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## EPA Promulgates Final Standards for Cooling Water Intake Structures

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### Introduction

On May 19, 2014, the Environmental Protection Agency (EPA) released a long-delayed final rulemaking regulating cooling water intake structures at existing facilities under Section 316(b) of the Clean Water Act (CWA). For more than two decades, environmental advocates have pushed EPA to issue a rule under Section 316(b) in order to protect aquatic organisms, such as fish and shellfish, that become pinned against cooling water intake structures (impingement) or are drawn into cooling water systems (entrainment). Previously, EPA issued rules governing cooling water intakes at new facilities. The latest rulemaking addresses intakes at existing facilities. If unchallenged in court, this final rule would conclude what has been more than twenty years of litigation between EPA and environmental organizations.

Section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures for facilities having a National Pollutant Discharge Elimination System (NPDES) permit "reflect the best technology available for minimizing adverse environmental impact."<sup>1</sup> The final rule seeks to minimize environmental harm associated with cooling water intake structures by identifying the best technology available (BTA) to reduce impingement and entrainment for certain categories of existing facilities and new units at existing facilities. These new requirements will be implemented through NPDES permits under Section 402 of the Clean Water Act.

According to the EPA, the final rule will affect approximately 1,065 existing facilities, of which 544 are power plants and 521 are manufacturing and industrial facilities. Regulated facilities include electric generating plants, petroleum refineries, chemical manufacturing plants, iron and steel mills, and aluminum production and processing plants.

### Legal Background

The final rule follows a lengthy history of court challenges and administrative proceedings. Following a 1993 lawsuit, EPA entered into a consent decree which prescribed deadlines for three separate rulemakings implementing Section 316(b). Performing under the consent decree, EPA issued cooling water intake structure regulations for all new facilities in December 2001 (Phase I), for all existing large electric-generating facilities in February 2004 (Phase II), and for all existing small electric-generating facilities and manufacturing facilities in June 2006 (Phase III). As a result of further legal challenges, the Phase II rule and aspects of the Phase III rule were remanded to EPA for reconsideration.<sup>2</sup> In another settlement in

<sup>1</sup> 33 U.S.C. 1326(b).

<sup>2</sup> *Riverkeeper, Inc. v. EPA*, 358 F.3d 174 (2d Cir. 2004) (remanding those provisions of the Phase I Rule that allow compliance through restoration measures); *Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d Cir. 2007) (remanding for further clarification EPA's decision to reject closed-cycle cooling as BTA, among other provisions.)

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2010, EPA agreed to issue a final rule by July 27, 2012. EPA published a proposed rule on April 20, 2011 and two Notices of Data Availability in June 2012.<sup>3</sup> The May 19 final rule replaces the remanded rules and satisfies EPA's responsibility under the 2010 settlement agreement.

### Final Rule

The final rule applies to existing facilities that have or are required to have an NPDES permit, are designed to withdraw more than two million gallons per day (mgd) from waters of the United States, and use at least 25 percent of the withdrawn water exclusively for cooling purposes. The rule does not regulate existing facilities which currently withdraw cooling water from an impoundment that is not itself a water of the United States and that does not withdraw any make-up water from such waters, and the final rule does not count toward the applicability thresholds cooling water obtained from a public water system, reclaimed water from wastewater treatment facilities or desalination plants, or treated process wastewater effluent used as cooling water.

Generally, the rule requires the following:

- Existing facilities subject to the rule must achieve a national BTA standard for impingement mortality through one of seven alternatives specified in the rule.
- Existing facilities subject to the rule must implement site-specific entrainment requirements as decided by the permitting agency.<sup>4</sup> In addition, existing facilities that actually withdraw at least 125 mgd must conduct an "Entrainment Characterization Study" intended to assist the permitting agency in assessing which, if any, site-specific controls are necessary to achieve BTA for entrainment.
- New units at existing facilities subject to the rule must achieve national BTA standards for impingement mortality and entrainment through one of two alternatives specified in the rule.

### ***BTA Standard for Impingement Mortality for Existing Units at Existing Facilities***

The national BTA impingement mortality standard identifies seven alternatives for compliance. These alternatives are as follows:

1. operate a closed-cycle recirculating system, such as a cooling tower;
2. operate a cooling water intake structure with a maximum through-screen design intake velocity of 0.5 feet per second (fps);
3. operate a cooling water intake structure with a maximum through-screen actual intake velocity of 0.5 fps;
4. operate an offshore velocity cap that is installed before the final rule is effective;

<sup>3</sup> Proposed Rule, 76 Fed. Reg. 22174 (April 20, 2011); Notice of Data Availability—Impingement Mortality Control Requirements, 77 Fed. Reg. 34315 (June 11, 2012); Notice of Data Availability—Stated Preference Survey 77 Fed. Reg. 34927 (June 12, 2012).

<sup>4</sup> Currently, 46 states administer an NPDES program, with EPA officials issuing permits in the remaining states.

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5. operate a modified traveling screen that meets regulatory criteria and that the permitting agency determines is the best technology available for impingement reduction;
6. operate a combination of technologies, management practices, and operational measures that the permitting agency determines is the best technology available for impingement reduction; or
7. achieve the specified impingement mortality performance standard.

Under the rule, an NPDES permit need not require additional controls if none are warranted to meet the impingement mortality standard due to a de minimis rate of impingement.

Although EPA included fish restoration measures as a BTA compliance option in the 2004 Phase II rule, the Second Circuit later held these measures were not a permissible means of compliance with any 316(b) standard. Accordingly, the final rule does not recognize restoration as a compliance method.

The final rule clarifies that existing facilities can choose whether to demonstrate compliance for an entire facility or for each intake structure. Compliance with the national impingement mortality standard is required as soon as practicable after issuance of a final permit establishing *entrainment* requirements. Considering that an NPDES permit applicant has more than three years to complete certain requirements under the final rule, some facilities will face long-off deadlines for compliance with the BTA impingement mortality standard. This occurs because, unlike the proposed rule, the final rule coordinates the BTA impingement and entrainment compliance scheduling.

### ***BTA Standard for Entrainment for Existing Units at Existing Facilities***

The final rule does not establish a national BTA entrainment standard; rather, the rule creates a regulatory framework through which the permitting agency will determine BTA entrainment requirements for a facility on a case-by-case basis. This determination must reflect the maximum entrainment reduction warranted. Factors that the permitting agency must consider include: the numbers and types of organisms entrained, including threatened and endangered species; the impact of changes in particulate emissions or other pollutants; land availability relating to the feasibility of entrainment technology; remaining useful plant life; and the quantified and qualitative social benefits and costs of available technologies. Other potential factors for consideration include impacts to energy delivery reliability within the immediate area and credit for reductions in flow associated with the retirement of units occurring within the ten years preceding the effective date of the rule.

Existing facilities with an actual intake flow greater than 125 mgd must submit an Entrainment Characterization Study with an NPDES permit application. Facilities have up to 39 months to complete the Study, which by regulation must include a minimum of two years of entrainment data collection. The permitting agency is intended to evaluate the Study when determining which controls are necessary to achieve BTA for entrainment.

### ***BTA Standard for Impingement Mortality and Entrainment for New Units at Existing Facilities***

The final rule distinguishes between new facilities and new units constructed at existing facilities. New units at existing facilities can include those constructed at a stand-alone

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location at an existing intake structure, those constructed adjacent to an existing unit for the same industrial activity, and those constructed to replace a retired and demolished unit in same location. The new unit requirement applies to units constructed after the effective date of the rule.

Under the final rule for new units, EPA selected closed-cycle recirculating systems based on wet cooling towers as BTA for both impingement and entrainment. New units can demonstrate compliance either by reducing design intake flow to a level commensurate with that of a closed-cycle system or demonstrating that installed technology will reduce adverse environmental impact to a level comparable to what would be obtained with a closed-cycle system. If compliance would result in disproportionate compliance costs or significant adverse impacts to threatened and endangered species, local air quality, local water resources, or local energy markets, the permitting agency can establish alternative entrainment requirements.

### ***Other Regulation on a Case-by-Case, Best Professional Judgment Basis***

Prior to this rule, the Clean Water Act required agencies issuing NPDES permits to regulate cooling water intake structures on a case-by-case, best professional judgment (BPJ) basis. Under the final rule, EPA has established BTA for certain facilities with cooling water intake structures. Other existing facilities subject to Section 316(b) that withdraw less than two mgd from waters of the United States or use less than 25 percent of withdrawn water for cooling purposes will continue to be regulated on a case-by-case, BPJ basis. The determination of BTA requirements for intake structures at existing offshore oil and gas facilities, offshore seafood processing facilities, and liquefied natural gas terminals will also occur on a case-by-case, BPJ basis.

### ***Enhanced Consideration of Threatened and Endangered Species***

Currently, a state agency issuing an NPDES permit is not required to send a permit application to federal resources agencies for review; the final rule, however, requires that applications for existing facilities addressing Section 316(b) are to be shared with the U.S. Fish and Wildlife Service or National Marine Fishery Service for review. The rule provides the FWS or NMFS with a 60-day period prior to the public notice of the draft or proposed permit to consider potential impacts to federally listed threatened and endanger species and designated critical habitat and to issue recommendations to the permitting agency.

### **Conclusion**

After many years of listing a Section 316(b) rule on its regulatory agenda, EPA issued a final rule to establish standards for regulating cooling water intake structures at existing facilities. The action constituted an end to major rulemaking under the Clean Water Act, or at least the potential of an end. The rule will become effective 60 days after its publication in the *Federal Register*, at which time more than 1,000 facilities will face significant compliance requirements.

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