Facilities Hotwork Procedures

SafetyNet #: 533

Hot Work is any work activity that generates a flame, heat or sparks such as soldering, brazing, welding, torch cutting or grinding.

An authorized FO&M employee is an employee that can perform assigned specific hot work tasks safely and be able to coordinate with FO&M Customer Support Center and the Alarm Shop. The authorized employee shall obtain necessary hot work permits from the UC Davis Fire Department, conduct fire watches and, for interior work, is knowledgeable in the installation and removal of smoke detector covers.

Scope:
This hot work procedure shall be followed by FO&M employees and on FO&M and A/E contracted projects that include any hot work activity inside or within 100 feet of campus buildings.

Non emergency hot work:
All non-emergency hot work must be scheduled at least 72 hours in advance with the FO&M Customer Support Center, the Alarm Shop and the UC Davis Fire Department.

Advanced coordination and approval is needed with the FO&M Customer Support Center, the Alarm Shop and the UC Davis Fire Department to have any fire protection system remain deactivated overnight.

Fire Watch:
A fire watch must be conducted by the person performing the hot work or qualified designee for 30 minutes following the completion of any hot work under this procedure on campus.

Hot Work being performed by Authorized FO&M Employees:
• Responsibilities for Welding, Torch Cutting, Grinding
All FO&M employees must first call the Customer Support Center (752-1655) prior to scheduling any welding, torch cutting or grinding activity. The Customer Support Center will provide the
FO&M employees will coordinate with the FO&M Customer Support Center, the Alarm Shop and have a valid Hot Work Permit from the UCD Fire Department prior to starting any welding, torch cutting or grinding activity.

The FO&M Alarm Shop is responsible to determine the type of fire protection system present and whether an alarm technician is needed for zone de-activation. In the case of a smoke detector type system, a trained FO&M employee may be authorized to use the “bag” method on smoke detector(s). If the “bag” method is used, it is critical to remove the bag from the smoke detector(s) as soon as the hot work activity is complete.

The UC Davis Fire Department shall be notified at the completion of hot work and fire watch activities.

• **Responsibilities for Soldering and Brazing Activities:**
FO&M employees performing soldering and brazing activities will follow the procedure for welding, torch cutting and grinding but a Hot Work Permit from the UCD Fire Department is not required.

• **Hot Work in Confined Spaces:**
All Hot Work in confined spaces are considered Permit Required Confined Space entries; they shall have a Hot Work Permit issued by the UCD Fire Department plus inform the FO&M Customer Support Center of the hot work activity.

• **Other FO&M Activities That Could Affect Fire Protection Systems:**
FO&M employees performing painting, demolition, ceiling tile removal/installation or any other activity that could negatively affect a fire protection system or device must consult and coordinate with the FO&M Customer Support Center and the Alarm Shop prior to starting the activity.

*Smoke detectors systems:* Only after review and proper approval, a trained and authorized FO&M employee can install/remove the protective cover(s) or bag(s) from smoke detectors.

**Contract Work:**

- **Responsibilities**

For contract work on campus, FO&M and A/E Project Managers are responsible to ensure that they or their designees first call the FO&M Customer Support Center (752-1655) prior to scheduling any hot work. The Project Managers are also responsible for initiating, either directly or through FO&M Customer Support Center, a Maximo Work/Sub Work Order(s) and coordinate with the FO&M Alarm Shop to identify the fire protection system in operation and to coordinate with the UC Davis Fire Department to request a Hot Work Permit.
Contractors are prohibited from altering, disabling or modifying any fire protection system, device or related fire protection equipment on campus. Only trained and authorized FO&M employees may disable (for Hot Work purposes) a fire protection device, deactivate a zone or use the bag method.

It is critical that as soon as any Hot Work is complete (including a fire watch for 30 minutes) the UC Davis Fire Department shall be notified and the fire protection system shall be reactivated or if “bag” method is used the bag(s) must be removed by an FO&M employee.

**Other Contracted Activities That Could Affect Fire Protection Systems:**
The project manager overseeing contractors performing painting, demolition, ceiling tile removal/installation or any other activity that could negatively affect a fire protection system or device shall consult and coordinate with the FO&M Customer Support Center and Alarm Shop prior to starting the activity.

Only after review and proper approval can a trained and authorized FO&M employee install/remove the protective cover(s) or bag(s) from smoke detectors.

**Hot Work Safety Check-list - Non-Emergency FO&M Employees**

1. **Welding, Torch, Cutting and Other Spark Producing Activities Within 100 feet of/or Inside a Building**

   - **Get the proper approvals first:**
     - Call the FO&M Customer Support Center to schedule Hot Work.
     - Contact the FO&M Alarm Shop to identify the fire protection system in operation (i.e. zone, duct or smoke detectors). Make sure system is correctly deactivated by an authorized and trained FO&M employee prior to starting work.
     - If Contract work is involved, provide this checklist to the Contractor. Contractors cannot alter, disable or modify any fire protection system, device or related fire protection equipment on campus).
     - Request a Hot Work Permit from the UC Davis Fire Department 752-1236 (72 hour notice).

   - **Setting up the work area:**
     - Erect signs, barricades (Welding shields if applicable) and secure area preventing unauthorized entry.
     - Have an appropriate fire extinguisher (20 pound minimum) available or in close proximity (Do not remove fire extinguishers from buildings).
     - Work area must be cleared of all combustible materials (minimum 25 feet). Where
items cannot be removed, they must be protected by appropriate fire prevention device.

- Have proper PPE (Personal Protective Equipment) for the job (i.e., welding hood, face shields, goggles, clothing & gloves, etc.).
- Area must be properly ventilated.

**After Hot Work is Complete:**
- Conduct Fire Watch (30 minutes).
- Call UC Davis Fire Dispatch when Hot Work and Fire Watch are complete

**REMINDER:** Contact your supervisor or FO&M Safety Office (754-4375) if there are any questions about Hot Work.

2. **Brazing/Soldering Activities Within 100 Feet of or Inside a Building.**

- **Get the proper approvals first:**
  - Call the FO&M Customer Support Center to schedule Hot Work
  - Contact the FO&M Alarm Shop to identify the fire protection system in operation (i.e. zone, duct or smoke detectors). Make sure system is correctly deactivated by an authorized and trained FO&M employee prior to starting work.
  - If Contract work is involved, provide this checklist to the Contractor. Contractors cannot alter, disable or modify any fire protection system, device or related fire protection equipment on campus).

- **Setting up the work area:**
  - Erect signs, barricades and secure area preventing unauthorized entry.
  - Have an appropriate fire extinguisher (20 pound minimum) available or in close proximity (Do not remove fire extinguishers from buildings).)
  - Work area must be cleared of all combustible materials (minimum 25 feet). Where items can not be removed, they must be protected by appropriate fire prevention device.
  - Have proper PPE (Personal Protective Equipment) for the job (i.e., welding hood, face shields, goggles, clothing & gloves, etc.).
  - Area must be properly ventilated.

- **After Hot Work is Complete:**
  - Conduct Fire Watch (30 minutes).

**REMINDER:** Contact your supervisor or FO&M Safety Office (754-4375) if there are any questions about Hot Work.

**Welding Safety Rules**
• Only approved devices shall be used for pre-mixed air or oxygen and combustible gases.
• Transferring gases between cylinders or mixing gases in cylinders is not permitted.
• The use of liquid acetylene is prohibited.
• Do not allow acetylene gas to be brought in to contact with unalloyed copper except in a blowpipe torch.
• Acetylene gas shall be stored, transported and used in the vertical, upright position.
• Approved and marked oxygen and fuel gas pressure regulators must be used at all times. Fuel gas must never be used from the cylinder through torches or other devices equipped with shut off valves without reducing the pressure through a suitable regulator attached to the cylinder valve manifold.
• All equipment, including cylinders, hoses, valves etc., shall be kept free from oil and grease.
• Do not handle oxygen cylinders with oily and/or greasy hands or materials.
• Use suitable cradles when moving cylinders. Do not use rope slings and/or electromagnets.
• Place cylinders away from the welding operation so that they will not be unduly heated by radiation from heated materials.
• A fire watch shall be maintained for at least 30 minutes after a completed welding or cutting operation to detect and extinguish possible smoldering fires.

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Contact

Fire Prevention Services
fireprevention@ucdavis.edu 530-752-1493

More information