

316(b) Phase II Regulations

California Existing Facilities



What Does the Law Require for Cooling Water Intake Structures?

“Any standard established [under Sections 301 or 306 of the Clean Water Act] and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.”

Section 316(b) of the Clean Water Act, as amended in 1972

- **Only limitation on water *intake* in the Clean Water Act**
- **Only use of the phrase “best technology available for minimizing adverse environmental impact”**
- **Provides flexibility to treat new and existing facilities differently**

316(b) History & Current Status

- **1976 Regulatory Effort**
- **Implemented historically on a case-by-case basis through individual NPDES permits issued by the states and regions**
- **Lawsuit from environmentalists for failure to establish national regulation resulted in a consent decree**
- **Decree provides for three phases of regulation**
 - **New (greenfield) facilities (Phase I)**
 - **Large existing power plants (Phase II)**
 - **Small existing power plants and existing manufacturers (Phase III)**

Regulatory Development Timeline

	Proposal	Final
<i>Phase I – New facilities</i>	<i>July 20, 2000</i>	<i>November 9, 2001 (adjudicated)</i>
<i>Phase II – Large volume existing power plants</i>	<i>February 28, 2002</i>	<i>September 7, 2004 (in litigation)</i>
Phase III – Smaller volume existing power plants and manufacturers	November 1, 2004	?

Phase II—Existing Facilities

➤ **Applies to facilities that:**

- **Have, or are required to have, an NPDES permit**
- **Withdraw water from surface waters of the US**
- **Use at least 25% for cooling water**
- **Design capacity of 50 MGD or greater**
- **Generate and transmit electric power**
- **Meet the definition of “Existing Source”**

Phase II—What is “Existing Source”?

- **Commenced construction on or before January 17, 2002**
- **Modification or addition of a unit that does not meet the “new facility” definition at 40 CFR 125.83**
- **Examples:**
 - **Modification of process short of total replacement and increases existing CWIS capacity**
 - **New process at existing site and increases existing CWIS capacity**
 - **Complete rebuild of process without increasing CWIS capacity**

California Phase II Facilities



North Coast

Humboldt Bay

San

Contra Costa

Francisco

Hunter's Point

Bay

Pittsburg

Potrero

Central

Diablo Canyon

Coast

Morro Bay

Moss Landing

Los

Alamitos

Angeles

El Segundo

Harbor

Haynes

Long Beach

Mandalay

Ormond

Redondo

Scattergood

Santa Ana

Huntington

San

Encina

Diego

San Onofre

South Bay

Performance Standards

Impingement Mortality	Reduce impingement mortality for all life stages of fish and shellfish by 80 to 95 percent from the calculation baseline
Entrainment	Reduce entrainment for all life stages of fish and shellfish by 80 to 95 percent from the calculation baseline

- **Estuary/Tidal River/Ocean Facilities: Impingement Mortality and Entrainment Standards**
- **Peaking Facilities: Impingement Mortality only**

Baseline Characterization

- **Shoreline intake structure**
- **3/8-inch mesh screens**
- **No additional controls**
- **Facility may take credit for existing reductions**
- **“As-Built” approach**

Compliance Alternatives

Alternative 1—Velocity and Flow Restrictions

- **Reduced flow commensurate with closed-cycle cooling system**
- **Reduced maximum design through screen intake velocity to 0.5 fps (sufficient for impingement standard only)**

Alternative 2—Already Compliant

- **Demonstrate existing D/C technologies, operational measures, and/or restoration measures meet the performance standards of the final rule**

Compliance Alternatives

Alternative 3—Selection of D&C or Oper. Measures

- Demonstrate the facility has selected D&C technologies, operational measures, and/or restoration measures that will meet the performance standards

Alternative 4—Approved Technology

- Demonstrate the facility installed and properly operates and maintains an approved technology
- Final rule authorizes cylindrical wedgewire screens for use in some freshwater rivers/streams
- Director may approve other technologies

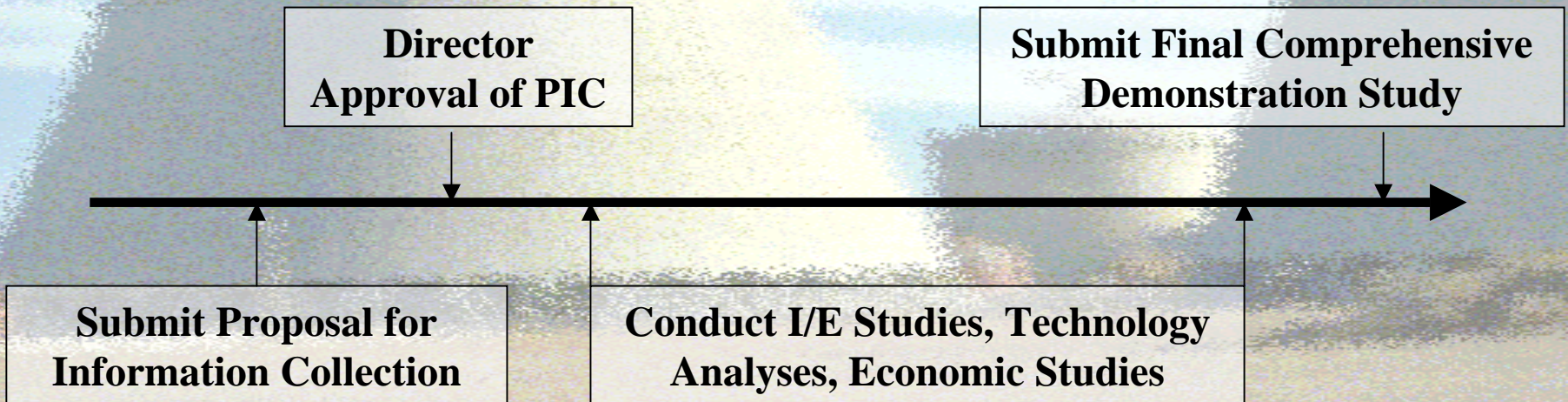
Compliance Alternatives

Alternative 5—Site Specific

- **Based on Cost-Cost or Cost-Benefit Test**
 - **Comprehensive Cost Evaluation Study**
 - **Benefits Valuation Study**
- **Site-specific BTA determination “as close as practicable”**

Compliance Schedule

- **Effective September 7, 2004**
- **Extended compliance schedule may be requested for certain facilities**
- **No more than 3.5 years after publication date of rule (July 9, 2004)—January 8, 2008**



Proposal For Information Collection

- **Description of proposed or implemented technology, operational, and/or restoration measures to be evaluated**
- **Historical studies**
- **Consultations with appropriate agencies**
- **Sampling plan for any new studies that will be conducted**
- **Suggested:**
 - **Assessment of “current” conditions**
 - **Compliance metric**
 - **Compensation for other impacts/influences**

CDS Requirements

Impingement/Entrainment Characterization

- **Taxonomic ID of all aquatic organisms in the vicinity of the intake structure**
- **Description of any species protected under State or Federal Statute**
- **Documentation of the current impingement mortality and entrainment occurring at the facility**

CDS Requirements

Design and Construction Technology Plan

- **Narrative descriptions of I&E technologies (existing and proposed) that will be used to meet the PS**
- **Calculation of the reduction in impingement mortality and/or entrainment achieved by the plan, including existing measures and credits (flow)**

Site Specific Determination

Site-specific Justification

- **Cost evaluation study**
- **Benefits valuation study, including methodology for non-use and description of any non-monetized benefits**
- **Site-specific technology plan**

Restoration

Restoration Plan

- **Demonstration of consideration of other measures**
- **Description of the measures to be undertake to produce fish and shellfish**
- **Quantification of ecological benefits, including timeframe**
- **“In-kind” vs. “Out-of-kind”**
- **Monitoring plan**

Restoration

- **US Court of Appeals, Second Circuit (2/3/2004):**
 - *“[Restoration...has] nothing to do with the location, the design, the construction, or the capacity of cooling water intake structures”*
 - *“Restoration measures correct for the adverse environmental impacts of impingement and entrainment; they do not minimize those impacts in the first place.”*
 - *“[Does not] predetermine the factors and standards applicable to Phase II and III.”*