

HOT WORK PROGRAM



**Contact Environmental Health and Safety at (805) 756-6555 or
Facilities at (805) 756-5555 for assistance.**

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HOT WORK PROGRAM

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HOT WORK PROGRAM

1. SCOPE and APPLICATION

- 1.1. This program identifies the requirements for preventing injury and property damage from fires due to hot work. It applies to all faculty, staff, student assistants, or identified volunteers and contractors.
- 1.2. Hot work is any activity which produces a source of ignition such as heat, sparks, or flames.
 - 1.2.1. Typical Included Activities: (Not a complete list)
 - 1.2.1.1. Welding (all types), Grinding, Torch Cutting, Abrasive wheel cutting, torch brazing/soldering, any open flame, or similar activity.
 - 1.2.2. Exclusions: (Hot Work does not apply to)
 - 1.2.2.1. Welding, cutting, and hot work operations carried out in designated maintenance shop areas or academic department shop areas that are properly constructed for hot work or adequately screened to contain the ignition source.
 - 1.2.2.2. Bunsen burners, Meker burners, or similar used in academic or research labs where adequately isolated from combustibles and flammables.
 - 1.2.2.3. Cooking operations
 - 1.2.2.4. Electric soldering irons

2. ROLES AND RESPONSIBILITIES

2.1. EHS Program Administrator is responsible to:

- 2.1.1. Establish, communicate and maintain this program in accordance with applicable regulations, and executive orders.
- 2.1.2. Review training content to maintain compliance with this program.
- 2.1.3. Conduct program reviews and communicate results to the organization.
- 2.1.4. Track and trend results of program review by college or unit.
- 2.1.5. Communicate hazard and control measure information to the organization.
- 2.1.6. Assist the campus with identification of hot work hazards and appropriate control measures related to hot work.
- 2.1.7. Communicate any changes related to the written program, training content or program review stakeholders.

2.2. Associate Vice President (AVP)/Deans, or designee are responsible to:

- 2.2.1. Communicate program to directors and department chairs
- 2.2.2. Provide resources to directors and department chairs to communicate, implement and maintain program
- 2.2.3. Request feedback from directors and department chairs on the communication and implementation of this program.
- 2.2.4. Set priorities for the college or unit on implementation and maintenance with assistance from EHS

2.3. Directors/Department Heads and Chairs are responsible to:

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- 2.3.1. 2.3.1. Communicate program to managers, supervisors, leads, and principal investigators
- 2.3.2. 2.3.2. Provide resources to managers, supervisors, leads, and principal investigators to communicate, implement and maintain program
- 2.3.3. 2.3.3. Request feedback from managers, supervisors, leads, and principal investigators on the communication and implementation of this program.
- 2.3.4. 2.3.4. Set priorities for managers, supervisors, leads, and principal investigators on implementation and maintenance with assistance from EHS

2.4. Managers/Supervisors/Leads/Principal Investigators are responsible to:

- 2.4.1. Identify hot work hazards present in the work areas they manage.
- 2.4.2. Communicate program to Staff/Student Workers/Official Volunteers
- 2.4.3. Provide resources to Staff/Student Workers/Official Volunteers to communicate, implement and maintain program
- 2.4.4. Request feedback from Staff/Student Workers/Official Volunteers on the communication and implementation of this program.
- 2.4.5. Set priorities for Staff/Student Workers/Official Volunteers on implementation and maintenance with assistance from EHS

2.5. Faculty are responsible to:

- 2.5.1. 2.5.1. Identify and report hazards associated with their teaching and research activities to the Department Chair and College/Department Safety Coordinator
- 2.5.2. 2.5.2. Attend/complete required training
- 2.5.3. 2.5.3. Work with Safety Coordinator and EHS to implement program requirements

2.6. Staff/Student Workers/Identified Volunteers are responsible to:

- 2.6.1. Review this program and associated hazard assessments prior to performing any activities subject to this program
- 2.6.2. Attend /complete required training
- 2.6.3. Report hazards, injuries, illness and near misses to your supervisor
- 2.6.4. Workers are NOT responsible for purchasing their own protective equipment.

2.7. Contractors are responsible to:

- 2.7.1. Review this program and associated hazard assessments prior to performing any activities subject to this program
- 2.7.2. Attend /complete required training
- 2.7.3. Obtain hot work permit prior to performing any hot work.
- 2.7.4. Report hazards, injuries, illness and near misses to the designated Facilities Project Manager.

2.8. Hot Work Specific Designations

2.8.1. Permit Authorizing Individual (PAI):

A hot work permit must be approved by one of the following individuals:

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- 2.8.1.1. Any Environmental Health and Safety staff member
- 2.8.1.2. Any Facilities Operations Manager
- 2.8.1.3. Any Facilities Trades Supervisor
- 2.8.1.4. Any Facilities Planning Manager, Project Manager, or Inspector
- 2.8.1.5. CAFES Unit Managers or designee(s)
 - 2.8.1.5.1. Agricultural Education and Communications
 - 2.8.1.5.2. Agricultural Operations
 - 2.8.1.5.3. Animal Science
 - 2.8.1.5.4. BioResource and Agricultural Engineering
 - 2.8.1.5.5. Horticulture and Crop Science
 - 2.8.1.5.6. Irrigation Training and Research Center
 - 2.8.1.5.7. Natural Resources and Environmental Sciences
 - 2.8.1.5.8. Strawberry Center
 - 2.8.1.5.9. Swanton Pacific Ranch
- 2.8.1.6. PAI's must be a University staff, faculty, or administrator. They cannot be a student assistant.

2.8.2. Hot Work Personnel:

- 2.8.2.1. Person performing the hot work.

2.8.3. Fire Watch:

- 2.8.3.1. Person observing the hot work area for stray sparks and fires.
- 2.8.3.2. Person who observes the hot work location after the hot work is complete for any smoldering fires.
 - 2.8.3.2.1. The PAI can also be the fire watch.

3. REQUIREMENTS - Applicable Regulations

3.1. Prohibited Activities

- 3.1.1. Any hot work outside when the wind is greater than 10mph.
- 3.1.2. Any hot work outside within 35 feet of dry grass or brush that has not been mowed, wetted, and covered by welding blankets/curtains/pads or equivalent.
- 3.1.3. Any hot work, inside or outside, within 35 feet of combustible materials other than dry grass or brush unless they have been covered by welding blankets/curtains/pads or equivalent.
- 3.1.4. Any hot work within 35' of flammable liquids inside or outside.

3.2. General Procedure

- 3.2.1. The Permit Authorizing Individual (PAI) completing the permit must personally examine the location where the work is to be done and insure that all safety precautions have been taken.

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- 3.2.2. These specific fire safety requirements are outlined on the Hot Work Permit.
- 3.2.3. The permit will be issued to one person responsible for work to be accomplished.
- 3.2.4. Contractor permits may be issued for the duration of a contract or specific job from the applicable individual, as stated above.
- 3.2.5. Periodic inspections may be made. This requirement applies to all contract work, no matter what department the work is performed in.
- 3.2.6. The Hot Work Permit must be displayed at the job site, preferably attached to or near the hot work equipment.
- 3.2.7. At the completion of the hot work the Hot work personnel signs and dates the Final Check on the permit.
- 3.2.8. After completion of the job, a copy of the Hot Work Permit shall be sent to the campus Environmental Health & Safety Office.

3.3. Specific Requirements

- 3.3.1. No device or attachment facilitating or permitting mixture of air or oxygen with combustible gases prior to consumption, except at the burner or in a standard torch or blowpipe, shall be allowed unless approved for the purpose.
- 3.3.2. The user shall not transfer gases from one cylinder to another to mix gases in a cylinder.
- 3.3.3. Acetylene gas shall not be brought in contact with unalloyed copper except in blowpipe or torch.
- 3.3.4. Oxygen shall never be used from cylinders through torches or other devices equipped with shutoff valves, without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.
- 3.3.5. Fuel gas shall never be used from cylinders through torches or other devices equipped with shutoff valves, without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold. Exception: low pressure containers of propane or MAPP gas.
- 3.3.6. Cylinders, valve regulators, hose and other apparatus and fittings containing or using oxygen shall be kept free from oil and grease. Oxygen cylinders and apparatus and fittings shall not be handled with oily hands, gloves or greasy materials.
- 3.3.7. When moving compressed gas cylinders by crane, suitable cradles shall be used in order to reduce the possibility of dropping. Ordinary rope slings or electro-magnets shall not be used.
- 3.3.8. Oxygen and fuel gas cylinders shall be placed far enough away from the welding position that they will not be unduly heated by radiation from heated materials, by sparks or slag, or by misdirection of the torch flame.

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- 3.3.9. No gas welding or cutting shall be done in or near rooms or locations where flammable liquids or vapors, lint, dust or loose combustible stocks are so located or arranged that sparks or hot metal from the welding or cutting operations may cause ignition or explosion of such materials.
- 3.3.10. When such welding or cutting must be done above or within 35 feet of combustible construction or material, or above a place where workers are employed, or where persons are likely to pass, noncombustible shields shall be interposed to protect such materials and persons from sparks and hot metal or slag.
- 3.3.11. Fire extinguishers or other fire suppression devices required at the hot work location. Extinguishers and/or water hose shall be immediately available and ready for use. Minimum extinguisher is 5 pound ABC with a 10 pound ABC extinguisher preferred. A water extinguisher is acceptable as an additional extinguisher.
- 3.3.12. Any combustible material within 35 feet of hot work must be moved or covered with welding blankets/curtains/pads or equivalent protection.
- 3.3.13. ALL UNINTENDED FIRES MUST BE REPORTED TO UNIVERSITY POLICE IMMEDIATELY, EVEN IF EXTINGUISHED. Report fires to (805) 756-2281.
- 3.3.14. Call 911 for EMERGENCIES.

3.4. Fire Watch

- 3.4.1. A fire watch shall be maintained during the hot work and for at least a one half hour after completion of cutting or welding operations to detect and extinguish possible smoldering fires. This time may be increased in extremely flammable areas or wood frame buildings.
- 3.4.2. A fire watch is required during hot work operation when conducted within 35' of combustible materials.
- 3.4.3. When welding or cutting is done above or within 35 feet of combustible construction or material, a fire watch shall be kept to make use of fire-extinguishing equipment, if needed. This time may be increased based on the materials involved.

3.5. Training

- 3.5.1. All Permit Authorizing Individuals and Hot Work Personnel must complete the SumTotal Course – Hot Work Permits, esh_sah_a51_sh_enus
- 3.5.2. All Permit Authorizing Individuals, Hot Work Personnel, and Fire Watch Personnel must complete the SumTotal Course – Portable Fire Extinguishers, esh_sah_a42_sh_enus or equivalent.
- 3.5.3. Contractors must read this Hot Work Program and confirm by signing the Hot Work Permit.

3.6. Hot Work Permit

- 3.6.1. Hot Work Permit must be completed prior to the start of hot work.

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- 3.6.2. Hot Work Personnel are prohibited from approving their own permit.
- 3.6.3. Hot Work Permit must remain onsite for the duration of the hot work.
- 3.6.4. Contractor permits may be issued for the duration of a contract or specific job.
- 3.6.5. A copy of the permit must be forwarded to EHS at the completion of the work.

4. GOVERNING DOCUMENT

- 4.1. Safety and Health Executive Order 1039

5. COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

- 5.1. Title 8, California Code of Regulations, Section 4848, Fire Prevention and Suppression procedure
- 5.2. NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work (Incorporated by Reference)

6. REFERENCE DOCUMENTS

- 6.1. Developmental References: NONE

7. APPENDICES - None

8. ATTACHMENTS

- 8.1. Hot Work Permit

9. DOCUMENT MAINTENANCE

9.1. DOCUMENT RECISION

Delete or replace documents from the EH&S website due to this document release: NA

9.2. DOCUMENT APPROVER

David Korpan, EH&S Director, Cal Poly

9.3. DOCUMENT OWNER

Christina Juarez EH&S Supervisor, Cal Poly

9.4. DOCUMENT CONTACT

Tim Hastings, Sr. Environmental Health Specialist, EH&S, Cal Poly
Christina Juarez, EH&S Supervisor, EH&S Cal Poly

9.5. REVISION NOTES

Revision Number: 3
Added Facilities Planning Personnel

Revision Number: 2
Changes from previous: Added CAFES Permit Approving Individuals

Cal Poly, San Luis Obispo – Hot Work Permit, Attachment 8.1

This permit is required for temporary operations involving ignition source producing activities i.e. open flames, or producing heat and/or sparks. This includes welding, cutting, brazing, grinding, soldering, or using a torch to thaw piping or heat material. The permit applies only to this job, in the area specified, during the time and date noted.

NOTE: ALL UNINTENDED FIRES MUST BE REPORTED TO UNIVERSITY POLICE EVEN IF EXTINGUISHED. Call (805) 756-2281 for non-emergencies, EMERGENCIAS – 911

Instructions and Hot Work Information:

Permit Authorizing Individual (PAI):

1. Complete **Precaution and Safeguard Checklist** at right.
2. Complete this permit form and issue to person performing hot work procedure.
3. Verify fire watch.
4. Send completed form to EHS, Bldg. 080

Hot work performed by:

University Employee _____

Contractor _____

By signing above Contractor acknowledges and agrees to requirements of Hot Work Permit.

Facilities Work Order #: (If Applicable) _____

Location: Bldg., Room, Other _____

Work description: _____

Person performing work/dept.: _____

Permit Authorizing Individual (PAI):

I have verified that the above location has been inspected and the required precautions and safeguards have been taken. Permission is authorized only for the work described above.

Signature _____

Date: _____ Time: _____

Fire Watch Personnel:

Name(s) _____

Permit Expires: Date _____ Time _____

Work Complete: Date _____ Time _____

Hot Work Personnel
Signature: _____

Precaution and Safeguard Checklist:

General

- Fire extinguisher - 5 pound ABC minimum, 10 pound ABC preferred, or water hose available. Water extinguisher in addition to ABC extinguisher is acceptable.
- Hot work equipment in good repair.

Requirements within 35 ft. of Hot Work Area:

- Flammable liquids removed from area
- Combustible material removed from area or covered with welding blankets or equivalent.
- Floors swept and overhead structure cleaned of dust, lint and debris.
- Welding blankets, curtains, and/or pads provided as needed.
- All floor and wall openings covered and or protected.
- Walls/ceilings: remove combustibles away from opposite side or adjacent structures.

Outside Hot Work Locations:

- Wind <10 Miles per hour. NOTE: Work prohibited when wind is >10 Miles per hour.
- Dry grass/brush mowed, wetted, and covered when within 35 feet of area.
- Flammable liquids - moved at least 35 feet from area
- Combustible material, other than dry grass/brush, moved at least 35 feet from area or covered with welding blankets or equivalent.

Fire watch:

- Trained and equipped Fire Watch provided during operations and at least 30 minutes after.

Hot Work on equipment in confined or enclosed spaces: SEE EHS

NOTES: _____

Final Check: Date _____ Time _____

PAI Signature: _____