



JONES DAY
COMMENTARY

EPA PROPOSES NEW COOLING WATER INTAKE STRUCTURE STANDARDS

EPA recently issued a pre-publication copy of the proposed new rule setting standards for the cooling water intake structures at most existing facilities. Comments on the proposed rule will be due 90 days after it is officially published in the Federal Register.

The rule is being issued pursuant to a settlement agreement with various environmental groups requiring that EPA promulgate a final rule no later than July 27, 2012. Portions of previous rules addressing cooling water intake structures for existing facilities were remanded to EPA for further consideration as the result of litigation.

Section 316(b) of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (“BTA”) for minimizing adverse environmental impact. 33 U.S.C. § 1326(b). Under current regulations, BTA for existing facilities is determined by the permitting authority using its best professional judgment. 40 C.F.R. § 125.90(b). Although the

permitting authority would retain a significant amount of discretion to determine BTA for fish passing through the cooling water system, the proposed rules would establish numerical standards for fish trapped on the outer part of intake structures.

The proposed rules apply to facilities that commenced construction prior to January 17, 2002 with cooling water intake structures and point source discharge permits that have a design intake flow of at least two million gallons of water per day from waters of the United States, if at least 25 percent of the water is withdrawn exclusively for cooling water purposes. EPA estimates that the rule will apply to about 670 power plants and 590 manufacturers and that about 740 of these facilities are already in compliance with it (primarily because the facilities already employ closed-cycle cooling).

Impingement is the entrapment of fish and shellfish on the outer part of an intake structure or on the screening device when water is being withdrawn. Under

the proposed rules, it includes any organisms collected or retained on a 3/8-inch sieve and excludes any organisms that would pass through a 3/8-inch sieve.

Two alternatives are established in the proposed rule to meet BTA for impingement. First, the existing facility can demonstrate that fish impingement mortality deaths do not exceed 12 percent as an annual average and 31 percent as a monthly average, measured when the fish are held for a period of 24 to 48 hours to assess latent mortality. This can be done using modified traveling screens or alternative active screens with a fish handling and return system. The screens must incorporate protective systems to reduce impingement mortality, such as modified traveling screens, guard rails or barriers, use of modified screen materials, or low-pressure washes to remove fish prior to high-pressure washes to remove debris. Passive screens such as cylindrical wedgewire screens and through-flow or carry-over free intake screens such as dual-flow screens and drum screens would meet the requirements for a fish handling and return system.

Alternatively, a facility can demonstrate that its intake water system has a maximum velocity of 0.5 feet per second or less. This can be demonstrated as either a maximum design intake velocity or a maximum actual intake velocity. The maximum intake velocity must be achieved under all intake conditions, including during minimum source water surface elevations. Note that even if this standard is met, the proposed rules require that measures be taken to protect fish that are impinged and utilize a fish return system.

Although facilities would be required to comply with the impingement standard as soon as possible, the permitting authority would have the discretion to establish a compliance schedule providing up to eight years to comply with the impingement requirements.

Entrainment is the incorporation of any life stages of fish and shellfish with the intake water flow entering and passing through a cooling water intake structure and into a cooling water system. The proposed rule provides that the

permitting authority must establish BTA for entrainment on a case-by-case basis that reflects the maximum reduction in entrainment mortality warranted after consideration of all relevant factors. The proposed rule notes that the permitting authority may determine that existing measures to prevent entrainment already meet the BTA standard.

As an alternative to the site-specific BTA for entrainment, a facility may choose to comply with the standard for new units at an existing facility. Under this standard, a facility must either reduce actual intake flow ("AIF") at a new unit to the same level, as a minimum, as can be achieved by a closed-cycle cooling system for the same level of cooling or employ technologies that reduce entrainment mortality to no less than 90 percent of the reduction that would be achieved with closed-cycle cooling.

To assist in making the entrainment determination, facilities with an AIF of at least 125 million gallons per day must submit an entrainment study with their discharge permit application. Generally, according to EPA, entrainment studies performed by facilities with a design flow of at least 50 million gallons per day to comply with the now-remanded version of the intake structure rule will contain much of the necessary information to comply with the study requirements in the proposed rule.

EPA declined to establish closed-cycle cooling systems as BTA for entrainment because it believes such systems can be impractical for some units. Specifically, EPA indicates that such systems can be impractical because:

- They can create energy reliability concerns if a large number of units are taken offline for extended periods to retrofit them with closed-cycle systems;
- Air emissions can actually increase if closed-cycle systems are used;
- Land may not be available to add the cooling towers necessary for closed-cycle systems; and
- Installation of closed-cycle systems may not be cost-effective at units with a limited remaining useful plant life.

EPA failed to identify any advantages to existing fish populations provided by once-through cooling systems, such as thermal benefits to fish populations during periods of cold weather, as a reason closed-cycle cooling is impractical. In fact, EPA consistently considered any impingement or entrainment of fish by cooling water structures as harmful, even if the overall fish population in the relevant waterway remains biologically diverse and healthy.

The proposed rule would require the submission of significant additional application materials, including impingement mortality reduction plans for any covered facility that does not use closed-cycle cooling and, for larger facilities as noted above, an entrainment characterization study and comprehensive technical feasibility and cost evaluation study. Entrainment characterization studies would be subject to peer review requirements with reviewers subject to the approval of the permitting authority. The permitting authority could also consult with other federal, state, and tribal fish and wildlife authorities regarding the peer review comments to determine which must be addressed by the study.

Covered facilities would also be required to conduct monitoring during the permit term for impingement mortality and, for some facilities, entrainment mortality. Finally, the facility would be required to annually certify that the impingement and entrainment technologies were being operated and maintained as required by the relevant permit conditions.

In addition to establishing rules for existing facilities, EPA has proposed some changes to the already promulgated rules for new facilities. The most significant proposed change is to remove the restoration-based compliance alternative for new facilities. This change is in response to a judicial decision that remanded this portion of the rule to EPA because it found that restoration was not a “technology” as required by Section 316(b) of the Clean Water Act.

It is likely that any final rule would be challenged in litigation. Environmental groups already involved in the existing litigation with EPA regarding EPA’s failure to promulgate regulations for cooling water intake structures have sharply criticized the proposed rule for failing to establish closed-cycle cooling as BTA. On the other hand, industry observers have applauded the apparent flexibility in the proposed rule, especially since the cost of installing screens that reduce intake flow below the 0.5 feet per second threshold is usually significantly below the cost of installing closed-cycle cooling systems. It should be noted, however, that the regulators will retain the discretion to impose closed-cycle cooling requirements on existing facilities, as EPA indicates has already been done in New York and is being considered in other states.

LAWYER CONTACTS

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