



## APPENDEX II-I OZONE GAS-GENERATING EQUIPMENT

### SECTION 1 – SCOPE

Equipment having a maximum ozone-generating capacity of ½ pound (0.23kg) or more over a 24-hour period shall be in accordance with Appendix II-I.

**EXCEPTION:** Ozone-generating equipment used in Group R, Division 3 Occupancies.

### SECTION 2 – DEFINITIONS

For the purpose of Appendix II-I, certain terms are defined as follows:

**OZONE GENERATOR** is equipment which causes the production of ozone.

### SECTION 3 – STANDARDS

The following standard is intended for use as a guide in the design, fabrication, testing and use of equipment regulated by Appendix II-I:

National Electric Manufacturers Association  
2101 L Street, N.W.  
Suite 300  
Washington, DC 20037  
Standard 250, Enclosures for Electrical Equipment

### SECTION 4 –LOCATION

4.1 **General.** Ozone generators shall be located in approved cabinets or ozone-generator rooms in accordance with Section 4.

**EXCEPTION:** A generator within an approved pressure vessel need not be in a cabinet or ozone-generator room when located outside of buildings

4.2 **Cabinets.** Ozone cabinets shall be constructed of approved materials compatible with ozone in accordance with nationally recognized standards. Cabinets shall display an approved sign stating, OZONE GAS GENERATOR – HIGHLY TOXIC – OXIDIZER. See Section 3.

Cabinets shall be braced for seismic activity in accordance with the Building Code.

Cabinets shall be mechanically ventilated with a minimum of six air changes per hour. Exhausted air shall be directed to a treatment system designed to reduce the discharge concentration of the gas to one half of the IDLD value at the point of discharge to the atmosphere.

The average velocity of ventilation at makeup air openings with cabinet doors closed shall not be less than 200 feet per minute (1.02 m/s)

- 4.3 **Ozone-generator Rooms.** Ozone-generator rooms shall be mechanically ventilated with a minimum of six air changes per hour. Exhausted air shall be directed to a treatment system designed to reduce the discharge concentration of gas to one half of the IDLH value at the point of discharge to the atmosphere or ozone-generator rooms shall be equipped with a continuous gas-detection system which will shut off the generator and sound a local alarm when concentrations above the permissible exposure limit occur.

Ozone-generator rooms shall not be normally occupied, and such rooms shall be kept free of combustible and hazardous material storage. Room access doors shall display an approved sign stating, OZONE GAS GENERATOR – HIGHLY TOXIC – OXIDIZER.

## SECTION 5 – PIPING VALVES AND FITTINGS

- 5.1 **General.** Piping, valves, fittings and related components used to convey ozone shall be in accordance with Section 5.

5.2 **Secondary Containment.** Secondary containment, such as double-walled piping or exhausted enclosures, shall be capable of directing a sudden release to an approved treatment system.

**EXCEPTION:** Welded stainless steel piping and tubing.

5.3 **Materials.** Materials shall be compatible with ozone and shall be rated for the design operating pressures.

5.4 **Identification.** Piping shall be identified “Ozone Gas – Highly toxic – Oxidizer.”

## SECTION 6 – AUTOMATIC SHUTDOWN

Ozone generators shall be designed to automatically shut down under the following conditions:

1. When the dissolved ozone concentration in the water being treated is above saturation when measured at the point where the water is exposed to the atmosphere.
2. When the process using generated ozone is shut down.
3. Failure of the ventilation system for the cabinet or ozone-generator room, or
4. Failure of the gas-detection system.

## SECTION 7 – MANUAL SHUTDOWN

Manual shutdown controls shall be provided at the generator and, if in a room, within 10 feet (3048 mm) of the main exit door.