

ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

**RULE 1404 -- HEXAVALENT CHROMIUM EMISSIONS
FROM COOLING TOWERS**

(Adopted: 07/07/89; Amended: 04/06/90)

(a) Definitions

For the purposes of this rule the following definitions shall apply:

- (1) COOLING TOWERS are open water recirculating devices that use fans or natural draft to draw or force air through the device to cool water by evaporation and direct contact. This includes, but is not limited to, evaporative condensers, quench or cooling towers used for Heating Ventilation Air Conditioning (HVAC) and/or industrial cooling processes.
- (2) HEXAVALENT CHROMIUM-CONTAINING WATER TREATMENT CHEMICALS are water treatment additives which contain hexavalent chromium (Chrome VI), alone or in combination with other water treatment chemicals.
- (3) WATER TREATMENT ADDITIVES are any combination of chemicals used to treat cooling tower water. They include, but are not limited to, corrosion inhibitors, antiscalants, dispersants and biocides.

(b) Requirements

A person shall not construct or operate a cooling tower unless the following requirements are met:

- (1) On and after January 1, 1990, hexavalent chromium-containing water treatment chemicals shall not be added to cooling tower circulating water.
- (2) Before October 1, 1989, or 90 days prior to placing a new cooling tower into operation, any person who owns or operates a cooling tower that uses hexavalent chromium-containing water treatment chemicals must submit to the Executive Officer a compliance plan meeting the requirements of paragraph (d) of this rule.
- (3) If water treatment additives are changed, owners and operators must resubmit to the Executive Officer a compliance plan meeting the requirements of paragraph (d) of this rule.
- (4) On and after January 1, 1990, the concentration of hexavalent chromium in the circulating water of a non-wooden cooling tower shall not exceed 0.15 milligram per liter (mg/L) and be tested every six months.

- (5) Owners and operators of wooden cooling towers, notwithstanding other provisions of this rule, shall test the hexavalent chromium concentration of the circulating water monthly.
 - (A) On and after January 1, 1990, the concentration of hexavalent chromium in wooden cooling tower circulating water shall not exceed 8 mg/L.
 - (B) On and after July 1, 1990, the concentration of hexavalent chromium in wooden cooling tower circulating water shall not exceed 0.15 mg/L.

(c) **Methods of Analysis**

The hexavalent chromium concentration in the cooling tower water shall be measured by:

- (1) Stabilizing the collected sample with low metal sodium carbonate to a pH range of 7 to 9; and
- (2) Analyzing the sample using American Public Health Method 312B or SCAQMD Method 205.1 (Hexavalent Chromium by Diphenyl Carbazide) or equivalent, as approved by the Executive Officer.

(d) **Compliance Plan**

A written compliance plan shall contain the following:

- (1) Name, address and phone number of the owner and operator;
- (2) Cooling tower location including the address and specific location of each cooling tower;
- (3) The materials used in the cooling tower construction;
- (4) The trade and chemical names of the water treatment additives proposed to be used or currently in use, and the name and address of the manufacturer and supplier;
- (5) Date when hexavalent chromium-containing water treatment chemicals were last added; and
- (6) Hexavalent chromium concentration test results including the date of the test, and the name and address of the laboratory performing the test, unless exempt under subparagraph (f)(2) of this rule.

(e) Recordkeeping

Records shall be retained for two years and made available upon request to the Executive Officer. Records shall contain, but are not limited to, the information as required by paragraph (d) of this rule. The operator shall maintain records regarding all cooling towers in one location.

(f) Exemptions

- (1) The Executive Officer may, upon the written request of the owner or operator, grant an exemption from the periodic water testing requirements if:
 - (A) Two consecutive required water tests, as specified in subparagraphs (b)(4) and (b)(5) of this rule, show the concentration of hexavalent chromium is less than 0.15 mg/L of the circulating water; or
 - (B) Hexavalent chromium-containing water treatment chemicals have not been used for at least one year prior to July 1, 1989.
- (2) Any person who owns or operates a cooling tower that has never used hexavalent chromium-containing water treatment chemicals is exempt from subparagraphs (b)(2) and (d) of this rule, provided that a written affidavit is submitted to the Executive Officer stating that the cooling tower has never used or will never use hexavalent chromium-containing water treatment chemicals and/or that the concentration of hexavalent chromium is below 0.15 mg/L.

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