

**REGULATION 11  
HAZARDOUS POLLUTANTS  
RULE 10  
HEXAVALENT CHROMIUM EMISSIONS FROM COOLING TOWERS**

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**REGULATION 11**  
**HAZARDOUS POLLUTANTS**  
**RULE 10**  
**HEXAVALENT CHROMIUM EMISSIONS FROM COOLING TOWERS**

(Adopted November 15, 1989)

**11-10-100 GENERAL**

**11-10-101 Description:** The purpose of this Rule is to reduce emissions of hexavalent chromium from cooling towers by eliminating chromium based circulating water treatment programs.

**11-10-102 Exemption, Discontinued Chromate Treatment** Sections 11-10-502 and 503 do not apply to cooling tower operators who have not used hexavalent chromium for water treatment since March 1, 1989.

**11-10-200 DEFINITIONS**

**11-10-201 Cooling Tower:** Any open water recirculation device that uses fans or natural draft to draw or force air to contact and cool water by evaporation.

**11-10-202 Hexavalent Chromium/Chromate:** Hexavalent chromium is a cancer-causing (toxic) substance existing as part of various inorganic chromate compounds, for example, sodium dichromate or lead chromate

**11-10-203 Water Treatment Chemicals:** Any combination of chemicals added to cooling tower water including tracers, corrosion inhibitors, antiscalants, dispersants, biocides.

**11-10-300 STANDARDS**

**11-10-301 Hexavalent Chromium Removal:** Effective March 1, 1990, a person shall not operate any cooling tower in the District using hexavalent chromium chemicals.

**11-10-302 Circulating Water Concentration-Wooden Cooling Towers:** Effective March 1, 1990, a person shall not operate a wooden cooling tower in the District unless the following requirements are met:

302.1 March 1, 1990 to September 1, 1990: Hexavalent chromium levels in the circulating water are not to exceed 8 milligrams/liter of circulating water

302.2 After September 1, 1990: Hexavalent chromium levels in the circulating water are not to exceed 0.15 milligrams/liter of circulating water.

**11-10-303 Circulating Water Concentration-Non-Wooden Cooling Towers:** Effective March 1, 1990, a person shall not operate a non-wooden cooling tower unless the hexavalent chromium levels do not exceed 0.15 milligrams/liter of circulating water.

**11-10-500 MONITORING AND RECORDS**

**11-10-501 Reporting-General:** By December 1, 1989, any owner/operator of a cooling tower shall notify the District in writing regarding the following information about the cooling tower. After December 1, 1989, any operator/owner of any newly constructed cooling water tower shall provide the APCO with the following information at least 90 days before the tower is operated.

- 1) Where the cooling tower is located.
- 2) Who is the owner/operator of the tower.
- 3) Cooling tower type and materials of construction.
- 4) Whether hexavalent chromium based treatment chemicals were used in the cooling tower.
- 5) If hexavalent chromium based chemicals were previously used, when they were discontinued.
- 6) A description of the alternate treatment program chosen, as well as the circulating water monitoring plan.

**11-10-502 Monitoring-General:** Effective March 1, 1990, any person subject to Sections 11-10-302 and 303 shall test the circulating water at least once every six calendar months to determine the concentration of hexavalent chromium. The first test shall be performed during March, 1990. Testing may be discontinued when two consecutive required tests show hexavalent chromium concentrations less than 0.15 milligrams per liter of circulating water. The APCO reserves the right to require testing of the circulating water at any time, if the District has reason to believe the water may contain hexavalent chromium.

**11-10-503 Monitoring-Wooden Cooling Towers:**

503.1 March 1, 1990 until September 1, 1990: Any person subject to Section 11-10-302.1 shall test the circulating water at least once every calendar month to determine the concentration of hexavalent chromium.

503.2 After September 1, 1990: Any person subject to Section 11-10-302.2 shall test the circulating water 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 per liter of circulating water. The APCO reserves the right to require testing of the circulating water at any time, if the District has reason to believe the water may contain hexavalent chromium.

**11-10-504 Operating Records:** Any person subject to Sections 11-10-302 and 303 shall maintain records of the results of all required tests of circulating water for two years and give them to the District when requested.

**11-10-600 MANUAL OF PROCEDURES**

**11-10-601 Determination of Hexavalent Chromium in Circulating Water:** Samples of circulating water shall be analyzed for hexavalent chromium as prescribed by American Public Health Method 312B or an equivalent method, as approved by the APCO.