

U.S. Department of Energy  
Office of Electric Transmission and Distribution



## Office In-Brief

*Plugging America Into the Future of Power*

# Overview

*The U.S. electricity transmission and distribution system is an essential component of our nation's economic vitality. With transmission investment down, demands increasing for high-quality power, and reliability disturbances on the rise, the future for our nation's electricity transmission and distribution system is uncertain. Improving our electricity delivery system is crucial to our nation's economic and national security. In addition, the transmission and distribution system is vital to current electricity market restructuring efforts, bringing choice to end-use customers and the development of emerging distributed energy markets.*

The Office of Electric Transmission and Distribution (OETD) pursues strategies to:

- Identify the physical, regulatory, and institutional barriers that interfere with the timely and economical flow of electricity from the generator to the customer;
- Support the development of market-based federal, regional, state, and local policies and regulations to address electric grid bottlenecks and congestion;
- Expand the set of transmission and distribution technologies to increase reliability and energy efficiency; reduce costs, line losses, and emissions; improve power quality; and help ensure a robust and reliable electric grid for the 21st century;
- Provide accurate and timely information to decision makers across the country on transmission and distribution technologies, policies, and markets.

## Who We Are

OETD has been established to help improve and expand our electricity delivery system. By conducting research, development, modeling, and analysis, OETD can provide solutions to problems facing the grid and ensure that the U.S. electric transmission and distribution system remains a vital part of the nation's economic health.

OETD will carry out its mission in accordance with recommendations made in several recent national energy policy documents:

- The National Energy Policy (May 2001) calls for the Department of Energy to address constraints in electric transmission and relieve bottlenecks;
- The National Transmission Grid Study (May 2002) contains 51 recommendations for accomplishing the President's National Energy Policy and speeding the pace of the transition to competitive regional electricity markets;
- The Transmission Grid Solutions Report (September 2002) provides guidance for priority actions to address congestion on "national interest" transmission corridors.

### Our Mission

To work with states and regions to provide technical assistance and analysis support for policies, market mechanisms, and programs that facilitate competitive, reliable, environmentally sensitive, and customer-friendly electric markets.

### Program Areas

OETD is organized into two major areas including electric power systems R&D and Electric Power Systems Operation and Analysis.

### Acting Director

**Bill Parks**

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*"DOE will develop the state-of-the-art tools needed to evaluate the system's operation and efficiency, and will continue to work with industry and Congress to ensure that basic transmission research and development continues."*

– *National  
Transmission  
Grid Study  
May 20, 2003*

# What We Do

**“ A plan to modernize our electricity delivery system ... is needed now. It is needed for economic security. It is need for national security.”**

– President George W. Bush,  
February 2003

## ***OETD is and will stay on the cutting edge of electric power systems research and development.***

Our research and development activities are designed to produce the next generation of technologies needed to ensure the ongoing vitality of our national transmission and distribution grid.

OETD conducts research in several areas:

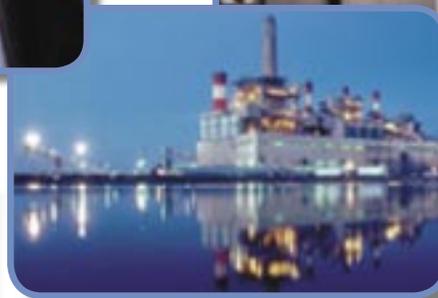
- High-Temperature Superconductivity;
- Electric Distribution Transformation;
- Energy Storage;
- Transmission Reliability.

Electric power systems modeling and analysis is vital to understanding how the complex transmission and distribution system functions. OETD is working to develop analytical and modeling tools that can assist policy makers in developing policies to optimize the functioning of the grid. Our work includes:

- Conducting the “Grid of the Future” analysis, including development of data and analytical tools, research on and evaluation of electricity market performance, and designation of national interest transmission bottlenecks;
- Active involvement in Federal Energy Regulatory Commission (FERC) rule makings, including wholesale market design, regional transmission organizations, interconnection, market monitoring, transmission pricing, and other electricity policy rule makings;
- Working with states and the electric power industry to maintain or expand energy efficiency and renewable energy during industry deregulation and restructuring.

OETD also manages electricity imports/export authorization and presidential permits. Work in this area includes:

- Processing of electricity import and export applications and construction permits;
- Monitoring and analysis of international and domestic electricity trade;
- Participation in international studies and other activities with the Office of Policy and International Affairs.



## ***Recent Accomplishments:***

- DOE created the Office of Electric Transmission and Distribution, August 2003;
- OETD conducted a visioning and road mapping process for the Office, working in concert with transmission and distribution stakeholders;
- DOE commissioned a high-current research conductor test facility with the Tennessee Valley Authority at Oak Ridge National Laboratory.