



“The EERC is a first-class organization, with highly motivated and experienced professionals and technicians . . . One of the best—or the best—R&D facilities in the United States and world . . .”
 —U.S. Department of Energy evaluation report

The EERC is a research, development, demonstration, and commercialization facility recognized internationally for its expertise in:

- Cleaner, more efficient energy technologies.
- Air and water pollution prevention.
- Water management.
- Contamination cleanup and site remediation.
- Waste management and utilization.
- Advanced analytical methods.
- Education and training.

EERC Keys to Success

- A willingness to assume risk
- A commitment to commercialize innovative technologies
- A working environment that provides the freedom to pursue promising opportunities
- A dedication to building partnerships with the private sector, government, and the research community
- A practical problem-solving approach that consistently meets client needs
- A unique culture
- Nine Centers of Excellence

EERC Quick Facts

- 758 clients in 47 countries and 50 states served during the last decade
- In FY03, 88% of contracts with nonfederal clients
- Multidisciplinary team of 266 highly skilled scientists, engineers, and support personnel
- About one funding proposal sent out a day
- 297 active contracts in FY03



“Not only is the EERC working to develop and commercialize a range of new, innovative energy and environmental technologies, it understands how to work with industry.”—Robert A. Bell, Vice

President of Research and Development,
 Consolidated Edison Company of New York, Inc.

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EERC Program Areas



During a successful demonstration of the Advanced Hybrid™ filter at Otter Tail's Big Stone Plant, EERC Senior Research Manager Stan Miller, left, visits with Bill Swanson, an engineer at the plant. The full-scale unit became operational October 25, 2002.

Alternative and Renewable Fuels

- A new Renewable Energy Task Force has been created that coordinates core competencies within the EERC, including biomass fuels and chemicals, hydrogen and fuel cells, energy efficiency, wind, and biomass power.
- The Center for Biomass UtilizationSM is developing technologies to cofire biomass with coal. Additional work focuses on technologies that use agricultural or food-processing wastes to produce transportation fuels and chemical feedstocks.
- The Plains Organization for Wind Energy ResourcesSM (POWERSM) provides a comprehensive program for the region, including technical and logistical analysis and assistance in developing and demonstrating wind energy technologies.
- The National Alternative Fuels Laboratory[®] (NAFL[®]) conducts research on alternative transportation fuels which include reformulated gasoline, ethanol-based aviation fuel, and biodiesel fuel.
- The Red River Valley Clean Cities Program is an international partnership that facilitates a regional infrastructure to encourage the use of cleaner, more efficient alternative transportation fuels.

Pollution Prevention

- The Center for Air Toxic MetalsSM (CATM[®]) focuses on research and development to minimize the environmental impacts of mercury and other air toxic metal pollutants.
- The EERC is recognized worldwide for expertise in understanding mercury in air, soil, and water and for research to develop valid techniques for measuring mercury emissions from power plants.
- The EERC is a world leader in technologies to remove SO₂, NO_x, and particulate matter from coal-fired power plants and other industrial sources. For example, the EERC's innovative Advanced Hybrid™ filter has been successfully field-tested and licensed to W.L. Gore and Associates, Inc., for worldwide sales.
- The EERC is a regional leader in protection of surface and groundwater resources using basinwide water management strategies.

Environmental Cleanup

- Soil cleanup technologies remove a variety of contaminants, including wastes from oil and gas production and processing, PCBs, pesticides, and explosives.
- Water cleanup technologies remove contaminants from a wide variety of wastewater streams.

Water Management

- The Red River Water Management ConsortiumSM, a model program consisting of federal, state, municipal, and industrial partners, provides solutions to water supply, flood protection, and water quality issues using a basinwide approach.
- The freeze-thaw/evaporation[®] (FTE[®]) desalinization process economically cleans large quantities of contaminated water for industrial and municipal purposes.
- Odor control technologies are being applied to agricultural processing facilities and livestock operations.
- The WaffleSM project provides a basinwide nonstructural approach to augment other forms of flood protection, such as dikes and diversion systems.

Waste Utilization

- The Coal Ash Resources Research Consortium[®], established in 1985, develops environmentally friendly, commercially viable uses for coal ash from power plants.
- Innovative treatment strategies for wastewater from industrial processes are reducing adverse environmental effects while simultaneously developing valuable by-products.

Power Systems

- The EERC is recognized worldwide in the development and demonstration of cleaner, more efficient power plant technologies; for expertise in small-scale power systems in remote locations (distributed generation); and in integrating power and industrial systems.
- The EERC assists industry in improving the operation and efficiency of conventional power plants by matching fuel characteristics to power systems.
- The EERC is an international leader in hot-gas cleanup technologies for advanced power systems.

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