



CLEAN WATER ACT SECTION 316(b): COOLING WATER INTAKE

Background

A majority of the world's electricity is generated by steam turbines driving electric generators at power plants. A single turbine can generate an immense amount of electricity using heat and water. Power plants generate heat in large boilers and cooling water is generally supplied from rivers, oceans and lakes through large intake pipes or canals. The U.S. Environmental Protection Agency (EPA) has proposed requirements under section 316(b) of the Clean Water Act that would require a majority of power plants to conduct biologic and technology studies to determine the best methods for reducing aquatic life impacts to a measurable standard, and demonstrate performance.

There are three components to the proposed regulation:

- Existing facilities that withdraw at least 25 percent of their water from an adjacent waterbody exclusively for cooling purposes and have a design intake flow of greater than 2 million gallons per day (MGD) would be subject to an upper limit on the number of fish killed by being impinged against intake screens or other parts at the facility.
- Existing facilities that withdraw at least 125 MGD would be required to conduct studies to determine what controls would be required to reduce the number of aquatic organisms entrained in cooling water systems.
- New units that add electrical generation capacity at an existing facility would be required to add technology that is equivalent to closed-cycle cooling.

EPA is court-ordered to finalize the rule by July 2012.

How it Affects Great River Energy

The rule will apply to several Great River Energy facilities, specifically Elk River Energy Recovery Station, which uses water from the Mississippi River in Elk River, Minn., and Stanton Station, which uses water from the Missouri River in central North Dakota. Great River Energy's largest plant, Coal Creek Station, which is also located in central North Dakota, may also be required to address concerns with the makeup water for its closed-cycle cooling system withdrawn from the Missouri River. Great River Energy prepared and submitted comments to the proposed rule in July 2011.

Great River Energy's Position

Great River Energy has conducted a number of studies on its impact on aquatic ecosystems as part of a previous rule. Great River Energy also funds the Electric Power Research Institute 316(b) Fish Protection Program, which researches aquatic organism behavior and technology for reducing impingement and entrainment. Nevertheless, the rule, as proposed, would require Great River Energy to conduct additional detailed studies characterizing mortality and evaluating available technologies.

Great River Energy believes that facilities with closed-cycle cooling system towers should not be subject to the requirements of the 316(b) rule as these facilities have already installed the best available technology. Great River Energy also believes that the 316(b) rule needs to be flexible enough so that the proper site-specific mortality standards and technologies are employed.

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