UC Merced

Hot Work Permit Procedure

(Short Form)
Purpose:
To provide a short procedure that details the general requirements, purposes and forms to use when performing hot work at the UC Merced (UCM) main campus, UCM ancillary locations and any UCM leased facilities.

Scope:
This procedure applies to all persons performing “Hot Work” including employees and contractors.

Definitions:
- **Hot work**: any work with equipment that produces a spark or an open flame, or a process that generates excessive heat. If there is a risk of fire, the process if by definition “Hot Work.” Also, it should be noted that any work involving electric or gas welding, cutting, brazing or similar flame producing operations is also considered “Hot Work.”
- **Fire Watch**: a temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department. Impairment Fire Watch entails the entire affected area of the impairment (e.g. entire building, floor). Hot Work Fire Watch entails the immediate area of the hot work area which is defined by “area exposed to sparks, hot slag, radiant heat, or convective heat as a result of the hot work.”

Hazards of hot work are:
- Fire, property or personal loss;
- Explosion of compressed gases;
- Flammable or combustible vapors, solids, liquids near the area of the hot work;
- Processes involving oxygen and fuel gases or flames on torches;
- Metal splatter and electric shock potential from welding or arc flashes;
- Confined space issues involving any “Hot Work.”

Procedures for Hot Work Permits are intended to:
- Establish areas for cutting and welding, and procedures for cutting and welding, in other areas;
- Designate an individual responsible for authorizing cutting and welding operations in areas not specifically designed for such processes;
- Ensure that supervisors and employees are suitably trained in the safe operation of their equipment and the safe use of the process;
- Advise all contractors about flammable materials or hazardous conditions of which they may not be aware.

Cutting or welding shall not be permitted in:
- Areas not authorized by Designated Campus Fire Marshal (DCFM);
- Sprinklered buildings when fire protection is impaired;
- The presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids, or dusts with air), or explosive atmospheres that may develop inside uncleansed or improperly prepared tanks or equipment which have previously contained such materials, or that may develop in areas with an accumulation of combustible dusts within 35 feet of the designated work area.
**Hot Work Procedures:**
Before hot work is initiated, the DCFM or designee shall determine that a source of ignition can be safely used. In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. A source of ignition shall not be introduced into an area until all of the following required actions have been completed:

- Tests for the presence of flammable gases and vapors shall be made when the concentration of flammable gases or vapors may reasonably be expected to exceed 20 percent of the lower explosive limit (LEL). The tests shall confirm that the concentration of flammable gases and vapors does not exceed 20 percent of the LEL;
- Oil accumulations or other combustible materials shall be removed or protected from ignition when present in exposed areas;
- The gauge valves shall be closed and the gauges drained, or the gauge glasses shall be guarded when gauge glasses contain flammable liquids, vapors or gases and are exposed to the spatter of molten metal;
- A source of ignition shall not be used where the concentration of flammable gases or vapors exceeds 20 percent of the LEL;
- Suitable fire extinguishing equipment shall be readily available in the area where hot work is performed;
- That a “trained” fire watch is available and shall remain at the site for at least 60 minutes after the hot work is completed.

**Hot work permit:**
A written and numbered hot work permit (attachment 1) shall be issued by the DCFM or designee, before a source of ignition is used. As part of this hot work permit issuance procedure, the employer shall verify that all of the required actions identified have been completed before a hot work permit is issued. The employer’s supervisor designee shall then complete and sign the Hot Work permit.

The hot work permit shall contain the following information:
- The effective time and date;
- The place of use;
- The hours during which the source of ignition may be used, not to exceed 24 hours;
- The specific location or piece of equipment where the source of ignition will be used;
- The nature of the use;
- The nature of the use of the source of ignition;
- Any special precautions or limitations to be observed before, during or after the use of the source of ignition, including the need for a fire watch.

**UC Merced DCFM shall revoke the permit under the following conditions:**
- When circumstances would make the continued use of the source of ignition hazardous;
- Any time the conditions of its issuance change;
- Inactivity of permitted hot work in excess of two hours unless test(s) determines that the LEL is less than 20%.

**Record Keeping:**
- In addition to providing a copy with the DCFM, the supervisor or person designated by Department will keep the hot work permit for at least six months.
In case of an emergency
WATCH FOR FIRE!
HOT WORK IN PROGRESS
WARNING!

ZURICH