of hot-work.
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- For work on enclosed equipment, ensure that the containers are purged of flammable liquids and vapors.
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Other precautions

taken: _____