

Final Rule for Industrial Process Cooling Towers

August 1, 1994

TODAY'S ACTION...

The Environmental Protection Agency (EPA) is issuing a final rule to reduce air toxics emissions from industrial process cooling towers. Air toxics are those pollutants known or suspected of causing cancer or other serious health effects.

Industrial process cooling towers remove heat from chemical and industrial processes. Specifically, water treatment chemicals, such as chromium, are added to cooling tower waters to protect equipment and piping from corrosion, and to control algae growth in the tower. Chromium emissions are released into the atmosphere from the cooling tower during the cooling process.

This regulation demonstrates EPA's commitment to making pollution prevention an integral part of regulatory actions whenever possible; the control requirements outlined in the rule are based solely on pollution prevention options instead of end of pipe controls.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

The final rule will reduce emissions of chromium by approximately 25 tons annually, representing a 100 percent reduction from current levels.

Hexavalent chromium is a potent human carcinogen and is known to cause lung cancer.

WHY IS EPA REGULATING INDUSTRIAL PROCESS COOLING TOWERS?

Under the Clean Air Act Amendments of 1990, EPA is required to regulate emissions of 189 listed toxic air pollutants. On July 16, 1992, EPA published a list of source categories that emit one or more of these air toxics. For listed categories of "major" sources (those that emit 10 tons annually or more of a listed pollutant or 25 tons or more of a combination of pollutants), the Act requires EPA to develop standards that will require the application of maximum achievable control technology (MACT).

In its July 16, 1992, published list of industry groups to be regulated, EPA identified industrial process cooling towers as a major source of air toxics. Although individual industrial process cooling towers do not qualify as "stand-alone" major sources, almost all cooling towers are located at facilities that qualify as major sources.

WHO WOULD BE AFFECTED BY THE RULE?

Major industry sources, such as petroleum refineries, chemical manufacturing plants, and primary metal producers, that operate industrial process cooling towers, using chromium-based water treatment chemicals, will be affected by EPA's regulation.

There are approximately 800 industrial process cooling towers located at about 400 major sources nationwide that will be affected by the regulation.

WHO WOULD NOT BE AFFECTED BY THE REGULATION?

Industrial process cooling towers that are used exclusively for cooling, heating, ventilation, and air conditioning systems, which are referred to as comfort cooling towers, are not covered by this rule. A regulation that prohibited the distribution and commercial use of chromium-based water treatment chemicals in comfort cooling towers was promulgated under the Toxic Substances Control Act in January 1990.

WHAT DO THE STANDARDS REQUIRE?

The rule prohibits the use of chromium-based water treatment chemicals in all affected industrial process cooling towers located at major sources, thus eliminating hexavalent chromium emissions.

The technical basis for the rule is the substitution of phosphate-based water treatment programs for chromium-based programs. Phosphates are not hazardous air pollutants and are not known to cause adverse health effects.

Facilities that currently use chromium-based water treatment programs in their industrial process cooling towers have 18 months to comply with the final rule.

The rule ensures that any industrial process cooling tower that has been retrofitted to operate nonchromium-based programs would not switch back to chromium-based programs.

Reporting and Recordkeeping

The rule requires owners of industrial process cooling towers using chromium water treatment chemicals to submit an initial notification within 12 months.

A notification of compliance status is required by the air toxics General Provisions rule (CFR Part 63). This requires that a responsible company official certify in writing that no chromium-containing water treatment chemicals had been used in any affected industrial process cooling tower since the compliance date.

HOW MUCH WILL THE FINAL RULE COST?

The nationwide annual cost of the rule is projected to equal approximately \$14 million. The total capital cost is projected to be \$3000. Annual operating costs associated with replacing chromium-based chemicals ranges from \$1000 to \$150,000.

FOR FURTHER INFORMATION...

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