

## Ensuring 316(b) Compliance



**A key challenge for industries operating cooling water intake structures (CWIS) is balancing efficient production of clean, safe energy and industrial products with protection of the water environment. EPA's final 316(b) rule substantially changes the framework for regulating the construction and operation of CWIS. The 2014 rule introduces new flexibility for intake water management strategies, but increases permitting requirements in the form of site-specific studies to evaluate the feasibility and cost of technologies that potentially reduce the adverse impacts of once-through cooling systems.**

**LimnoTech is playing an active role in rule interpretation and regulatory implementation. Our support includes bridging the communication between industrial water users and regulators to clarify the rule requirements, develop implementation plans, and execute plans to compile and submit application requirements for the new 316(b) rule. The experienced LimnoTech team provides innovative, efficient and effective approaches to support clients challenged with navigating 316(b) compliance requirements.**

### **The Final 316(b) Rule**

The final rule issued in May of 2014 provides a greater degree of clarity and flexibility, but greater regulatory burdens on industry than previous CWIS regulations. It also places a greater responsibility for regulatory decision-making and enforcement on state regulatory agencies. At a time when state regulators are already facing significant budget and personnel limitations, this added burden means that water-using industries will take much of the responsibility for defining and articulating compliance solutions for their facilities. A critical part of 316(b) rule compliance is minimizing entrainment and impingement impacts on the fish population, with particular focus on protection of larval stages.



The rule requires facilities to perform sampling to demonstrate entrainment minimization, and to conduct site-specific technical feasibility and economic evaluations to examine various technologies for reducing impacts from CWIS. Multiple studies must be externally peer-reviewed by topic experts and the U.S. Fish and Wildlife Service prior to submission to the permit director. Overall, facilities should expect their support consultants to fully understand the new rule, its requirements, and how the unique aspects of each facility affect compliance strategies. A well-developed plan and strong supporting team can effectively and efficiently support industry in meeting the rule requirements.



*LimnoTech has helped industries evaluate options for best-available technologies to meet regulatory requirements for clean water intake structures in natural waters throughout the U.S.*

## LimnoTech Capabilities

LimnoTech supports industries with rule interpretation, planning, implementation and reporting. We help evaluate options for best-available technologies to meet regulatory requirements for assessing, modifying, and operating CWIS in natural waters throughout the U.S. LimnoTech experts, and our economic and engineering teaming partners, are available to provide a comprehensive evaluation of all 316(b) permitting requirements. We provide:

- Rule interpretation.
- Permit planning and negotiation services.
- Site-specific assessment of fish habitat and sensitive species surveys.
- Implementation of entrainment field studies (simple to complex approaches).
- Taxonomic characterization and quantification.
- Characterization of environmental conditions with monitoring buoys and other sensing equipment.
- Execution of geotechnical and geologic studies for intake relocation and tunnel design.
- Hydrologic, hydraulic, and hydrodynamic modeling to evaluate variations in temperature, solids and turbidity, and the potential for impingement and entrainment.
- Expert knowledge of Great Lakes and river water quality, water quantity, lake levels, and invasive species.
- Access to fisheries scientists and the full body of Great Lakes and riverine research on species abundance and diversity.
- Development of cost-effective and efficient monitoring plans to address all data needs.
- Unique understanding of Great Lakes binational governance programs and issues.
- Evaluation of climate change impacts on ecosystems.
- Consideration of adaptive management strategies.

## Peer Review Requirements

The final rule requires external peer review of planned 316(b) actions by qualified members of the academic and research community. LimnoTech was founded with the purpose of solving environmental problems in the Great Lakes, and we have worked in virtually every state in the U.S. Our experts are well known and respected in the fields of water science, water resources, fisheries research, and Clean Water Act regulations. We have the knowledge and expertise to assemble as well as support a peer review group that focuses on the specific scientific and technical needs of any 316(b) evaluation.

## Regulatory Interactions

The new rule emphasizes demonstration of minimal impacts to the fish population and includes increased state level enforcement requirements. Permittees need to proactively engage with regulatory authorities to agree on site-specific approaches for demonstrating rule compliance. LimnoTech has worked with state regulators and scientific resources throughout the United States, and we have the regulatory and industry relationships to help you navigate regulatory interactions, including early planning and review efforts, field activities, documentation and review of 316(b) activities, and final permit issuance.

**Great Lakes 316(b) Interest Group.** LimnoTech initiated, with the support of EPRI, the establishment and management of a forum for Great Lakes electric utilities to discuss the planning and implementation of the 316(b) rule and promote effective engagement with regulators. Since 2014, the group has successfully guided discussions on 316(b)-related topics that greatly benefit Great Lakes electric utilities. LimnoTech's experience in the Great Lakes region and engagement with the Interest Group continues to support the development of innovative and cost-effective 316(b) compliance options and to provide access to networking resources for facilities conducting 316(b) studies within the region.

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