

# Proposed EPA Power Plant Cooling System Regulations



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# **EPA Regulations Implementing Clean Water Act Section 316(b)**

- **CWA Section 316(b) Phase II and Phase III regulations apply to existing power plants and industrial facilities**
- **428 power plants around the country affected**
- **Law requires “intake structures reflect the best technology available for minimizing adverse environmental impacts”**
- **EPA considers fish mortality at the intake structure as adverse environmental impact**

# Preferred Regulatory Approach

- ***Site-specific analysis*** to determine the “best technology available” (BTA), considering:
  - Feasibility of installing particular protection technologies
  - Costs and benefits of installing particular protection technologies
- ***Range of proven fish protection technologies***, in addition to cooling towers, eligible for consideration

# EPA Proposed 316(b) Regulation

- ***Entrainment* provision**—for fish drawn through cooling system—allows for site-specific variability and cost-benefit analysis
- ***Impingement* provision**—for fish caught on water intake screens—NO site-specific variability or cost-benefit analysis
- **Installation of costly, unnecessary, ineffective technologies may be required**
- **Regulation Costs to Benefits—\$383m to \$18m—according to EPA (annualized)**

# Entrainment Provision

## Generally Acceptable—Site Specific Flexibility

- **State environmental agency determines best technology available for each site according to:**
  - Number/types of organisms entrained
  - Entrainment impacts on waterbody
  - Comparison of “social cost” to “social benefit”
  - Impacts associated with thermal discharge
  - Impacts on energy reliability
  - Emission of pollutants
  - Land availability
  - Remaining plant life
  - Impacts on water consumption

# **Entrainment Provision Necessary Revisions**

- **Define required cost-benefit analysis—cost dollar value must not be “significantly greater” than benefit dollar value**
- **Clarify “social costs” to include facility costs (CapEx and O&M) for compliance technologies**
- **Require no further measures for entrainment or impingement for plants with cooling towers or cooling ponds**

# **Impingement Provision**

## **Unacceptable—One Size Fits All, No Site Flexibility**

- **One technology is BTA for all sites—traveling screens with collection-return system**
- **All plants must meet single performance standard—12 percent annual mortality per species, 31 percent limit monthly**
- **Only other compliance alternative is reduced water intake velocity—not widely available**
- **No consideration of impingement reduction already achieved**

# **Impingement Provision**

## **Necessary Revisions**

### **For Unique Sites, Fish, Waterbodies**

- **No valid environmental justification to treat impingement differently from entrainment**
- **Give states ability to perform site-specific assessments and determine BTA according to a range of factors, including feasibility and required cost-benefit analysis**
- **Provide compliance flexibility for any national impingement mortality limits or water intake velocity limit, allowing states to take site-specific variability into account**



# **Revised 316(b) Regulations Timetable for Comment Letters**

- **Revised draft Phase II and Phase III regulations formally issued in April 2011**
- **Comment letters due to EPA by July 19, 2011  
(public comment period is 90 days)**
- **Final rule expected to be promulgated in July 2012**

# Comment Letter Issue Summary

- **Require cost-benefit analysis for impingement as well as entrainment—define as benefits exceeding costs**
- **Allow states to determine BTA for impingement according to site-specific assessments**
- **Provide compliance flexibility for impingement national mortality percentage limit or intake velocity limit**

# **Fish Protection Technologies For Once-Through Cooling Systems**

- **Physical Barriers**
- **Collection and Return Systems**
- **Diversion Systems**
- **Behavioral Deterrents**
- **Advanced Technologies:**
  - **Wedgewire Screens**
  - **Fine Mesh Screens**