

## COOLING WATER INTAKE STRUCTURES PROPOSED REGULATIONS – PHASE II

*The U.S. Environmental Protection Agency (USEPA) in April 2002 proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities. New guidance relative to compliance with the proposed rule and changes to the existing language is expected in first or second quarters of 2003. The rule is scheduled for finalization in February 2004. With this in mind, **facilities subject to the rule may consider initiating baseline data collection for biota in the source water body to establish an accurate body of data prior to the publication of the final rule.** Providence Engineering will continue to monitor developments in the rule-making process until the rule is finalized. An overview of the proposed rule is provided below.*

### **Proposed 316(b) Phase II - Existing Facilities**

Section 316(b) of the Clean Water Act requires that environmental impact associated with the location, design, construction, and capacity of cooling water intake structures be minimized through the use of best technology available. The USEPA initially implemented this standard on a case-by-case basis without the benefit of established federal standards. As a result of litigation, the USEPA initiated development of national standards for Section 316(b). Development has proceeded in a phased approach: Phase I for new facilities; Phase II for existing electric generating plants with large cooling water intake volumes; and Phase III for manufacturers and electric generating stations using smaller volumes of cooling water. In December 2001, the USEPA published the final rule for applying 316(b) to new facilities (Phase I). Compliance with the rule became mandatory in February 2002.

On April 9, 2002 (*Federal Register*, Vol. 67.No. 66, pages 17122 through 17225), the USEPA published **Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities; Proposed Rule [40 CFR 125 Subpart J]**. The

purpose of this rule is to “establish location, design, construction, and capacity requirements that reflect minimizing adverse environmental impact from the cooling water intake structure based on water body type and amount of water withdrawn by a facility.” Applicability to this rule is shown below.

### **Applicability**

- Existing facilities that both generate and transmit electric power or that generate electric power for sale to another entity (SIC-4911, 493, NAICS-221112, 221113, 221119, 221121, and 221122);
- Use one or more cooling water intake structures to withdraw from waters of the US;
- Have or must obtain an NPDES permit; and
- Withdraw 50 MGD or more and use at least 25% of the water solely for cooling purposes.

Power facilities that do not meet all aspects of the rule are not required to comply with the terms of the rule; however, they are subject to compliance with 316(b) on a case-by-case basis. USEPA has indicated that the final rule schedule for Phase II will be revised to indicate final action by February 2004 (formerly August 2003). Other existing facilities with cooling water intake structures will be covered under Phase III. Based on information obtained from the USEPA, the rulemaking schedule will be revised for the proposed rule for Phase III facilities to be published in November 2004.

### **Compliance Options**

As proposed, the Phase II rule offers two compliance options. The compliance options are listed in Table 1. Please note that the final Phase II rule is not scheduled to be published until 2004. If a Phase II facility selects Option 2, they must demonstrate that the facility meets Best Technology Available (BTA) criteria. There are three stated options to meet BTA as listed in Table 2.

**Table 1. Performance Standard Compliance Options**

PERFORMANCE STANDARDS	
Option 1:	Reduce intake capacity to a level commensurate with the use of a closed-cycle, recirculating cooling system; or
Option 2:	<p>Reduce fish and shellfish impingement mortality and entrainment as follows:</p> <ul style="list-style-type: none"> <li>• Reduce <b>impingement mortality</b> by 80 to 95% from a calculated baseline for fish and shellfish; and</li> <li>• Reduce <b>entrainment</b> by 60 to 90% from the baseline for all life stages of fish and shellfish if:               <ol style="list-style-type: none"> <li>1. The power-generation facility has a utilization rate of 15% or more capacity and, if in a river or stream, intake flow is equal to or greater than 5% of the source water mean annual flow; and</li> <li>2. The facility's cooling water is obtained from a river, stream, tidal river, estuary, ocean or one of the Great Lakes.</li> </ol> </li> </ul> <p><b>Note: Entrainment reduction does not apply to lakes (other than Great Lakes) and reservoirs or facilities that operate at less than 15% capacity.</b></p>

**Table 2. Best Technology Available Compliance Options**

BTA COMPLIANCE OPTIONS [FOR MEETING PERFORMANCE STANDARD OPTION 2]
<ol style="list-style-type: none"> <li>1. Demonstrate the facility currently meets the Performance Standards;</li> <li>2. Select and implement design and construction technologies or operational measures that meet the Performance Standards; or</li> <li>3. Demonstrate the facility qualifies for a site-specific determination of BTA because costs of compliance are significantly higher than those considered during the development of the rule, or costs would be significantly greater than benefit to the environment.</li> </ol> <p><b>Note: Restoration measures may be used in addition to or in lieu of technology measures to meet standards.</b></p>

**Table 3. Possible Restoration Methods**

POSSIBLE RESTORATION METHODS [FOR MEETING PERFORMANCE STANDARD OPTION 2]
<ul style="list-style-type: none"> <li>• Fish restocking programs;</li> <li>• Fish diversion devices (installation of);</li> <li>• Habitat creation;</li> <li>• Habitat restoration; and</li> <li>• Habitat enhancement.</li> </ul>

## Water Permit Renewal Application

- Minimum Required Information  
All Phase II facilities must provide the following information in their NPDES renewal application to be submitted 180 days before expiration:
  1. Source water physical data;
  2. Cooling water intake data; and
  3. Cooling water system description.
- Additional Required Information  
If a facility cannot reduce the cooling water intake capacity to a level commensurate with the use of a closed-cycle, recirculating cooling system, it must submit the additional information required under a **Comprehensive Demonstration Study (CDS)**. There are 7 components to the **CDS**; the first 5 apply to all facilities:
  1. Proposal for Information Collection;
  2. Source Water body Flow Information;
  3. Impingement Mortality and Entrainment Characterization Study;
  4. Design and Construction Technology Plan;
  5. Verification Monitoring Plan;
  6. Information to Support Proposed Restorative Measures; and
  7. Information to Support Site-Specific Determination of BTA for Minimizing Adverse Environmental Impact.

## Compliance Demonstration

A subject facility will be required to demonstrate compliance with the Phase II requirements through:

- **Monitoring:** Perform monitoring as specified by the USEPA;
- **Recordkeeping:** Maintain data used to complete permit application for a minimum of three years;
- **Reporting:** Submit status report on monitoring data annually.

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*For further questions concerning this rule, please contact Kerry Higgins or Chris Howard PE, using the following contact information.*



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