



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2004IL56G

Title: Development of Water Use Benchmarks for Thermoelectric Power Generation in the United States

Project Type: Research

Focus Categories: Water Use, Methods, Models

Keywords: thermoelectric water use, benchmarking

Start Date: 07/01/2004

End Date: 12/30/2005

Federal Funds: \$94,245

Non-Federal Matching Funds: \$40,203

Congressional District: Illinois 12th

Principal Investigators:

Ben Dziegielewski

Tom Bik

Abstract

The future economic, social and environmental costs of meeting the water needs of the country will depend largely on our ability to understand and manage both present and future water demands. In 1995, thermoelectric withdrawals were estimated at 190 billion gallons per day (bgd) and represented 47.2 percent of total U.S. withdrawals. Yet, despite the high annual withdrawals and significant consumptive use of water, only a few studies of thermoelectric water demands have been conducted. The proposed research will examine the water use data for individual thermoelectric power plants in the United States, through the analysis of the existing data available from the Energy Information Administration of the U.S. Department of Energy. This analysis will develop categories of thermoelectric facilities based upon cooling system types and plant characteristics and derive benchmark water use measures for each category. The proposed research will provide a basis for understanding water use in thermoelectric generation by developing indicators of water usage in electric power plants using different types of generation and different cooling systems.