

## REGULATION VI - AIRBORNE TOXIC CONTROL MEASURES

Rule 6:1            Benzene Emissions from Retail Service Stations  
Adopt 4/25/89, Repealed/Adopted 02/24/09

- 1        Purpose: To comply with Health and Safety Code Section 93101, by reducing airborne benzene emissions from retail service stations.
  
- 2        Definitions:
  - 2.1      ARB-Certified Vapor Recovery System: A vapor recovery system which has been certified by the State Board pursuant to Section 41954.
  - 2.2      Excavation: Exposure to view by digging.
  - 2.3      Existing Retail Service Station: Any retail service station operating, constructed, or under construction as of April 25, 1989.
  - 2.4      Floating Roof: A pontoon-type or double-deck type roof, resting on the surface of the liquid contents and equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. The control equipment provided for in this Section shall not be used if the gasoline or petroleum distillate has a vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.
  - 2.5      Gasoline: Any organic liquid (including petroleum distillates and methanol) having a Reid vapor pressure of four pounds or greater and used as a motor vehicle fuel or any fuel which is commonly or commercially known or sold as gasoline.
  - 2.6      Gasoline Storage Tank: Any gasoline storage container equipped with no vapor control or splash loading, submerged fill pipe loading, or Phase I or II vapor recovery loading systems.
  - 2.7      Hold-Open Latch: A device, approved by the ARB, that allows hands-off refueling of a vehicle.
  - 2.8      Leak Free: A liquid leak of less than four drops per minute.
  - 2.9      Motor Vehicle: The same meaning as defined in Section 415 of the Vehicle Code.
  - 2.10     New Retail Service Station: Any retail service station which is not constructed or under construction as of April 25, 1989.
  - 2.11     Offset Fill Pipe: Any liquid fill pipe which contains one or more pipe bends and the horizontal distance between the truck delivery connection and the storage container fill opening is 6.1 meters (20 feet) or greater.
  - 2.12     Owner or Operator: An owner or operator of a retail service station.
  - 2.13     Phase I Vapor Recovery System: A gasoline vapor recovery system which recovers vapors during the transfer of gasoline from delivery tanks into stationary storage tanks.
  - 2.14     Phase II Vapor Recovery System: A gasoline vapor recovery system which recovers vapors during the fueling of motor vehicles from stationary storage tanks.

- 2.15 Pressure Tank: A tank which maintains working pressure sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere.
- 2.16 Retail Service Station: Any new or existing motor vehicle fueling service station subject to payment of California sales tax on gasoline sales.
- 2.17 Submerged Fill Pipe: Any fill pipe which has its discharge opening entirely submerged when the liquid level is six inches (6") above the bottom of the tank. "Submerged fill pipe", when applied to a tank which is loaded from the side, means any fill pipe which has its discharge opening entirely submerged when the liquid level is eighteen inches (18") above the bottom of the tank.
- 2.18 Tank Replacement: Replacement of one or more gasoline stationary storage tanks at an existing retail service station or excavation of 50 percent or more of an existing retail service station's total underground liquid piping from the stationary storage tanks to the gasoline dispensers.
- 2.19 Throughput: The volume of gasoline dispensed at a retail service station.
- 2.20 Vapor Tight: A leak of less than 100 percent of the lower explosive limit on a combustible gas detector measured at a distance of 2.5 cm (1 inch) from the source or no visible evidence of air entrainment in the sight glasses of liquid delivery hoses.

### 3 Compliance Schedule

- 3.1 After January 15, 1989, the owner or operator of any new retail service station subject to this Rule shall comply with its provisions at the time gasoline is first sold from the station.
- 3.2 The owner or operator of any existing retail service station without ARB-certified Phase I and II vapor recovery systems shall notify the control officer in writing in advance of an intended tank replacement and shall secure all necessary permits and other approvals for the installation of Phase I and II vapor recovery systems. The owner or operator of an existing retail service station shall comply with the provisions of this Rule upon completion of the tank replacement.
- 3.3 The owner or operator of an existing retail service station who has not earlier complied in accordance with Subsection 3.2., shall, by May 1, 1990, secure all permits and other approvals necessary for installation of the equipment required by this Rule. The owner or operator shall comply with the provisions of this Rule by May 1, 1991.
- 3.4 Excluding those existing retail service stations subject to this Rule as a result of tank replacement, the owner or operator of a previously exempt stationary storage tank or retail service station where the operation or annual throughput has changed such that the exemption from either the Phase I or II requirements or both is no longer applicable, shall comply with this Rule's provisions within 12 months of loss of said exemption.
- 3.5 Any owner or operator of a retail service station not exempt by Subsections 4.2.2., 4.2.3., or 4.2.4., shall by July 1, 1990:
  - 3.5.1 Install and maintain in good working order hold-open latches on all gasoline dispensers.
  - 3.5.2 Conspicuously post in the gasoline dispensing area a reasonable facsimile of the following:

(Letters shall be minimum of 1-inch high)

WARNING: Gasoline vapors can be hazardous  
to your health. Ask attendant how  
hold-open latches can reduce your risk.

4 Phase I Vapor Recovery System Requirements:

- 4.1 No owner or operator shall transfer, permit the transfer, or provide equipment for the transfer of gasoline, and no other person shall transfer gasoline from a gasoline delivery tank at a retail service station unless an ARB-certified Phase I vapor recovery system is installed on the stationary storage tank and used during the transfer.
- 4.2 The provisions of Subsection 4.1 shall not apply to:
  - 4.2.1 Any person who, after October 1, 1971, loads or permits the loading of gasoline into any stationary tank or trailer, except through a permanent submerged fill pipe, unless such tank is a pressure tank or is equipped with a vapor recovery system or is equipped with a floating roof or other apparatus of equal efficiency which had been approved by the Air Pollution Control Officer, is guilty of a misdemeanor.
  - 4.2.2 A stationary storage tank with a capacity of less than 260 gallons.
  - 4.2.3 A stationary storage tank used the directly and exclusively as an agricultural source of air pollution exempt from permitting under Rule 2:4, subsection 1.5.
  - 4.2.4 A stationary storage tank used exclusively to fuel motor vehicles with a fuel capacity of five gallons or less.
  - 4.2.5 An existing retail service station with an annual throughput of 480,000 or fewer gallons during the 1988 calendar year. If during any calendar year thereafter the gasoline throughput from such tanks at the existing retail service station exceeds 480,000 gallons, this exemption shall cease to apply commencing with the first day of the following calendar year.
  - 4.2.6 A transfer to a stationary storage tank at an existing retail service station which receives gasoline exclusively from delivery tanks that are not required to be equipped with vapor recovery systems.
- 4.3 Notwithstanding Subsection 4.2.5., at the time of tank replacement at any existing retail service station, ARB-certified Phase I vapor recovery systems shall be installed and used thereafter on all of the station facilities, except those which are exempt by Subsections 4.2.2., 4.2.3., 4.2.5., or 4.2.6.
- 4.4 All Phase I gasoline vapor recovery equipment shall be installed as required by ARB certification and operated in accordance with the manufacturers specifications. The equipment shall be maintained to be leak free, vapor tight and in good working order.

5 Phase II Vapor Recovery System Requirements:

- 5.1 No owner or operator shall transfer, permit the transfer or provide equipment for the transfer of gasoline from a stationary storage tank at a retail service station into a motor vehicle fuel tank unless an ARB-certified Phase II vapor recovery system is installed and used during the transfer.
- 5.2 The provisions of Subsection 5.1. shall not apply to:

- 5.2.1 a stationary storage tank which is exempt from Phase I requirements under Subsections 4.2.2., 4.2.3., or 4.2.5.
  - 5.2.2 an existing retail service station which is exempt from Phase I requirements under Subsection 4.2.5.
  - 5.3 Notwithstanding Subsection 5.2.2., at the time of tank replacement at an existing retail service station, ARB-certified Phase II vapor recovery systems shall be installed and used thereafter on all the station facilities, except those which are exempt by Subsection 5.2.1.
- 6 Correction of Defects:
- 6.1 No owner or operator shall use or permit the use of any Phase II system or any component thereof containing a defect identified in Title 17, California Code of Regulations, Section 94006 until it has been repaired, replaced, or adjusted, as necessary to remove the defect, and, if required under Health and Safety Code Section 41960.2, district personnel have reinspected the system or have authorized its use pending reinspection. Nothing in this subdivision shall excuse compliance with subdivision 5.1.
- 7 Operation and Maintenance
- 7.1 All Phase II gasoline vapor recovery equipment shall be installed as required by ARB certification and operated in accordance with the manufacturers specifications. The equipment shall be maintained to be leak free, vapor tight and in good working order.
  - 7.2 The operator of each retail facility using a Phase II vapor recovery system shall conspicuously post operation instructions for the system in the gasoline dispensing area. The instructions shall clearly describe how to fuel vehicles correctly with vapor recovery nozzles used at the station and shall include a warning that topping off may result in spillage or re-circulation of gasoline and is prohibited. Additionally the instruction shall include the telephone number of the Tehama County Air Pollution District or the ARB for complaints.
  - 7.3 A person shall not transfer, permit the transfer or provide equipment for the transfer of gasoline from a stationary storage tank subject to the provisions of Rule 6:1 5. (Phase II) into any motor vehicle fuel tank unless:
    - 7.3.1 The equipment subject to this rule is operated and maintained with none of the following defects, pursuant to the definitions in the California Code of Regulations Section 94006. Subchapter 8, Chapter 1, Part III, of Title 17:
      - 7.3.1.1 Absence or disconnection of any component required to be used in the system as certified by the California Air Resources Board;
      - 7.3.1.2 A vapor hose which is crimped or flattened such that the vapor passage is blocked;
      - 7.3.1.3 A nozzle boot which is torn in one or more of the following manners:
        - 7.3.1.3.1 Triangular-shaped or similar tear ½ inch or more to a side, or hole ½ inch or more in diameter or,
        - 7.3.1.3.2 Slit 1 inch or more in length.
      - 7.3.1.4 Faceplate or flexible cone which is damaged in the following manner:

- 7.3.1.4.1 For balance nozzles and for nozzles for aspirator and educator assist type systems, damage shall be such that the capability to achieve a seal with a fill pipe interface is affected for 1/4 of the circumference of the faceplate (accumulated);
- 7.3.1.4.2 For nozzles for vacuum assist type systems, more than 1/4 of the flexible cone is missing;
- 7.3.1.5 Nozzle shutoff mechanisms which malfunction in any manner;
- 7.3.1.6 Vapor return lines, including such as swivels, anti-recirculation valves and underground piping, which malfunction or are blocked;
- 7.3.1.7 Vapor processing unit which is inoperative or severely malfunctioning;
- 7.3.1.8 Vacuum producing device which is inoperative or severely malfunctioning;
- 7.3.1.9 Pressure/vacuum relief valves, vapor check valves, or dry breaks which are inoperative;
- 7.3.1.10 Any equipment defect which is identified in a California Air Resources Board system certification as substantially impairing the effectiveness of the system in reducing air contaminants.

8 Defective Phase II Equipment - Prohibition of Use:

- 8.1 Whenever the Air Pollution Control Officer or his designee determines that a Phase II vapor recovery system, or any component thereof, contains a defect specified by the Air Resources Board pursuant to Rule 6:1 7.3.1., the Air Pollution Control Officer or his designee shall mark such system or component "Out of Order". No person shall use or permit the use of such marked component or system until it has been repaired, replaced, or adjusted as required to permit proper operation, and the Air Pollution Control Officer or his designee has reinspected it or has authorized its use pending reinspection.

9 Fees:

- 9.1 Sources subject to this rule shall pay the fees required by Rule 2:11.

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Rule 6:2           Aeration of Contaminated Soil  
Adopt 4/25/89, Repeal/Adopt 6/16/92, Adopted 6/2/94

- 1       Purpose: To limit the emission of organic compounds from contaminated soil and to describe an acceptable soil aeration procedure.
  
- 2       Definitions:
  - 2.1     Active Storage Pile: A pile of contaminated soil to which soil is currently being added or from which soil is currently being removed. Activity must have occurred or be anticipated to occur within one hour to be current.
  - 2.2     Aeration: Exposure of excavated contaminated soil to the air.
  - 2.3     Aeration Depth: The smaller of the following: the actual average depth of contaminated soil or 6 inches multiplied by the daily frequency with which soil is turned. The exposed surface area includes the pile of excavated soil unless the pile is covered.
  - 2.4     Aeration Project: Contaminated soil from one (1) location.
  - 2.5     Aeration Volume: The volume of soil being aerated shall be calculated as follows: the exposed surface area in square feet shall be multiplied by the aeration depth.
  - 2.6     Contaminated Soil: Soil which has an organic content exceeding 50 ppm (weight).
  - 2.7     Facility: Location where contaminated soil is aerated.
  - 2.8     Organic Compound: Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.
  - 2.9     Organic Content: The concentration of organic compounds measured in the composite sample collected and analyzed using the procedures specified by this Rule.
  - 2.10    Vapor Free: The process of purging gases from a tank using dry ice to replace organic vapors with inert atmosphere.
  - 2.11    Ventilation: The process of purging gases from a tank by blowing or drawing another gas through the tank.
  
- 3       Notification:
  - 3.1     A minimum of five days prior to underground storage tank removal or excavation of contaminated soil, the person responsible shall give written notice to the District.
  - 3.2     Any person wishing to permanently decommission an underground storage tank which previously contained organic compounds shall follow the following procedure.
    - 3.2.1    All piping shall be drained and flushed into the tank or other container.
    - 3.2.2    Vapors shall be removed from the tank by either freeing or ventilation.
    - 3.2.3    No person shall ventilate or vapor free a tank containing more than 0.001 gallons of liquid organic compounds per gallon of tank capacity unless emissions of organic compounds to

the atmosphere are controlled by equipment or control schemes which demonstrate a combined collection and destruction efficiency of 90% by weight. All control equipment and control schemes subject to this Section shall have written District approval prior to operation.

4 Excavation of Contaminated Soil:

- 4.1 The person responsible for aeration of any contaminated soil shall provide the District with the following information no less than 24 hours prior to the spreading or heating of any contaminated soil:
  - 4.1.1 Maximum total quantity of soil to be aerated.
  - 4.1.2 Maximum quantity of soil to be aerated per day.
  - 4.1.3 Maximum degree of contamination.
  - 4.1.4 The chemical composition of contaminating organic compounds (e.g., gasoline, benzene, methylene chloride, etc.).
  - 4.1.5 A description of the basis from which these estimates were derived (soil analysis, Soil Vapor Contamination Assessment, etc.).
  - 4.1.6 The District shall be notified within 24 hours if any of the parameters change. During excavation and aeration, daily records shall be kept of the total quantity of soil and the organic content of soil that is aerated each day.

5 Uncontrolled Aeration:

- 5.1 A person shall not aerate contaminated soil at a rate in excess of that specified in Table 6 for the degree of organic content. The limitations in Table 6, page VI-2 apply to the entire facility, and indicate the volume of contaminated soil that may be added, on any one day, to soil that is already aerating.

Table 6:  
Allowable Rate of Uncontrolled Aeration

ORGANIC CONTENT PPM (weight)	RATE OF UNCONTROLLED AERATION Cubic yards/day
<50	No Limit
>50 - <100	600
>100 - <500	120
>500 - <1000	60
>1000 - <2000	30
>2000 - <3000	15
>3000 - <4000	10
>4000 - <5000	8
>5000	0.1

- 5.2 Only one (1) uncontrolled soil aeration project shall take place at a facility at any one time.

6 Controlled Aeration:

- 6.1 Soil may be aerated at rates exceeding the limitations of Table 6, page VI-2 provided emissions of organic compounds to the atmosphere are controlled by equipment or control schemes which



demonstrate a combined collection and destruction efficiency of 90% by weight. All control equipment and control schemes subject to this Section shall have written District approval prior to operation.

7 Storage Piles:

7.1 Contaminated soil which is not being aerated shall be covered except when soil is being added or removed. No more than 10% of the storage pile or 20 cubic yards may be uncovered at any time without prior consent of the Control Officer. Any uncovered contaminated soil will be considered to be aerated. The soil may be covered with a layer of uncontaminated soil no less than six (6") inches deep; or it may be covered with a tarp or other covering, provided no head space where vapors may accumulate is formed.

8 Exemptions:

8.1 Storage Piles: Calculations of aeration volume shall not include storage piles that are covered nor shall they include active storage piles. The exposed surface of an excavated hole shall not be included in calculations of aerated volume.

8.2 Excavated Hole: The exposed surface of an excavated hole shall not be included in calculations of aerated volume.

8.3 Sampling: Contaminated soil exposed for the sole purpose of sampling shall not be considered to be aerated. No more than 10% of the contaminated soil or 20 cubic yards may be exposed at any time without prior consent of the Air Pollution Control Officer. Removal of soil for sampling shall not qualify a pile as "active".

8.4 Non-Volatile Hydrocarbons: Soil contaminated solely by a known organic chemical or petroleum liquid, and that chemical or liquid has an initial boiling point of 302F° or higher, provided that the soil is not heated.

9 Soil Sampling:

9.1 One composite sample shall be collected and analyzed for every 50 cubic yards of excavated contaminated soil to be aerated. At least one composite sample shall be collected from each inactive, uncovered storage pile within 24 hours of excavation. Samples are not required if the soil is uncontaminated.

10 Measurement of Organic Content:

10.1 Organic content of soil shall be determined by the EPA Reference Method 8010 or 8015, Regional Water Quality Control Board's Revised Analytical Methods, Attachment 2, 11/8/85, or other methods approved by the Control Officer.

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Rule 6:3 Hexavalent Chromium Emissions from Chrome Plating and Chromic Acid Anodizing Operations  
Adopt 1/16/90

1 Purpose: To comply with the California Code of Regulations, Section 93101, by controlling airborne emissions of hexavalent chromium.

2 Definitions:

- 2.1 Ampere-hours: The integral of electrical current applied to a plating tank (amperes) over a period of time (hours).
- 2.2 Anti-mist Additive: A chemical which reduces the emission rate from the tank when added to and maintained in the plating tank.
- 2.3 Chrome: Metallic chrome.
- 2.4 Chrome Plating: Either hard or decorative chrome plating.
- 2.5 Chromic Acid: An aqueous solution of chromium trioxide ( $\text{CrO}_3$ ), or commercial solution containing chromic acid, (dichromic acid  $\text{H}_2\text{CrO}_7$ ), or trichromic acid ( $\text{H}_2\text{Cr}_3\text{O}_{10}$ ).
- 2.6 Chromic Acid Anodizing: The electrolytic process by which a metal surface is converted to an oxide surface coating in a solution containing chromic acid.
- 2.7 Chromium: Hexavalent chromium.
- 2.8 Control Equipment: Any device which reduces emissions from the emissions collection system.
- 2.9 Decorative Chrome Plating: The process by which chromium is electrodeposited from a solution containing compounds of chromium onto an object resulting in a chrome layer 1 micron (0.04 mil.) thick or less.
- 2.10 Emission Factor: The mass of chromium emitted during a test conducted in the emissions collection system in accordance with ARB Test Method 425, divided by the ampere-hours consumed by the tanks in the tested emissions collection system, expressed as the mass of chromium emitted per ampere-hour of electrical current consumed.
- 2.11 Emissions Collection System: A device or apparatus used to gather chromium emissions from the surface of a chrome plating or chromic acid anodizing tank or tanks.
- 2.12 Facility: A business or businesses engaged in chrome plating or chromic acid anodizing which are owned or operated by the same person or persons and are located on the same parcel or on contiguous parcels.
- 2.13 Facility-wide Emissions from Hard Chrome Plating or Chromic Acid Anodizing: The total emissions from all hard chrome plating or chromic acid anodizing at the facility over a calendar year. Emissions shall be calculated as the sum of emissions from the emissions collection system at the facility. The emissions from an emissions collection system shall be calculated by multiplying the Emission Factor for that emissions collection system by the sum of ampere-hours consumed during that year for all of the tanks served by the emissions collection system.
- 2.14 Hard Chrome Plating: The process by which chromium is electrodeposited from a solution containing compounds of chromium onto an object resulting in a chrome layer thicker than 1 micron (0.04 mil).

- 2.15 Plating Tanks: Any container used to hold a chromium or chromic acid solution for the purposes of chrome plating or chromic acid anodizing.
  - 2.16 Uncontrolled Chromium Emissions from the Hard Chrome Plating or Chromic Acid Anodizing Facility: The chromium emissions from the emissions collection systems at the facility calculated as if no control equipment is in use. For the purpose of determining compliance with this rule, the uncontrolled chromium emissions shall be calculated using an Emission Factor based on tests conducted in accordance with ARB Test Method 425 or 14 mg/ampere-hour, whichever is less.
- 3 Requirements for Decorative Chrome Plating Facilities:
- 3.1 No person shall operate a decorative chrome plating tank unless an anti-mist additive is continuously maintained in the plating tank, or control equipment is installed and used, in a manner which has been demonstrated to and approved by the Control Officer as reducing chromium emissions by 95 percent or more relative to chromium emissions when an anti-mist additive is not maintained, or control equipment is not installed and used.
- 4 Requirements for Hard Chrome Plating and Chromic Acid Anodizing Facilities:
- 4.1 The owners or operators of all hard chrome plating and chromic acid anodizing facilities shall maintain a continuous record of current integrated over time (ampere-hours) for all plating tanks for each collection system used in the hard chrome plating or chromic acid anodizing operations and shall, within six months after adoption of Rule 6:3 and upon request thereafter, submit the information to the Control Officer.
  - 4.2 No person shall operate a plating tank for hard chrome plating or chromic acid anodizing unless the tank has an emissions collection system.
  - 4.3 No person shall operate a hard chrome plating or chromic acid anodizing tank unless:
    - 4.3.1 The chromium emissions from the emissions collection system serving the plating tank have been reduced by 95 percent or more of the uncontrolled chromium emissions or
    - 4.3.2 The chromium emissions from the emissions collection system serving the plating tank have been reduced to less than 0.15 milligrams (mg) of chromium per ampere hour of electrical charge applied to the plating tank.
    - 4.3.3 No person shall operate a hard chrome plating tank or chromic acid anodizing tank at a facility if facility-wide chromium emissions from hard chrome plating or chromic acid anodizing are greater than 2 pounds per year, but less than 10 pounds per year, unless:
      - 4.3.3.1 The chromium emissions from the emissions collection systems serving the plating tanks have been reduced by at least 99 percent of the uncontrolled chromium emissions from the hard chrome plating or chromic acid anodizing facility or
      - 4.3.3.2 The chromium emissions from the emissions collection systems are reduced to less than 0.03 mg of chromium per ampere-hour of electrical charge applied to the tanks.
    - 4.3.4 No person shall operate a hard chrome plating or chromic acid anodizing tank at a facility if facility-wide chromium emissions from hard chrome plating or chromic acid anodizing are 10 pounds per year or greater unless:

4.3.4.1 The chromium emissions from the emissions collection systems serving the plating tanks have been reduced by at least 99.8 percent of the uncontrolled chromium emissions from the hard chrome plating or chromic acid anodizing facility or

4.3.4.2 The chromium emissions from the emissions collection systems are reduced to less than 0.006 mg of chromium per ampere-hour electrical charge applied to the tanks.

5 Compliance Schedule:

5.1 The owner or operator of any facility subject to this rule shall comply with its provisions at the time the facility begins operation.

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Rule 6:3A Hexavalent Chromium Airborne Toxic Control Measure For Cooling Towers  
Adopt 9/18/90

1 Definitions:

- 1.1 Cooling Tower: Any open water recirculation device which evaporates circulating water to remove heat from a process, building, or refrigeration device, and puts the heat into the ambient air.
- 1.2 Hexavalent Chromium: A cancer-causing substance existing as part of various inorganic chromate compounds, for example, sodium dichromate or lead chromate.
- 1.3 Water Treatment Chemicals: Any combination of chemicals added to cooling tower water including tracers, corrosion inhibitors, antiscalants, dispersants, biocides.

2 Requirements:

- 2.1 Hexavalent Chromium Removal: Effective September 12, 1990 no person shall add any hexavalent chromium containing chemicals or any compound that may produce hexavalentchromium to a cooling tower operating in the District.
- 2.2 Circulating Water Concentration - Wooden Cooling Towers:
  - 2.2.1 Effective September 12, 1990, no person shall operate a wooden cooling tower in the District unless the following requirements are met:
  - 2.2.2 From September 12, 1990 to March 12, 1991, hexavalent chromium levels in the circulating water are not to exceed 8 milligrams/liter of circulating water.
  - 2.2.3 After March 12, 1991, hexavalent chromium levels in the circulating water are not to exceed 0.15 milligrams/liter of circulating water.
  - 2.2.4 A decrease in hexavalent concentrate in the circulating water must be demonstrated each month during a period of up to six months following the compliance date in order to avoid being cited for a violation of the 0.15 milligrams/liter limit.
- 2.3 Circulating Water Concentration-non-Wooden Cooling:
  - 2.3.1 Effective September 12, 1990, no person shall operate a non-wooden cooling tower unless the hexavalent chromium levels do not exceed 0.15 milligrams/liter of circulating water.

3 Reporting:

- 3.1 By December 12, 1990 any owner/operator of a cooling tower shall notify the District in writing regarding the following information about the cooling tower. Any owner/operator of a newly constructed cooling tower shall provide the District with the following information at least 90 days before the tower is operated:
  - 3.1.1 Owner/operator of the tower
  - 3.1.2 Location of the tower
  - 3.1.3 Cooling tower type and material of construction

- 3.1.4 Whether hexavalent chromium based treatment chemicals were previously used in the cooling tower
- 3.1.5 If hexavalent chromium based chemicals were previously used, when they were discontinued
- 3.1.6 A description of the alternate treatment program chosen, as well as the circulating water monitoring plan.

4 Monitoring - General:

- 4.1 Effective September 12, 1990, any person subject to the requirements of Subsections 2.2. or 2.3. shall test the circulating water in the cooling tower at least once every six calendar months to determine the concentration of hexavalent chromium. Testing may be discontinued when two consecutive required tests show hexavalent chromium concentrations less than 0.15 milligrams/liter of circulating water. The District may require testing of the circulating water at any time if the District has reason to believe the water may contain hexavalent chromium.
- 4.2 Any person subject to the monitoring requirements in Subsection 4.1. above or Subsection 5.1. below shall maintain records of the results of all required tests of circulating water for two years and provide them to the District upon request.
- 4.3 Monitoring requirements may be waived by the District for any owner/operator of a cooling tower who demonstrates to the District that the hexavalent chromium based treatment chemical has never been used in the cooling tower or has not been utilized for a period of at least one year prior to the appropriate compliance date.

5 Monitoring - Wooden Cooling Towers:

- 5.1 Any person subject to the requirements of Subsection 2.2.2. shall test the circulating water at least once every calendar month to determine the concentration of hexavalent chromium.

6 Determination of Hexavalent Chromium Content:

- 6.1 Samples of circulating water shall be analyzed for hexavalent chromium using American Public Health Association Method 312 B or an equivalent method approved by the District.



- 1 Definitions: For the purposes of this Section, the following definitions shall apply:
- 2 Acute Care Facility: Means any facility currently licensed by the California Department of Health Services as a general acute care hospital (as defined in Title 22, CCR, Section 70005), or any military hospital.
- 2.1 Aeration: Is the process during which residual ethylene oxide dissipates, whether under forced air flow, natural or mechanically assisted convection, or other means, from previously sterilized materials after the sterilizer cycle is complete.
- 2.2 Aeration-only Facility: Means a facility which performs aeration on materials which have been sterilized with ethylene oxide at another facility.
- 2.3 Aerator: Means any equipment or space in which materials previously sterilized with ethylene oxide are placed or remain for the purpose of aeration. An aerator is not any equipment or space in which materials that have previously undergone ethylene oxide sterilization and aeration can be handled, stored, and transported in the same manner as similar materials that have not been sterilized with ethylene oxide.
- 2.4 Back-draft Valve Exhaust Stream: Is the air stream which results from collection of ethylene oxide-contaminated air which may be removed from the sterilizer through a back-draft valve or rear chamber exhaust system during unloading of the sterilized materials.
- 2.5 Control Device: Means an article, machine, equipment, or contrivance which reduces the amount of ethylene oxide between its inlet and outlet and which is sized, installed, operated, and maintained according to good engineering practices, as determined by the district.
- 2.6 Control Efficiency: Is the ethylene oxide (EtO) mass or concentration reduction efficiency or a control device, as measured with ARB Test Method 431 (Title 17, CCR, Section 94143) according to the source testing requirements herein, and expressed as a percentage calculated across the control device as follows:
- $$\frac{\text{EtO in} - \text{EtO out}}{\text{EtO in}} \times 100 = \% \text{ Control Efficiency}$$
- 2.7 Date of Compliance: Means the time from district adoption of regulations enacting this control measure until a facility must be in compliance with specific requirements of this rule.
- 2.8 District: Means the local air pollution control district or air quality management district.
- 2.9 Ethylene Oxide (EtO): Is the substance identified as a toxic air contaminant by the Air Resources Board in 17 CCR, Section 93000.
- 2.10 Facility: Means any entity or entities which: own or operate a sterilizer or aerator, are owned or operated by the same person or persons, and are located on the same parcel or contiguous parcels.
- 2.11 Facility-Wide Pounds of Ethylene Oxide Used Per Year: Is the total pounds of ethylene oxide used in all of the sterilizers at the facility during a one-year period.

- 2.12 Leak-Free: Refers to that state which exists when the concentration of sterilant gas measured 1 cm. away from any portion of the exhaust system of a sterilizer or aerator, during conditions of maximum sterilant gas mass flow, is less than:
- 2.12.1 30 ppm for sterilant gas composed of 12% ethylene oxide 88% chlorofluorocarbon -12 by weight, and
- 2.12.2 10 ppm for other compositions of sterilant gas, as determined by ARB Test Method 21 (Title 17, CCR, Section 94124) using a portable flame ionization detector, or a non-dispersive infrared analyzer, calibrated with methane, or an acceptable alternative method or analytical instrument approved by the district. A chlorofluorocarbon-12 specific audible detector using a metal oxide semi-conductor sensor shall be considered an acceptable alternative for exhaust systems carrying a sterilant gas mixture of ethylene oxide and chlorofluorocarbon-12.
- 2.13 Local Medical Emergency: Means an unexpected occurrence in the area served by the acute care facility resulting in a sudden increase in the amount of medical treatments which require a significant increase in the operation of a sterilizer or aerator.
- 2.14 Sterilant Gas: Means ethylene oxide or any combination of ethylene oxide and (an) other gas(es) used in a sterilizer.
- 2.15 Sterilizer: Means any equipment in which ethylene oxide is used as a biocide to destroy bacteria, viruses, fungi, and other unwanted organisms on materials. Equipment in which ethylene oxide is used to fumigate foodstuffs is considered a sterilizer.
- 2.16 Sterilizer Cycle: Means the process which begins when ethylene oxide is introduced into the sterilizer, includes the initial purge or evacuation after sterilization and subsequent air washes, and ends after evacuation of the final air wash.
- 2.17 Sterilizer Door Hood Exhaust Stream: Is the air stream which results from collection of fugitive ethylene oxide emissions, by means of an existing hood over the sterilizer door, during the time that the sterilizer door is open after the sterilizer cycle has been completed.
- 2.18 Sterilizer Exhaust Stream: Is all the ethylene oxide-contaminated air which is intentionally removed from the sterilizer during the sterilizer cycle.
- 2.19 Sterilizer Exhaust Vacuum Pump: Means a device used to evacuate the sterilant gas during the sterilizer cycle, including any associated heat exchanger. A sterilizer exhaust vacuum pump is not a device used solely to evacuate a sterilizer prior to the introduction of ethylene oxide.
- 3 Applicability: Any person who owns or operates a sterilizer or an aerator must comply with this regulation.
- 4 Notification: Any person subject to this regulation must provide the District with the following information, in writing, within 30 days of the date of District adoption:
- 4.1 The name(s) of the owner and operator of the facility, and
- 4.2 The location of the facility, and
- 4.3 The number of sterilizers and aerators at the facility, and
- 4.4 An estimate of the total pounds of ethylene oxide and sterilant gas used by the facility, in all sterilizers,

during the previous calendar year, as determined by a method approved by the District.

4.4.1 A District may exempt a source from this requirement if the District maintains current equivalent information on the source.

5 Reporting: Any person who owns or operates a sterilizer shall furnish a written report to the District annually on the date specified by the District, or, at the District discretion, shall maintain such a report and make it available to the District upon request. This report shall include one of the following, as determined by the District:

5.1 The number of sterilizer cycles and the pounds of ethylene oxide used per cycle for each sterilizer during the reporting period, as determined by a method approved by the District; or

5.2 The total pounds of sterilant gas and the total pounds of ethylene oxide purchased, used, and returned in the previous calendar year, as determined by a method approved by the District.

6 Requirements: No person shall operate a sterilizer or aerator after the applicable date shown in column (d), Table 7, page VI-3, unless all of the following requirements are satisfied:

6.1 There is no discharge of sterilizer exhaust vacuum pump working fluid to wastewater streams, and

6.2 The exhaust systems including, but not limited to, any piping, ducting, fittings, valves, or flanges, through which ethylene oxide-contaminated air is conveyed from the sterilizer and aerator to the outlet of the control device are leak-free,

6.3 All of the control requirements shown in Table 7, page 3 below for the applicable control category are met; and

6.4 For facilities using more than 600 pounds of ethylene oxide per year, the back-draft valve is ducted to the control device used to control the sterilizer exhaust stream or the aerator exhaust stream; and

6.5 For facilities using more than 5,000 pounds of ethylene oxide per year, the sterilizer door hood exhaust stream is ducted to the control device used to control the aerator exhaust stream.

Table 7:  
Control and Compliance Requirements

CONTROL CATEGORY	REQUIREMENTS			
	(a)	(b)	(c)	(d)
Facility-wide Pounds of Ethylene Oxide Used per Year	Exhaust Streams to be Controlled	Control to be Tested	Efficiency (%)	Date of Compliance (months)
less than or equal to 25	None	None	None	None
more than 25 and less than or equal to 600	Sterilizer	Sterilizer	99	24
more than 600 and less than or equal to 5,000	Sterilizer Aerator Back-Draft Valve	Sterilizer Aeroator	99.9 95.0 N/A*	18

more than 5,000	Sterilizer	Sterilizer	99.9	12
	Aerator Sterilizer	Aerator	99.0	
	Door Hood		N/A*	
	Back-Draft Valve		N/A*	

Aeration only	Aerator	Aerator	95	18
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\*Not applicable

7 Exemptions:

- 7.1 The requirements set forth in subsection 5. above do not apply to any facility which treats materials in a sterilizer and which uses a total of 25 pounds or less of ethylene oxide per calendar year.
- 7.2 The District Hearing Board may grant an emergency variance from items (a) and (c) in Table 7, page VI-3 of subsection 5., Requirements, to a person who owns or operates an acute care facility if response to a local medical emergency requires increased operation of a sterilizer or aerator such that the requirements cannot be met.
- 7.3 The demonstrated need for such increased operation shall constitute "good cause" pursuant to Health and Safety Code Section 42359.5. The emergency variance shall be granted in accordance with this Section and any applicable District rule regarding the issuance of emergency variances for such occurrences, including the requirement that the emergency variance shall not remain in effect longer than 30 days; however, the emergency variance shall be granted only for the period of time during which increased operation of a sterilizer or aerator is necessary to respond to the local medical emergency.

8 Compliance: The facility shall be in compliance with all provisions specified in subsection 5., Requirements, no later than the date specified in column (d) of Table 7, page [3](#), [4.1](#) .

- 8.1 For the purpose of determining compliance with the control efficiency requirement shown in column (c) of Table 7, page VI-3, subsection 5., if a reduction in the amount of ethylene oxide across the control device is demonstrated, but the control efficiency cannot be affirmatively demonstrated because the concentration of ethylene oxide measured in the outlet of the control device is below 0.2 parts per million ethylene oxide, the facility shall be considered to be in compliance with this requirement.

9 Alternate Compliance Date: The owner or operator of any facility which uses more than 600 pounds of ethylene oxide per year may choose this alternate compliance option which addresses the date for compliance with the requirements of subsection 5. If this compliance option is chosen, the owner or operator shall:

- 9.1 Within 3 months of the date of District adoption of regulations enacting this control measure, comply with the requirements shown in subsections 5.1. and 5.2. and demonstrate a control efficiency of 99.9% for the sterilizer exhaust stream, in accordance with the source testing requirements set forth in subsection 9: and
- 9.2 Within 6 months of the date of District adoption of regulations enacting this control measure, submit to the District a plan to discontinue operation of all sterilizers and aerators or comply with the District requirements to submit a plan to comply with the requirements of subsections 5.3., 5.4., and 5.5., and
- 9.3 Within 18 months of the date of District adoption of regulations enacting this control measure, do one of the following:

9.3.1 Demonstrate to the satisfaction of the District that operation of all sterilizers and aerators at the facility has been permanently discontinued: or

9.3.2 Demonstrate compliance with the requirements of subsections 5.3., 5.4., and 5.5., in accordance with the source testing provisions set forth in subsection 9., below.

10 Source Testing: Source testing shall be conducted according to ARB Test Method 431 (Title 17, CCR, Section 94143) and the method evaluations cited therein or an acceptable source test method approved by the Executive Officer of the Air Resources Board. Specific requirements for application are given below:

10.1 The test on a control device for a sterilizer exhaust stream shall be run with a typical load, as approved by the District, in the sterilizer.

10.2 The test on a control device for an aerator exhaust stream shall be run with a typical load, as approved by the District, in the aerator.

10.3 The inlet and outlet of the control device shall be sampled simultaneously during testing to measure the control efficiency.

10.4 The efficiency of each control device shall be determined under conditions of maximum ethylene oxide mass flow to the device, under normal operating conditions. To measure the control efficiency of the control device on the sterilizer exhaust stream, sampling shall be done during the entire duration of the first sterilizer evacuation after ethylene oxide has been introduced. To measure the control efficiency of the control device on an aerator exhaust stream with a constant air flow, sampling shall be done during a period of at least 60 minutes, starting 15 minutes after aeration begins. To measure the control efficiency of the control device on an aerator exhaust stream with a non-constant air flow, sampling shall be done during the entire duration of the first aerator evacuation after aeration begins.

10.5 There shall be no dilution of the air stream between the inlet and outlet test points during testing.

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Rule 6:5           Dioxins Airborne Toxic Control Measure - Medical Waste Incinerators  
Adopt 11/19/91, Repealed/Adopted 6/16/92

1           Definitions: For purposes of this Section, the following definitions shall apply:

- 1.1       ARB: Means the State of California Air Resources Board.
- 1.2       ARB Test Method 2: Means the test method specified in Title 17, California Code of Regulation, Section 94102.
- 1.3       ARB Test Method 428: Means the test method specified in Title 17, California Code of Regulations, Section 94139.
- 1.4       Control Equipment: Means any device which reduces emissions from medical waste incinerators.
- 1.5       Dioxins: Means dibenzo-p-dioxins and dibenzofurans chlorinated in the 2, 3, 7, and 8 positions and containing 4, 5, 6, or 7 chlorine atoms and is expressed as 2, 3, 7, 8, tetrachlorinated dibenzopara-dioxin equivalents using current California Department of Health Services toxic equivalency factors.
- 1.6       Facility: Means every building, structure, appurtenance, 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.
- 1.7       Medical Facilities: Means 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.
- 1.8       Medical Waste Incinerator: Means all of the furnaces or other closed fire chambers that are located at a facility and used to dispose of waste generated at medical facilities by burning.
- 1.9       Uncontrolled Emissions: Means the dioxins emissions measured from the incinerator at a location downstream of the last combustion chamber, but prior to the air pollution control equipment.
- 1.10      Waste: Means all discarded putrescible and nonputrescible solid, semisolid, and liquid materials, including garbage, trash, refuse, paper, rubbish, food, ashes, plastic, industrial wastes, demolition and construction wastes, equipment, instruments, utensils, appliances, manure, and human or animal solid and semisolid wastes.

2           Requirements For Medical Waste Incinerators That Incinerate More Than 25 Tons of Waste Per Year. The following requirements shall apply only to medical waste incinerators that incinerate more than 25 tons of waste per year:

- 2.1       No person shall operate a medical waste incinerator unless:
  - 2.1.1      The dioxins emission have been reduced by 99 percent or more of the uncontrolled emissions; or
  - 2.1.2      The dioxins emissions have been reduced to 10 nanograms or less per kilogram of waste burned.
- 2.2       No person shall operate a medical waste incinerator unless the control equipment is installed and used

in a manner which has been demonstrated to and approved by the District Air Pollution Control Officer to meet the following requirements:

- 2.2.1 The flue gas temperature at the outlet of the control equipment shall not exceed 300F°, unless it has been demonstrated to, and approved in writing by, both the ARB and the District Air Pollution Control Officer that lower emissions are achieved at a higher outlet temperature; and
- 2.2.2 For a single chamber incinerator, the combustion chamber shall be maintained at no less than 1800 degrees (+ 200 degrees) Fahrenheit. For a multiple chamber incinerator, the primary combustion chamber shall be maintained at no less than 1400 degrees Fahrenheit, and the secondary chamber shall be maintained at no less than 1800 degrees (+ 200 degrees) Fahrenheit. 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:

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

Where:

V means = the volume, as expressed in cubic feet, from the point in the incinerator where the maximum temperature has been reached until the point where the temperature has dropped to 1600 degrees Fahrenheit.

Q<sub>c</sub> means = the combustion gas flow through V, as expressed in actual cubic feet per second, which is measured according to ARB Method 2, after adjusting the measured flow rate to the maximum combustion chamber temperature (T) by using T instead of T<sub>std</sub> in the Method 2 calculation for Q<sub>c</sub>.

The volumetric flow rate measured at the points must be adjusted to chamber pressures.

Alternative methods may be used if conditions for determining the combustion gas flow rate by Method 2 are unacceptable. The determination shall be within the guidelines of Method 2 and at the discretion of the Air Pollution Control Officer.

The calculation of the gas flow rate using the following combustion stoichiometry equation for Q is one alternative to measuring the gas flow rate.

$$Q_c = \{Q_{\text{stoiwf}}(1 + EA_{\text{wf}} / 100) + Q_{\text{stoiwf}}(1 + EA_{\text{af}} / 100)\} \frac{(T_c + 460)}{528} \times \frac{\text{lb in}}{60\text{sec}}$$

Where:

$$Q_{\text{stoiwf}} = \frac{\text{lb-moleO}_2}{\text{lbwaste}} \times \frac{\text{lbwaste}}{\text{min}} \times \frac{SCFO_2}{\text{lb-moleO}_2} \times \frac{SCFair}{SCFO_2}$$

$$Q_{\text{stoiwf}} = \frac{\text{lb-moleO}_2}{\text{lb aux. fuel}} \times \frac{\text{lb aux. fuel}}{\text{min}} \times \frac{SCFO_2}{\text{lb-moleO}_2} \times \frac{SCFair}{SCFO_2}$$

Ea<sub>wf</sub> = The excess air (lbs excess air per lbs theoretical air) for the waste feed



expressed as a percentage.

$E_{af}$  = The excess air ratio (lbs excess air per lbs theoretical air) for the auxiliary fuel expressed as a percentage.

$T_c$  = The maximum temperature, in degrees Fahrenheit, that has been reached in the incinerator.

In order to estimate Q and EA , a representative sample of the waste must be characterized by chemical analysis.

- 2.3 No person shall operate a medical waste incinerator unless the bottom ash, fly ash and scrubber residuals are handled and stored in a manner that prevents entrainment into ambient air.
- 2.4 The owner or operator of a medical waste incinerator shall maintain the following:
- 2.4.1 A continuous data recording system which provides for each day of operation continuous recording of the primary and secondary combustion chamber temperatures; carbon monoxide emissions; the key operating parameters of the air pollution control equipment, as specified by the District Air Pollution Control Officer; the hourly waste charging rates; and the opacity of stack emissions or other indicator of particulate matter which is approved by the District Air Pollution Control Officer;
  - 2.4.2 Maintenance records for the incinerator, control equipment, and monitoring equipment; and calibration records for the monitoring equipment; and
  - 2.4.3 Equipment for determining and recording the weight of waste charged to the incinerator.
- 2.5 For purposes of demonstrating compliance with subsection 2.1. of this rule the owner or operator of a medical waste incinerator shall conduct a minimum of two annual source tests for the dioxins stack emissions using ARB Test Method 428, using the high resolution mass spectrometry option. Annual source tests shall be conducted until at least two consecutive tests demonstrate compliance, at which time the frequency of future source tests is at the discretion of the Air Pollution Control Officer. For purposes of determining compliance with subsection 2.1.1. of this rule, emissions shall be sampled simultaneously from the flue at a location downstream of the last combustion chamber, but prior to the control equipment, and from the stack during source testing. For purposes of determining compliance with subsection 2.1.2. of this rule, the source testing shall be conducted at the stack. The information regarding the composition (moisture content, and amount of the total waste that is infectious, pathological, hazardous, or radioactive) and feed rate of the fuel charged during the source test shall be provided with the test results. In those cases where incinerator operators are required to submit information in the permit application on the type and quantity of waste burned, composition and representativeness of the waste for the compliance test will be determined by inspection and comparison with the permit application. When this comparison is not possible, the determination of composition and representativeness will be based on source generation data and inspection. The District Air Pollution Control Officer can require additional necessary information regarding the composition of the waste. Source testing shall be conducted at the maximum waste firing capacity (+ 10 percent) allowed by the air district permit. A copy of all source test results conducted for purposes of demonstrating compliance with this rule shall be provided to the ARB at the same time that it is provided to the local Air Pollution Control District.
- 2.6 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 within 1 hour of occurrence or by 9 a.m. the next business day if the malfunction occurs outside normal business hours and the

District does not maintain a radio room or an answering machine.

- 2.7 No person shall operate a medical waste incinerator unless 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 months of the commencement of the training program, or equivalent training as determined by the Air Pollution Control Officer. Copies of the training certificates for the operators and maintenance engineers shall be submitted to the districts and the original certificates shall be available for inspection at the facility with the Permit to Operate.
- 3 Requirements For Medical Waste Incinerators That Incinerate 25 Tons Or Less Of Waste Per Year: The following requirements shall apply to incinerators that incinerate 25 tons or less of waste per year:
- 3.1 No person shall operate a medical waste incinerator that incinerates 25 tons or less of waste per year unless the requirements specified in subsections 2.3, 2.4.3, and 2.7. are met.
- 3.2 The owner or operator of a medical waste incinerator that incinerates more than 10 but less than 25 tons of waste per year shall conduct an initial source test at the incinerator stack as specified in subsection 2.5.
- 4 Compliance Schedule:
- 4.1 No later than 90 days after District adoption of regulations enacting this control measure, the owner or operator of a medical waste incinerator that incinerates more than 25 tons of waste per year shall submit to the District Air Pollution Control Officer an application for an Authority to Construct the equipment necessary to meet the requirements of Sections 2.1. or 2.2., and no later than 15 months after District adoption of regulations enacting this control measure, the owner or operator of a medical waste incinerator shall be in compliance with this regulation.
- 4.2 The owner or operator of a medical waste incinerator who intends to permanently shut down operation of the incinerator shall notify the District of the shutdown date within 90 days after District adoption of regulations enacting this control measure. The shutdown date shall be no later than six months after District adoption of regulations enacting this control measure.
- 4.3 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 notify the District within 90 days after District adoption of regulations enacting this control measure. The owner or operator of a medical waste incinerator shall be in compliance with this regulation no later than 15 months after District adoption of regulations enacting this control measure.
- 5 This Control Measure Shall Not Apply To Those Incinerators Which Are Exclusively Crematoria Of Human Or Animal Remains.

1 Definitions: For the purpose of this Section. The following definitions shall apply:

- 1.1 Aggregate: Means a mixture of mineral fragments, sand, gravel, rocks, or similar minerals.
- 1.2 Alluvial Deposit: Means any deposit of sediments laid down by running water including but not limited to streams and rivers.
- 1.3 ARB Test Method 435: Means the test method specified in Title 17, California Code of Regulations, Section 94147.
- 1.4 Asbestos: Means asbestiforms of the following hydrated minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebeckite), amosite (fibrous cummingtonite--grunerite), fibrous tremolite, fibrous actinolite, and fibrous anthophyllite.
- 1.5 Asbestos-containing Serpentine Material: Means serpentine material that has an asbestos content greater than five percent (5.0%) as determined by ARB Test Method 435.
- 1.6 Receipt: Means any written acknowledgment that a specified amount of serpentine material was received, delivered, or purchase. Receipts include, but are not limited to, bills of sale, bills of lading, and notices of transfer.
- 1.7 Road Surface: Means the traveled way of a road and any shoulder which extends up to 10 feet from the edge of the traveled way.
- 1.8 Sand and Gravel Operation: Means any aggregate-producing facility operating in alluvial deposits.
- 1.9 Serpentine: Means any form of hydrous magnesium silicate minerals --including, but not limited to, antigorite, lizardite, and chrysotile.
- 1.10 Serpentine Material: Is any material that contains at least ten percent (10%) serpentine as determined by a registered geologist. The registered geologist must document precisely how the serpentine content of the material in question was determined.
- 1.11 Surfacing: Means the act of covering any surface used for purposes of pedestrian, vehicular, or nonvehicular travel including, but not limited to, roads, road shoulder, street, alleys, lanes, driveways, parking lots, playground, trails, squares, plazas, and fairgrounds.

2 Requirements For Use Or Sale Of Asbestos- Containing Serpentine Material:

- 2.1 No person shall use or apply serpentine material for surfacing in California unless the material has been tested using ARB Test Method 435 and determined to have an asbestos content of five percent (5.0%) or less. A written receipt or other record documenting the asbestos content shall be retained by any person who uses or applies serpentine material, for a period of at least seven years from the date of use or application, and shall be provided to the Air Pollution Control Officer or his designee for review upon request.
- 2.2 Any person who sells, supplies, or offers for sale serpentine material in California shall provide with each sale or supply a written receipt containing the following statement: "Serpentine material may have an asbestos content greater than five percent (5.0%). It is unlawful to use serpentine material for surfacing unless the material has been tested and found to contain less than or equal to five percent

(5.0%) asbestos. All tests for asbestos content must use California Air Resources Board Test Method 435, and a written record documenting the test results must be retained for at least seven years if the material is used for surfacing."

- 2.3 No person shall sell, supply, or offer for sale serpentine material for surfacing in California unless the serpentine material has been tested using ARB Test Method 435 and determined to have an asbestos content of five percent (5.0%) or less. Any person who sells, supplies, or offers for sale serpentine material that he or she represents, either orally or in writing, to be suitable for surfacing or to have an asbestos content that is five percent (5.0%) or less, shall provide to each purchaser or person receiving the serpentine material a written receipt which specifies the following information: the amount of serpentine material sold or supplied; the dates that the serpentine material was produced, sampled, tested, and supplied or sold; and the asbestos content of the serpentine material as measured by ARB Test Method 435. A copy of the receipt must, at all times, remain with the serpentine material during transit and surfacing.
- 2.4 Any person who sells, supplies, or offers for sale serpentine material, shall retain for a period of at least seven years from the date of sale or supply, copies of all receipts and copies of any analytical test results from asbestos testing of the serpentine material. All receipts and test results shall be provided to the Air Pollution Control Officer or his designee for review upon request.
- 2.5 If ARB Test Method 435 has been used to perform two or more tests on any one volume of serpentine material, whether by the same or a different person, the arithmetic average of these test results shall be used to determine the asbestos content of the serpentine material.

### 3 Exemptions:

- 3.1 The provisions of subsection 2.2. through 2.5. shall not apply to sand and gravel operations.
- 3.2 The provisions of subsection 2.1. shall not apply to roads located at serpentine quarries, asbestos mines, or mines located in serpentine deposits.
- 3.3 The provisions of subsection 2.1. shall not apply to maintenance operations on any existing road surfaces, or to the construction of new roads in serpentine deposits, as long as no additional asbestos-containing serpentine material is applied to the road surface.
- 3.4 **Emergency Road Repairs:** The Air Pollution Control Officer may issue a temporary exemption from the requirements of subsection 2.1. to an applicant who demonstrates that a road repair is necessary due to a landslide, flood, or other emergency and that the use of material other than serpentine is not feasible for this repair. The Air Pollution Control Officer shall specify the time during which such exemption shall be effective, provided that no exemption shall remain in effect longer than six (6) months.
- 3.5 **Bituminous and Concrete Materials:** The provisions of subsection 2. shall not apply to serpentine material that is an integral part of bituminous concrete, portland cement concrete, bituminous surface, or other similar cemented materials.
  - 3.5.1 The provisions of subsection 2.1. shall not apply to landfill operations other than the surfacing of public-access roads dedicated to use by vehicular traffic.

Rule 6:7 Non-Ferrous Metal Melting  
Adopt 6/7/94

- 1 Purpose: To comply with the California Code of Regulations, Section 93107, by controlling airborne emissions of toxic metals from non-ferrous metal melting.
- 2 Definitions: For the purpose of this Section, the following definitions shall apply:
  - 2.1 Aluminum and Aluminum-based Alloys: Any metal that is at least 80% aluminum by weight.
  - 2.2 ARB Test Method 5: The test method specified in Title 17, California Code of Regulations, Section 94105.
  - 2.3 Clean Aluminum Scrap: Scrap that is composed solely of aluminum or aluminum alloys (including anodized aluminum) and that is free of paints, coatings, rubber or plastic.
  - 2.4 Copper or Copper-based Alloy: Any metal that is more than 50% copper by weight, including but not limited to brass and bronze.
  - 2.5 District: The air quality management district or air pollution control district with jurisdiction over the facility.
  - 2.6 Dust Forming Material: Any material containing more than 15% by weight of particulate matter less than 0.84 millimeter (mm) equivalent diameter as determined by ASTM C136-84a "Standard Method for Sieve Analysis of Fine and Coarse Aggregates" using a number 20 U.S. Bureau of Standards sieve with 0.84-mm square openings or an alternate method deemed acceptable by the District Air Pollution Control Officer or Executive Officer.
  - 2.7 Emission Collection System: Equipment that is installed for the purpose of directing, taking in, confining, and conveying an air contaminant and which conforms to specifications for design and operation given in Industrial Ventilation, Manual of Recommended Practices, 20th edition, 1988, published by the American Conference of Government and Industrial Hygienists, which is incorporated by reference herein.
  - 2.8 Emission Point: Any location where molten metal is or can be exposed to air, including but not limited to, furnaces, crucibles, refining kettles, ladles, tap holes, pouring spouts, and slag channels. A mold or die in which metal is cooling is not considered an emission point.
  - 2.9 Enclosed Storage Area: Any space used to contain materials that has a wall or partition on at least three sides or three-quarters of its circumference and that screens the material stored therein to prevent emissions of the material to the air.
  - 2.10 Facility: Any real or personal property being used for metal melting activities, which is located on one or more contiguous or adjacent parcels of property in actual contact or separated only by a public roadway or other public right-of-way, and owned or operated by the same person or persons, corporation, government agency, public district, public officer, association, joint venture, partnership, or any combination of such entities.
  - 2.11 Fugitive Emission Control: Any equipment, activity, or process carried out to reduce emissions resulting either from the storage or handling of dust forming materials or material collected by a particulate matter control system or the removal of particulate matter from metal melting or pouring that has settled on the ground or other surfaces, or that has escaped from a properly designed and operated emission collection system.

- 2.12 Good Operating Practices: Specific activities necessary to maintain the original collection and control efficiencies of the air pollution control equipment as designed. These activities include but are not limited to verifying operating specifications such as cleaning cycles, air flow, and velocity; and inspecting equipment such as duct work, blowers, and components of the control equipment through a general maintenance and inspection program.
- 2.13 Hard Lead: Any alloy containing at least 90 percent lead and more than 0.001 percent arsenic by weight or 0.001 percent cadmium by weight.
- 2.14 Molten Metal: Metal or metal alloy in a liquid state, in which a cohesive mass of metal will flow under atmospheric pressure and take the shape of a container in which it is placed.
- 2.15 Metal Melting Furnace: Any apparatus in which metal in a container is brought to a liquid state, including but not limited to reverberatory, cupola, induction, direct arc furnaces, sweat furnaces, and refining kettles. "Metal Melting Furnace" does not include any apparatus in which the metal is heated but does not reach a molten state such as a sintering furnace or an annealing furnace.
- 2.16 New Sand: Any sand not exposed to the casting process.
- 2.17 Non-ferrous Metal: Lead, copper, zinc, cadmium, arsenic, aluminum, and their alloys.
- 2.18 Particulate Matter or PM: Any solid material, except uncombined water, which exists in a finely divided form at standard conditions of temperature and pressure (293 K and 760 mm mercury).
- 2.19 Particulate Matter Control System: Any device or series of devices designed and operated in a manner intended to remove fine particulate matter (< 10 um) from an air or gas stream.
- 2.20 Person: Shall have the same meaning as defined in Health and Safety Code Section 39047.
- 2.21 Process Emission Control: Any equipment installed and operated to control emissions of toxic metals from any emission point as defined Section 2., "Emission Point".
- 2.22 Pure Lead: Any alloy that is at least 90 percent lead and contains no more than 0.001 percent cadmium by weight and 0.001 percent arsenic by weight.
- 2.23 Ringelmann Chart: The Ringelmann Chart published in the United States Review of Mine Information Circular No. 1C8333, (May 1967), as specified in Health and Safety Code Section 41701(b).
- 2.24 Scrap: Any metal or metal-containing material that has been discarded or removed from the use for which it was produced or manufactured and which is intended for reprocessing. Scrap does not include sprues, gates, risers, foundry returns, and similar material intended for remelting that has been generated at the facility as a consequence of casting or forming processes but has not been coated or surfaced with any material containing cadmium, arsenic, or nickel.
- 2.25 Solder: Any metal in which the sum of the lead and the tin is greater than 50 percent by weight and which is used for the purpose of joining two metals or of joining a metal to any other metal.

### 3 Requirements:

- 3.1 No person shall operate a non-ferrous metal melting furnace unless the facility is in compliance with all the requirements specified in subsections 3.2. through 3.3.

3.2 Emission Collection System

- 3.2.1 All emission points shall be equipped with an emission collection system designed and operated according to criteria specified in Section 3.2., Emission Collection System. The design criteria and operating parameters shall be specified as conditions of the authority to construct and the permit to operate granted by the district to the source for the equipment.
- 3.2.2 Good operating practices shall be used by the facility, and demonstrated through a maintenance plan or procedures approved by the district, to maintain air movement and emission collection efficiency by the system consistent with the design criteria for the system. The maintenance plan shall specify at a minimum the following:
  - 3.2.2.1 Maximum allowable variation from designed values of operating parameters, such as air velocity in the hood and ducts, and pressure drop across the control device.
  - 3.2.2.2 Areas to be visually inspected, such as the clean side of the baghouse and ducts operating under positive pressure, and the required frequency of such inspections.
  - 3.2.2.3 Methods of documenting compliance with these requirements such as a log of such inspections and records of observations and measurements.

3.3 Process Emission Control

- 3.3.1 The gas stream from the emission collection system required by subsection 3.2. shall be ducted to a particulate matter control device meeting the requirements of this Section.
  - 3.3.1.1 The particulate matter control device shall reduce particulate matter emissions by 99 percent or more.
  - 3.3.1.2 The temperature of the gas stream entering any particulate matter control device that is part of an emission collection system shall not exceed 360 degrees F. A device used for making this measurement shall be maintained at the facility and shall be made available to a district representative upon his or her request.
  - 3.3.1.3 The owner or operator of the facility shall demonstrate compliance with subsection 3.3.1.1, by conducting an initial source test to verify the 99 percent reduction in particulate matter as determined by means of an emissions test conducted in accordance with ARB Test Method 5. The district Air Pollution Control Officer or Executive Officer may require additional source testing to verify continued compliance or when the process is changed.

Particulate matter reduction shall be calculated using the following equation:

$$\frac{\text{Mass in} - \text{Mass out}}{\text{Mass in}} \times 100 = \text{particulate matter reduction}$$

Where:

Mass in = Mass of particulate matter at the inlet to the control device.

Mass out = Mass of the particulate matter at the outlet of the

control device.

Mass = Sum of filter catch, probe catch, impinger catch, and solvent extract.

3.3.1.4 Testing Access

3.3.1.4.1 The owner or operator of any facility subject to subsection 3.3. of this regulation shall provide access and sampling ports sufficient to perform testing in accordance with ARB Test Method 5. Ducts and stacks shall have sampling ports so placed as to satisfy minimum requirements for method 5 testing with regard to flow disturbances, or acceptable alternative requirements as approved by the Air Pollution Control Officer or Executive Officer of the district.

3.4 Fugitive Emission Control

3.4.1 No activity associated with metal melting at a facility including furnace operation, casting, emission control system operation, and the storage, handling, or transfer of any materials (except new sand) shall discharge into the air any air contaminant, other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which is:

3.4.1.1 Half as dark or darker in shade as that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

3.4.1.2 Of such opacity as to obscure an observer's view to a degree equal to or greater than smoke as described in subsection 3.4.1.1 or 10% opacity.

3.4.2 Dust-forming material including, but not limited to, dross, ash, or feed material shall be stored in an enclosed storage area or stored in a manner which meets the requirements of subsection 3.4.1.

3.4.3 Material collected by a particulate matter control system shall be discharged into closed containers or an enclosed system that is completely sealed to prevent any dust from getting out.

3.4.4 Surfaces that are subject to vehicular or foot traffic shall be vacuumed, wet mopped, or otherwise maintained in accordance with a district-approved maintenance plan. The plan shall specify, at a minimum: the areas to be cleaned, the method to be used, the required frequency of the cleaning activities, and a method of documenting the completion of the required activities. The plan shall be designed and carried out in a way which will meet the requirements of subsection 3.4.1.

4 Exemptions:

4.1 Small Quantity Exemptions. Facilities are exempt from subsections 3.2., 3.3., and 3.4. if they meet either of the following conditions:

4.1.1 Melt a total of no more than one ton per year of all metals, or

4.1.2 Melt no more than the listed quantities of any one of the specific metals listed in Table 8, page [5](#).



Table 8:

Non-Ferrous Metal Melting Specifications

Metal	Exemption Limit (tons per year)
Pure Lead	400
Hard Lead	200
Aluminum Scrap	125
Aluminum Ingot containing more than 0.004 percent cadmium or 0.002 percent arsenic	125
Solder	100
Zinc Scrap	30
Copper or copper-based alloys (except scrap) containing more than 0.004 percent cadmium or 0.002 percent arsenic	30
Type Metal (lead for linotype machines)	25

4.1.2.1 For facilities melting more than one of the metals listed in Table 8, page VI-4, eligibility for exemption shall be determined using the following calculation:

4.1.2.1.1 For each metal listed in Table 8, page 5, divide the quantity melted by the specific exemption limit listed.

4.1.2.1.2 Sum the resulting fractions for all the metals.

4.1.2.1.3 If the sum does not exceed 1.0, the facility qualifies for exemption under subsection 4.1.

4.2 Metal or Alloy Purity Exemption. Facilities or furnaces which do not melt scrap except clean aluminum scrap and which melt a metal or alloy (other than the metals listed in Table 7, page VI-3) which is shown by the facility operator to have a content of no more than 0.004 percent of cadmium and no more than 0.002 percent of arsenic are exempt from subsections 3.2., 3.3., and 3.4. A facility granted an exemption under subsection 4.1.2. may also be granted exemption for all metals that meet the purity limits in this subsection.

4.3 Clean Aluminum Scrap Exemption. Furnaces used exclusively to process clean aluminum scrap or a mixture of clean aluminum scrap and aluminum ingot to produce extrusion billet are exempt from subsections 3.2. and 3.3.

4.4 Exemption for Aluminum Furnaces. The combustion chamber in a reverberatory furnace is exempt from the requirements of subsections 3.2. and 3.3. if the furnace meets both of the following conditions:

4.4.1 The furnace is used solely to produce aluminum and aluminum-based alloys, and

4.4.2 The furnace is constructed with a charging well or similar device in which feed is added to molten metal in a separate chamber.

4.4.3 Aluminum Pouring Exemption. Ladles, launders or other equipment used to convey aluminum from a melting or holding furnace to casting equipment is exempt from the requirements of subsections 3.2. and 3.3.

5 Compliance Schedule:

5.1 Application for exemption from control requirements. Facilities seeking exemption under subsections 4.1. or 4.2. or 4.3. shall apply and submit evidence of eligibility for exemption to the district no later than six months after the district adopts regulations enacting this control measure.

5.2 Emission control requirements. Facilities subject to this Section shall apply to the district for an authority to construct the emission collection system and the air pollution control equipment necessary to comply with subsection 3. no later than 12 months after the district adopts the regulations enacting this control measure. These facilities shall be in compliance no later than 24 months after the district adopts the regulations enacting this control measure.

6 Recordkeeping:

6.1 Facilities subject to subsection 3. shall maintain on site for a period of two years, and make available to a district representative upon request, a record of:

6.1.1 The results of any source testing required by the district to demonstrate that the particulate matter control device(s) are operating as required by subsection 3.3.1.1.

6.2 Facilities seeking exemption under subsections 4.1. or 4.2. or 4.3. shall maintain for two years a record of the amount and type of metal processed in those furnaces including results of analyses as required to support exemption under subsection 4.2. These records shall be made available to a representative of the of the district upon request.

7 Applicable Material Testing Methods:

7.1 One of the following methods or an alternate method deemed acceptable by the district Air Pollution Control Officer or Executive Officer and by the Executive Officer of the Air Resources Board shall be used.

7.2 Sampling for these methods shall comply with ASTM E 88-58 (1986), "Standard Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition".

7.2.1 To determine the composition of alloys defined in Section 2., Aluminum and Aluminum-based Alloys, and to determine the cadmium content of aluminum alloys to evaluate eligibility for exemption under Section 4.2. one of the following shall be used:

7.2.1.1 ASTM E 227-67 (1982), "Standard Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique";

7.2.1.2 ASTM E 607-90, "Standard Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere"; or

7.2.1.3 ASTM E 1251-88, "Standard Method for Optical Emission Spectrometric Analysis

of Aluminum and Aluminum Alloys by the Argon Atmosphere, Point-to-Plane, Unipolar Self-Initiating Capacitor Discharge".

- 7.2.2 To determine the alloy composition as defined in subsections 2.13., Hard Lead, and 2.22, Pure Lead, ASTM E 117-64 (1985), "Standard Method for Spectrographic Analysis of Pig Lead by the Point-to-Plane Technique" shall be used.
- 7.2.3 To determine the alloy composition as defined in Section 2.25., Solder, ASTM E 46-87, "Test Method for Chemical Analysis of Lead- and Tin-Base Solder" shall be used.
- 7.2.4 To determine cadmium concentration in zinc and zinc alloys to evaluate eligibility for exemption under Section 4.2., ASTM E 536-84 (1988), "Standard Test Method for Chemical Analysis of Zinc and Zinc Alloys" shall be used.
- 7.2.5 To determine cadmium concentration in copper and copper-based alloys to evaluate eligibility for exemption under Section 4.2., ASTM E 53-86a, "Standard Test Methods for Chemical Analysis of Copper" shall be used.
- 7.2.6 To determine arsenic concentration in copper or copper-based alloys to evaluate eligibility for exemption under Section 4.2., ASTM E 62-89, "Standard Test Method for Chemical Analysis of Copper and Copper Alloys" shall be used.
- 7.2.7 To determine arsenic content in aluminum or zinc (or any other alloy in which determination of arsenic by spectrochemical methods is compromised by interference) to evaluate eligibility for exemption under Section 4.2., EPA method 7061 (Revision 1, December, 1987), "Arsenic (Atomic Absorption, Gaseous Hydride)", published in U.S. EPA Test Methods for Evaluating Solid Waste Physical and Chemical Methods. First Update (3rd Edition), January, 1988; EPA/530/SW-846.3-1; PB 89-14876, shall be used in the following manner.
- 7.2.8 For aluminum alloys, sample digestion shall employ the hydroxide digestion technique given in Appendix A to this control measure.

8 Alternative Compliance Option:

- 8.1 A district may approve an alternative approach to compliance proposed by the facility operator, if the facility operator demonstrates to the satisfaction of the district Executive Officer or Air Pollution Control Officer that the alternative is enforceable, achieves the same or better reductions within the same time period as required by this airborne toxic control measure. The alternative approach shall also be consistent with the federal Clean Air Act. The district shall revoke this approval if the facility operator fails to adequately implement the alternative approach or the alternative approach does not reduce emissions as required. The district shall notify the state board whenever it proposes to approve an alternative approach to compliance to this airborne toxic control measure.

NOTE: Authority cited: Sections 39600, 39601, 39650, 39655, and 39666, Health and Safety Code.

Reference: Sections 39650 and 39666, Health and Safety Code.

## APPENDIX A

### Digestion of Metal Aluminum Sample for Determining Arsenic

#### 1 Introduction:

1.1 Metal aluminum cannot react with nitric acid or concentrated sulfuric acid. It can dissolve in dilute sulfuric acid or hydrochloric acid. Active hydrogen, generated during the acid digestion process, will reduce arsenic to AsH<sub>3</sub>, which will escape from solution, resulting in a low or negative arsenic value. The proposed method sets up a protocol to dissolve metal alumina without loss of arsenic.

#### 2 Reagent:

2.1 3M NaOH, 10% HgSO<sub>4</sub> Solution, 30% H<sub>2</sub>O<sub>2</sub>

2.2 1:1 H<sub>2</sub>SO<sub>4</sub>, Concentrated HNO<sub>3</sub>, Tiling Copper.

#### 3 Procedure:

3.1 Dissolve

3.2 Dissolve using NaOH (Method 1).

3.2.1 Weigh 0.5g of metal aluminum sample to 125ml Erlenmeyer flask, add 15ml of 3M NaOH solution, allow to react and dissolve about 20 min. Again add 10ml of 3M NaOH, continue reaction until no gas bubbles are present and the sample is dissolved completely.

3.3 Dissolve using HgSO<sub>4</sub> (Method 2)

3.3.1 Weigh 0.5g of metal aluminum sample to 125ml Erlenmeyer flask, add 10ml of 10% HgSO<sub>4</sub> solution and 5ml of 30% H<sub>2</sub>O<sub>2</sub>. After 20 min, add appropriate amount of HgSO<sub>4</sub>. Allow reaction to continue until no gas bubbles are present. Add metal copper strips (large surface area) into the sample solution. After 10 min, withdraw the copper strips and add new copper strips. Repeat until the surface of the copper strips in sample solution do not change to a silver color. Withdraw all copper strips from sample solution.

3.4 Digestion

3.4.1 Add 3ml of concentrated HNO<sub>3</sub>, 5ml of 1:1 H<sub>2</sub>SO<sub>4</sub> into the sample solution obtained from subsection 3.1.1 or 3.1.2. Heat slowly and evaporate the sample solution until SO<sub>2</sub> fumes are present for 5 min. Cool and dilute the sample to 50.0ml.

3.4.1.1 Determined As by Atomic Absorption method.

Rule 6:8 Toxic New Source Review for Complying With Federal Clean Air Act Section 112(g)  
Adopt 6/29/99

- 1 Purpose: The purpose of this rule is to require the installation of best available control technology for toxics (T-BACT) at any constructed or reconstructed major source of hazardous air pollutants (HAPs). All T-BACT determinations shall ensure a level of control that the Air Pollution Control Officer (APCO) has determined to be, at a minimum, no less stringent than new source maximum achievable control technology (MACT) as required by the federal Clean Air Act (CAA), §112(g)(2)(B) and implemented through 40CFR subpart B, §§63.40-63.44.
- 2 Applicability: The requirements of this rule shall apply to all owners or operators that construct or reconstruct a major source of HAPs, unless the major source is exempt pursuant to section D.
  - 2.1 Compliance with this rule does not relieve any owner or operator of a major source of HAPs from complying with all other District rules or regulations, any applicable State airborne toxic control measure (ATCM), or other applicable State and federal laws.
- 3 Effective Date: This rule is effective on June 29, 1999.
- 4 Exemptions: The provisions of this rule do not apply to:
  - 4.1 any major source that is subject to an existing National Emissions Standard (NESHAPs) for HAPs pursuant to sections 112(d), 112(h) or 112(j) of the CAA;
  - 4.2 any major source that has been specifically exempted from regulation under a NESHAP issued pursuant to sections 112(d), 112(h) or 112(j) of the CAA;
  - 4.3 any major source that has received all necessary air quality permits for such construction or reconstruction before June 29, 1998;
  - 4.4 electric utility steam generating units, unless and until such time as these units are added to the source category list pursuant to section 112(c)(5) of the CAA;
  - 4.5 any stationary sources that are within a source category that has been deleted from the source category list pursuant to section 112(c)(9) of the CAA;
  - 4.6 research and development activities as defined in 40CFR §63.41; and
  - 4.7 any other stationary source exempted by section 112 of the CAA.
- 5 Definitions: Terms used in this rule that are not defined in this section have the meaning given to them in District New Source Review Rule 2.3A.
  - 5.1 Best Available Control Technology for Toxics (T-BACT): T-BACT means the most effective emissions limitation or control technique which:
    - 5.1.1 has been achieved in practice for such permit unit category or class of sources; or
    - 5.1.2 is any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Air Pollution Control Officer to be technologically feasible for such a category or class of sources, or for a specific source.
  - 5.2 Construct a Major Source: the same as defined in 40 CFR §63.41 Definitions.

- 5.3 Hazardous Air Pollutants (HAPs): any air pollutant listed in or pursuant to CAA, section 112(b).
- 5.4 Major Source of HAPs: any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of hazardous air pollutants or 25 tons per year or more of any combination of hazardous air pollutants.
- 5.5 Potential to Emit (PTE): the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitations or the effect it would have on emissions are incorporated into the applicable permit as enforceable permit conditions.
- 5.6 Reconstruct a Major Source: the same as defined in 40 CFR §63.41 Definitions.
- 6 Requirements: No person shall construct a major source or reconstruct a major source of HAPs unless the air pollution control officer determines that the T-BACT requirements of this rule will be met.
- 7 Calculation Procedures: The potential to emit for a source of HAP emissions shall equal the sum of the potentials to emit of the constructed or reconstructed source of HAPs. All fugitive HAP emissions associated with the construction or reconstruction shall be included in the potential to emit determination.
- 8 Publication and Public Comment: Within ten (10) calendar days following a preliminary decision on the Authority to Construct for an emissions unit or facility with a potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, the APCO shall publish in at least one newspaper general circulation in the District a notice stating the preliminary decision of the APCO noting how pertinent information can be obtained, and inviting written public comment for a 30 day period following the date of publication. Copies of such notice shall be sent to the ARB and the EPA.