

# APPENDIX H

## Hazardous Occupancies

### H.1 HOW TO USE THIS APPENDIX

This appendix contains information related to facilities with hazardous materials in excess of Maximum Allowable Quantities determined in accordance with the California Building Code and California Fire Code.

In addition to the generic information listed in the “Requirements” section in Guideline E-01, the information in the “Plan Requirements” section of this appendix must be provided on your plan.

### H.2 SCOPE

Facilities, structures, or areas containing hazardous materials in excess of the maximum allowable quantities as detailed in CBC 307 shall be classified as an H occupancy.

### H.3 PLAN REQUIREMENTS

**H.3.1 LETTER OF INTENDED USE** – The owner or occupant shall provide a letter describing in detail the types of processes and materials that will be used at the facility. Include information regarding the presence of hazardous materials (including SDS sheets), the types of machinery used (lathes, sanders, saws, injection molding equipment, etc.), any hot work that will take place (brazing, soldering, welding, cutting, etc.), and any special processes used (dipping, spraying, painting, coating, plating, etching, patination, inking/screen printing, drying/baking, etc.). If the project is a tenant improvement by the current occupant of the facility, describe in the letter how the change in the building will affect the items above, if at all. Copy this letter onto the plan.

**H.3.2 CHEMICAL CLASSIFICATION** – A chemical classification shall accompany the architectural plans in order to verify that classification as an H occupancy is necessary and, if so, which occupancy group the space or building falls under (e.g., H-1, H-2, H-3, etc.). All chemical classifications shall be in the OCFA standard format; use OCFA Guideline G-04 when preparing the chemical classification documentation. Refer to Guideline G-04 also for specifications for hazardous materials signage that is required to be posted whenever hazardous materials quantities exceed the permit threshold listed in CFC Section 105.

**H.3.3 PLAN INFORMATION** – Show the location of all control areas; hazardous materials warning signs; no smoking signs; hazardous materials alarm pull stations; hazardous and flammable materials cabinets, hoods, and enclosures; and the location of all equipment utilizing hazardous materials.

**H.3.4 EQUIPMENT** – All equipment utilizing or storing hazardous materials shall be designed and listed for the intended purpose and include necessary safeguards against fire, over pressurization, explosion, and other potential dangers associated with the material or process. Provide manufacturer's specification sheets, detail drawings, and process diagrams for each piece of equipment or system to demonstrate this.

**H.3.5 GENERAL REQUIREMENTS** – Demonstrate compliance with all other general hazardous materials provisions contained in CBC Chapter 4 and CFC Chapter 50, such as spill control, secondary containment, and drainage including volumetric calculations for sprinkler water or rain collection; classification of protected electrical installations; ventilation; separation from incompatible materials, other systems/tanks, and brush, trash, and other combustibles; standby or emergency power; and weather protection.

**H.3.6 HAZARD SPECIFIC REQUIREMENTS** – Demonstrate compliance with hazard-specific requirements contained in CFC Chapters 51 through 67, as applicable to the types of hazardous materials stored or used in the facility.

**H.3.7 HOT WORK** – Indicate if any welding or other hot work will be performed at the facility. If so, provide the following notes on the plan:

- A. Persons engaged in hot work shall be able to demonstrate a working knowledge of the provisions of CFC Chapter 35.
- B. Where the hot work area is accessible to persons other than the one performing the activity, sign(s) shall be posted in conspicuous locations warning others before they enter the area: "CAUTION – HOT WORK IN PROGRESS – STAY CLEAR".
- C. Hot work areas shall not contain combustibles or shall be provided with appropriate shielding to prevent sparks, slag, or heat from igniting exposed combustibles.
- D. Fixed hot work areas shall be provided with non-combustible partitions to segregate the hot work area from other areas in the building.
- E. Floors shall be of a non-combustible material.
- F. Hot work shall not be performed on containers or equipment that contains or has contained flammable liquids, gasses, or solids until the containers/equipment have been thoroughly cleaned or purged.
- G. In sprinklered buildings or areas, hot work shall not be performed when the sprinkler system is shut off. Where hot work is performed in close proximity to sprinkler heads, they shall be individually shielded while the work is performed.
- H. A minimum of one portable 2-A:20-B:C extinguisher shall be located within 30 feet of the hot work area.
- I. Oxygen, fuel gas cylinders, and acetylene generators shall be located away from the hot work area to prevent such equipment from being heated by radiation, sparks or slag, or misdirection of the torch flame.
- J. Torch valve shall be closed and the gas supply to the torch completely shut off when gas welding or cutting operations are discontinued for a period of 1 hour or more.
- K. The frame or case of electric hot work machines, except internal combustion engine driven machines, shall be adequately grounded.

- L. A switch or circuit breaker installed in accordance with the CEC shall be provided so that fixed electric welder and control equipment can be disconnected from the supply circuit.
- M. A pre-hot work check shall be performed prior to work to ensure that all equipment is safe and hazards are addressed. The check shall include, at a minimum:
  - a) Equipment to be used is in satisfactory operating condition and in good repair
  - b) Hot work area is clear of combustibles or combustibles are protected
  - c) Exposed construction is of non-combustible material or, if combustible, protected
  - d) Openings between hot work and other areas are protected
  - e) Floors are kept clean
  - f) Actions have been taken to prevent accidental activation of sprinkler, detection, and alarm systems
  - g) Fire extinguishers are operable and available
  - h) When appropriate due to the hazards present or work performed, a fire watch shall be provided for a minimum of 30 minutes after conclusion of hot work activities.

**H.3.8 PAINTING OR COATING** – Indicate if any painting or coating work utilizing flammable or combustible liquids will be performed at the facility. If so, indicate whether the work will be performed in a spray booth/spray room or a limited spraying space. If a spray booth/room is present, submit a spray booth plan (PR345) under a separate service request number.

**H.3.8.1 Limited Spray Area, CFC 2404.9** – If a limited spray area is present, provide the following notes on the architectural plan:

- A. The aggregate surface area to be sprayed shall not exceed 9 square feet.
- B. Spraying operations shall not be of a continuous nature.
- C. Positive mechanical ventilation providing a minimum of 6 air changes per hour shall be installed. Such systems shall meet the requirements of the fire code for flammable vapor areas. Explosion venting is not required.
- D. Electrical wiring within 10 feet of the floor and 20 feet horizontally of the limited spraying space shall be designed for Class I, Division 2 locations in accordance with the CEC.

**H.3.9 FIXED-PIPING** – Fixed-piping gas distribution systems transporting hazardous materials or associated with welding or gasses other than compressed air shall be reviewed under fee code PR350.

### **H.3.10 SPRINKLERS**

**H.3.10.1 H-1, H-2, H-3, H-4** – Sprinklers shall be provided throughout the H occupancy.

**H.3.10.2 H-5** – Sprinklers shall be provided throughout buildings containing an H-5 occupancy.

## **H.3.11 ALARMS**

**H.3.11.1 All H occupancies** – Emergency alarms for the detection and notification of an emergency condition shall be provided in accordance with CBC 415.5.

**H.3.11.2 H-5 Occupancies** – A manual fire alarm system shall be provided in H-5 occupancies. In addition to the alarm required by CFC 415.5, an approved emergency alarm system shall be provided for HPM rooms, liquid storage rooms, and gas rooms in accordance with CBC 415.11.4.

**H.3.11.3 Organic Coatings** – A manual fire alarm system shall be provided.

**H.3.11.4 Highly Toxic Gases, Organic Peroxides, Oxidizers** – An automatic smoke detection system shall be provided.

**H.3.11.5 H Occupancies above the 10<sup>th</sup> floor** – Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit on the 11<sup>th</sup> story and above.