Proposed EPA Power Plant Cooling System Regulations
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