United States Environmental Protection Agency

Office of Water EPA- 821-F-14-001

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Final Regulations to Establish Requirements for Cooling Water Intake Structures at Existing Facilities

Summary

EPA has finalized standards under the Clean Water Act to follow through on a settlement agreement with environmental groups whereby EPA agreed to issue regulations to reduce injury and death of fish and other aquatic life caused by cooling water intake structures at existing power plants and factories. These facilities pull in large volumes of cooling water from lakes, rivers, estuaries or oceans to cool their machinery. By setting flexible technology standards, EPA's common sense regulations will greatly reduce damage to ecosystems while accommodating site-specific circumstances and providing cost- effective options.

This rule covers an estimated 1,065 existing facilities that each withdraw at least 2 million gallons per day of cooling water. EPA estimates that 521 of these facilities are manufacturers, and the other 544 are power plants. The technologies required under the rule have been in use for several decades and have already been implemented at over 40 percent of facilities subject to this rule.

Background

Section 316(b) of the Clean Water Act requires that National Pollutant Discharge Elimination System (NPDES) permits for facilities with cooling water intake structures ensure that the location, design, construction, and capacity of the structures reflect the best technology available to minimize harmful impacts on the environment. The withdrawal of cooling water by facilities removes billions of aquatic organisms from waters of the United States each year, including fish, larvae and eggs, crustaceans, shellfish, sea turtles, marine mammals and other aquatic life. Most impacts are to early life stages of fish and shellfish through impingement (being pinned against cooling water intake structures) and entrainment (being drawn into cooling water systems and affected by heat, chemicals or physical stress).

Rulemaking History

Under a 1995 consent decree with environmental organizations, EPA divided the section 316(b) rulemaking into three phases. All new facilities except offshore oil and gas exploration facilities were addressed in Phase I in December 2001; all new offshore oil and gas exploration facilities were later addressed in June 2006 as part of Phase III. This final rule also removes a portion of the Phase I rule to comply with court rulings.

Existing large electric-generating facilities were addressed in Phase II in February 2004. Existing small electric-generating and all manufacturing facilities were addressed in Phase III (June 2006). However, Phase II and the existing facility portion of Phase III were remanded to EPA for reconsideration as a result of legal proceedings. This final rule combines these remands into one rule, and provides a holistic approach to protecting aquatic life impacted by cooling water intakes.

Any facility not covered by these national rules will continue to be subject to section 316(b) requirements set by the EPA, state or territorial NPDES Permitting Director on a case-by-case, best professional judgment basis.

Summary of the Rule

There are three main components to the final regulation.

First, existing facilities that withdraw at least 25 percent of their water from an adjacent waterbody exclusively for cooling purposes and have a design intake flow of greater than 2 million gallons per day (MGD) are required to reduce fish impingement under the final regulations. To ensure flexibility, the owner or operator of the facility will be able to choose one of seven options for meeting best technology available requirements for reducing impingement.

Second, existing facilities that withdraw very large amounts of water—at least 125 million gallons per day—are required to conduct studies to help their permitting authority determine whether and what site-specific controls, if any, would be required to reduce the number of aquatic organisms entrained by cooling water systems. This decision process would include public input.

Third, new units that add electrical generation capacity at an existing facility are required to add technology that achieves one of two alternatives under the national BTA standards for entrainment for new units at existing facilities. Under the first alternative new unit entrainment standard, the owner or operator of a facility must reduce actual intake flow (AIF) at the new unit, at a minimum, to a level commensurate with that which can be attained by the use of a closed-cycle recirculating system. Under the second alternative new units entrainment standard, the owner or operator of a facility must demonstrate to the Director that it has installed, and will operate and maintain, technological or other control measures for each intake at the new unit that achieves a prescribed reduction in entrainment mortality of all stages of fish and shellfish that pass through a sieve with a maximum opening dimension of 0.56 inches.

For More Information

Please contact Paul Shriner by email at shriner.paul@epa.gov or by telephone at 202-566-1076. You can also learn more about this rule by visiting EPA's website at: http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/.