

RULE 7031 DIOXIN - MEDICAL WASTE INCINERATORS (Adopted December 19, 1991,
Amended December 17, 1992)

1.0 Purpose

The purpose of this rule is to limit emissions of dioxins from the incineration of medical wastes. Monitoring and recordkeeping requirements and test methods for determining emissions are specified. A compliance schedule is also included.

2.0 Applicability

The requirements of this rule shall apply to any person who owns or operates a medical waste incinerator.

3.0 Definitions

3.1 Dioxins: Dibenzop-dioxins and dibenzofurans chlorinated in 2, 3, 7, and 8 positions and containing 4, 5, 6, or 7 chlorine atoms and expressed as 2, 3, 7, 8 tetrachlorinated dibenzo-para-dioxin equivalents using current California Department of Health Services toxic equivalency factors.

3.2 Facility: Every building, structure, appurtenances, installation, or improvement located on land which is under the same or common ownership or operation and is on one or more contiguous or adjacent properties.

3.3 Medical Facilities: Medical and dental offices, clinics and hospitals, skilled nursing facilities, research facilities, research laboratories, clinical laboratories, all unlicensed and licensed medical facilities, clinics and hospitals, surgery centers, diagnostic laboratories, and other providers of health care.

3.4 Medical Waste Incinerators: All of the furnaces or other closed fire chambers that are located at a medical facility .

3.5 Uncontrolled Emissions: The dioxin emissions measured from the incinerator at a location downstream of the last combustion chamber, but prior to the air pollution control equipment.

3.6 Waste: All discarded putrescible and nonputrescible solid, semi-solid, and liquid materials, including garbage, trash, refuse, paper, rubbish, food, ashes, plastics, industrial wastes, demolition and construction wastes, equipment, instruments, utensils, appliances, manure, and human or animal solid and semi-solid wastes.

4.0 Exemptions

- 4.1 This rule shall not apply to those incinerators which are exclusively crematoria of human or animal remains.
- 4.2 If control equipment is required solely to comply with the requirements of this rule, such equipment shall not be subject to Rule 2201 (New and Modified Stationary Source Review) provided the system includes Best Available Control Technology (BACT).

5.0 Requirements

- 5.1 No person shall operate a medical waste incinerator unless:
 - 5.1.1 The bottom ash, fly ash and scrubber residuals are handled and stored in a manner that prevents entrainment into the atmosphere.
 - 5.1.2 Equipment is maintained for determining and recording the weight of waste charged to the incinerator.
 - 5.1.3 Each individual who operates or maintains the incinerator obtains either a certificate of training in medical waste incineration issued by the American Society of Mechanical Engineers within nine (9) months of the commencement of the training program, or equivalent training as determined by the APCO. Copies of the training certificates for the operators and maintenance engineers shall be submitted to the District.
- 5.2 For medical waste incinerators that incinerate more than ten (10) but less than 25 tons of waste per year, a source test, including dioxins, shall be conducted by January 1, 1993.
- 5.3 For medical waste incinerators that incinerate more than 25 tons of waste per year:
 - 5.3.1 The dioxin emissions shall be reduced by:
 - 5.3.1.1 99% or more of the uncontrolled emissions, or
 - 5.3.1.2 reduced to ten (10) nanograms or less per kilogram of waste burned.
 - 5.3.2 The flue gas temperature at the outlet of the control equipment shall not exceed 300°F, unless it has been demonstrated to and approved in writing by both the ARB and the APCO that lower emissions are achieved at a higher outlet temperature, and:

5.3.2.1 for a single chamber incinerator, the combustion chamber shall be maintained at no less than 1600°F.

5.3.2.2 for a multiple chamber incinerator, the primary combustion chamber shall be maintained at no less than 1400°F, and the secondary chamber shall be maintained at no less than 1600°F. The furnace design shall provide for a residence time for combustion gas of at least one second. Residence time shall be calculated using the following equation:

$$\text{Residence Time} = \frac{V}{Q}$$

Where:

V = The volume (ft³) from the point in the incinerator where the maximum temperature has been reached until the point where the temperature has dropped to 1600°F.

Q = The combustion gas flow through V (ft³/sec), as determined with ARB Text Method 2. The volumetric flow rate shall be corrected to the maximum combustion chamber temperature and chamber pressure.

5.3.3 Maintain a continuous data recording system which provides for each day of operation continuous recording of:

5.3.3.1 the primary and secondary combustion chamber temperatures,

5.3.3.2 carbon monoxide emissions,

5.3.3.3 the hourly waste charging rates,

5.3.3.4 the opacity of stack emissions,

5.3.3.5 key operating parameters of the air pollution control equipment.

5.3.4 Any violation, malfunction, or upset condition on the incinerator, the air pollution control equipment, or the continuous data recording system shall be reported to the District in accordance with Rule 1100 (Equipment Breakdown).

6.0 Administrative Requirements

6.1 Record Keeping

The owner or operator of a medical waste incinerator shall maintain maximum records of the incinerator, control equipment, monitoring equipment, and calibration records for the monitoring equipment. Records shall be retained by the facility for two (2) years and made available to District inspectors upon request.

6.2 Test Methods

6.2.1 Dioxin emissions shall be determined using the high resolution mass spectrometry option of ARB Text Method 428.

6.2.2 Stack gas flow rate shall be determined using ARB Test Method 2.

6.3 Monitoring

Any person subject to Section 5.3 shall conduct an annual source test to demonstrate compliance. A source test report shall be submitted to the ARB at the same time it is submitted to the District. The source test shall be conducted in the following manner:

6.3.1 Emissions shall be sampled:

6.3.1.1 simultaneously from the flue at a location downstream of the last combustion chamber, but prior to the air pollution control device and from the stack to demonstrate compliance with Section 5.3.1 of this rule, or

6.3.1.2 from the stack to demonstrate compliance with Section 5.3.2.

6.3.2 Incinerator shall be firing at \pm ten (10) percent of the maximum firing rate allowed by District permit.

6.3.3 The feed rate and composition (moisture content and amount of the total waste that is infectious, pathological, hazardous, or radioactive) of the waste charged during the source test shall be recorded and included in the source test report.

6.3.4 Annual source testing may be discontinued, when two (2) consecutive test demonstrate compliance with Section 5.3.1 of this rule. The frequency of future source tests shall be determined by the APCO.

7.0 Compliance Schedule

- 7.1 The owner or operator of a medical waste incinerator who intends to permanently shut down operation of the incinerator shall notify the District of their intention to shut down by April 1, 1992. The shut-down date shall be no later than July 1, 1992.
- 7.2 The owner or operator of a medical waste incinerator that incinerates 25 tons or less of waste per year who intends to remain in operation shall apply for a Permit to Operate with the District by April 1, 1992. These facilities shall be in full compliance with the requirements by April 1, 1993.
- 7.3 The owner or operator of a medical waste incinerator that incinerates more than 25 tons of waste per year shall submit an application for an Authority to Construct for the equipment necessary to meet the requirements of this rule by April 1, 1992. These facilities shall be in full compliance with the requirements by April 1, 1993.
- 7.4 The owner or operator of a medical waste incinerator which is subject to the requirements of this rule and shall be in full compliance with the requirements of this rule at the time of initial operation.

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