



(July 19, 2001)

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HOT WORK PROCEDURES

1. **Scope.** The use of welding, cutting, and other hot-work equipment shall be in accordance with the directives herein.
2. **Permits.** Permits are required for hot work including, but not limited to:
  - 2.1 Use of portable hot-work equipment.  
EXCEPTION: Work that is conducted under a construction permit issued by the AHJ.
  - 2.2 Public exhibitions and demonstrations where hot work is conducted.
  - 2.3 Fixed-site hot-work equipment such as welding booths.
  - 2.4 Hot work conducted within a Hazardous Fire Area such as the construction, alteration, and work requirements at fuel terminals, tank construction or repair, or other situations which present hazards deserving special consideration.
  - 2.5 Storage, use and handling of hazardous materials associated with hot work shall be in accordance with the specific Articles, which regulate the materials.

Any work found in violation of the directives herein will be subject to immediate stoppage, citation and fine(s). Work will not continue until the citation is cleared, the fine(s) are paid. A formal Fire Watch provided by sworn Fire Department personnel may be required to continue work. The fees will be required to be prepaid at off duty rates and availability of personnel is not guaranteed.

3. **Definitions.**
  - 3.1 **AHJ** – Authority having jurisdiction.
  - 3.2 **Limited application.** For the purpose of this Article, certain terms are defined as follows:
    - 3.2.1 **HOT WORK** is operations including cutting, welding, use of open torch, brazing, glass blowing, or similar operations.
    - 3.2.2 **HOT-WORK AREA** is the area, which is exposed to sparks, hot slag, or radiant or convective heat as a result of the hot work.
    - 3.2.3 **HOT-WORK EQUIPMENT** is electric or gas welding or cutting equipment used for hot work.
4. **Fire Watch.**

- 4.1 **General.** A fire watch shall be provided during hot-work activities and shall continue for a minimum of 30 minutes after the conclusion of the work. The fire watch may be extended based on the hazards or work being performed.  
**EXCEPTION:** A fire watch may not be required when the hot-work area has no fire hazards or combustible exposures.
  - 4.2 **Location.** The fire watch shall include the entire hot-work area. Hot work conducted in areas with vertical or horizontal fire exposures that are not observable by a single individual shall have additional personnel assigned to fire watches to ensure that exposed areas are monitored.
  - 4.3 **Duties.** Individuals designated to fire watch duty shall have fire-extinguishing equipment and cellular telephone readily available and shall be trained in the use of such equipment. Individuals assigned to fire watch duty shall be responsible for extinguishing spot fires and communicating an alarm.
5. **Hot – work Area.**
- 5.1 **Prohibited areas.** Hot work shall not be conducted in rooms or areas where flammable liquids or vapors, lint, dust, or combustible storage is at risk of ignition from sparks or hot metal from the hot work or in other locations as determined by the AHJ.
  - 5.2 **Combustibles.** Hot-work areas shall not contain combustibles or shall be provided with appropriate shielding to prevent sparks, slag, or heat from igniting exposed combustibles.
  - 5.3 **Openings.** Openings or cracks in walls, floors, ducts or shafts within the hot-work area shall be tightly covered to prevent the passage of sparks to adjacent combustible areas, or shielding by metal or fire-resistant guards or curtains shall be provided to prevent passage of sparks or slag.
  - 5.4 **Passageways.** Where hot work is performed above locations where persons are likely to pass, noncombustible shields shall be used for protection from sparks and hot metal or oxide.
  - 5.5 **Housekeeping.** Floors shall be kept clean within the hot-work area.
  - 5.6 **Conveyor systems.** Conveyor systems that could carry sparks to distant combustibles shall be shielded or shut down.
6. **Pre-hot-work Check.**
- 6.1 **General.** A pre-hot-work check shall be conducted.
  - 6.2 **Hot-work equipment inspection.** Hot –work equipment shall be inspected by the operator prior to use.
  - 6.3 **Hot-work site inspection.** The individual responsible for the hot work shall inspect the hot-work site. The inspection of the hot-work site shall ensure that:
    - 6.3.1 The hot-work site is clear of combustibles or that combustibles are protected,
    - 6.3.2 Exposed construction is of noncombustible materials or that combustible materials are protected,
    - 6.3.3 Openings are protected,
    - 6.3.4 Floors are kept clean,

- 6.3.5 There are no exposed combustibles on the opposite side of partitions, walls, ceilings and floors,
- 6.3.6 Fire watches are assigned, equipped and trained, and
- 6.3.7 Fire extinguishers shall be verified as operable and available.
- 6.4 **Report.** A sign-off sheet that indicates that required safety precautions listed herein have been accomplished shall be available at the work site. The individual responsible for the hot work shall sign the sheet.

## 7. **Cylinders.**

- 7.1 **Manifolding of cylinders.**
  - 7.1.1 **Oxygen manifolds.** Oxygen manifolds shall not be located in an acetylene generator room or in close proximity to cylinders of combustible gases. Oxygen manifolds shall be located away from material such as oil, grease or any substance likely to cause or accelerate fire.
  - 7.1.2 **Fuel-gas manifolds.** Where it is necessary to manifold fuel-gas cylinders having an aggregate gas capacity in excess of the exempt amounts in Table 8001.15-A of the Uniform Fire Code, cylinders and manifolds shall be located outside or in a room or building complying with the Building Code for a Group H, Division 2 Occupancy. Ventilation shall be provided in accordance with Section 8003.1.4.
- 7.2 **Location.** Portable oxygen/fuel gas welding equipment located inside of buildings shall be stored in a well-ventilated dry location at least 20 feet (6096 mm) from combustible material and away from elevators, stairs, gangways or means of egress.
- 7.3 **Maximum pressure.** Acetylene shall not be utilized at a pressure in excess of 15-psi gage (103.4 kPa).
- 7.4 **Hydrocarbon residues.** Cylinders, cylinder valves, couplings, regulator hose and apparatus shall be kept free from grease, oil or other hydrocarbon residues. Oxygen cylinders or apparatus shall not be handled with oily hands or gloves.
- 7.5 **Hoses.** Damaged, leaking or worn hoses shall not be used.

## 8. **Arc-welding Equipment.**

- 8.1 **Installation.** Electrical equipment shall be in accordance with the manufacturer's recommendations and the Electrical Code.
- 8.2 **Emergency disconnects.** A switch or circuit breaker shall be provided so that fixed electric welders and control equipment can be disconnected from the supply circuit. The disconnect shall be installed in accordance with the Electrical Code. The disconnect shall be marked "EMERGENCY DISCONNECT" and shall be visible from the equipment.
- 8.3 **Damaged cable.** Damaged cables shall be removed from service until properly repaired or replaced.

9. **Fire Protection.**

- 9.1 A minimum 2-A, 20-BC rated fire extinguisher or a charged water hose equipped with a nozzle shall be located within 30 feet (9144 mm) of the location where hot work is in progress and shall be accessible without climbing stairs or ladders.
- 9.2 The Fire Alarm and/or Fire Suppression system(s) shall not be removed from service without notification and permission of the AHJ. In no case shall Fire systems be left off without a continuous Fire Watch for the extent of the impairment. The Fire Watch personnel shall have written instructions as to their duties and responsibilities.

10. **Identification Signs.** Visible hazard identification signs shall be provided.

- 10.1 When the hot-work area is accessible to persons other than the operator of the hot-work equipment, conspicuous signs shall be posted to warn others before they enter the hot-work area. Such signs shall display, as a minimum, the following warning:

**“CAUTION – HOT WORK IN PROCESS – STAY CLEAR”**