DOE’s Transmission Responsibilities

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Mission of DOE’s Office of Electricity Delivery and Energy Reliability (OE)

Lead national efforts to modernize the electric grid, enhance security and reliability of the energy infrastructure, and facilitate recovery from disruptions to the energy supply.
OE Permitting, Siting and Analysis

- Implements key electricity provisions of the Energy Policy Act of 2005:
  - Analysis of transmission congestion and designation as appropriate of National Interest Electric Transmission Corridors (FPA 216(a));
  - Identification of Energy Corridors on Federal Lands in coordination with Federal Land Agencies (EPAct 368);
  - Coordination of Federal authorizations required to site transmission facilities (FPA 216(h)).

- Provides technical assistance to States and regions on best practices re demand response, renewables, distributed generation, energy efficiency, regional planning/coordination, transmission siting.

- Issue Presidential permits for cross-border transmission facilities and electricity exports.
OE Support for Electricity Demand Reduction

- In response to State requests, OE is facilitating efforts to build regional consensus among Mid-Atlantic, Midwest, and Pacific Northwest States on improving demand response in retail and wholesale markets.

- OE supports regional dialogues/coordination among governors on regional electricity infrastructure modernization.

- OE and EPA are facilitating implementation of the *National Action Plan for Energy Efficiency* developed by the utility industry and State regulators.
Energy Transport Corridors on Federal Lands – EPAct Section 368

- DOE, USDA, DOI, DOC & DOD to designate corridors for:
  - oil, gas, hydrogen pipelines, and electricity transmission facilities
  - in the West by Aug 07
  - in the other States by Aug 09.

- Draft PEIS for 11 Western States issued for comment Nov 07:
  - 27 public meetings held in Jan 08
  - Comment period closed Feb 14, 2008
  - Final PEIS – summer 08
  - Project Web site: http://corridoreis@anl.gov

- Land agencies to amend plans in 2008.

- Consultation continues with States, Tribes, agencies, public throughout designation process.

- Planning for Eastern States PEIS now under way.
Coordination of Federal Permits for Transmission Projects

- Transmission projects frequently require authorizations or permits from several Federal agencies. EPACT directs DOE to coordinate all Federal authorizations and environmental reviews needed for siting transmission projects.
- The objective is to streamline the Federal decision process and minimize duplication among Federal agencies.
- An interagency MOU has been signed by DOE and eight other Federal agencies to guide the coordination process.
- DOE is currently drafting procedures to implement this function and will issue rules soon.
- DOE has delegated to FERC the coordination of Federal authorizations for siting transmission projects in National Corridors.
National Transmission Congestion Studies

- EPACT required DOE to issue a national transmission congestion study by August 8, 2006, and every three years thereafter.
- DOE/OE’s August 2006 Study identified two areas of the U.S. as “critical congestion areas,” and several other areas with significant or potential congestion.
- DOE will soon begin consultations with States, regional reliability organizations, RTOs and ISOs, and other entities on plans for the 2009 Congestion Study.
Designation of National Corridors

- FPA section 216(a) provides that the Secretary may designate selected geographic areas as *national interest electric transmission corridors* (“National Corridors”):
  - Based on Congestion Study; and
  - After considering alternatives and recommendations from interested parties (including opportunity for comments from affected States); and
  - After finding that consumers are adversely affected by transmission constraints and congestion.

- Siting of transmission lines has traditionally been a State function. Under EPACT, however, in some situations, developers of proposed transmission projects in National Corridors may apply to FERC for a construction permit and a grant of limited eminent domain authority.
In April 2007, DOE issued for public comment two draft National Corridor designations, one in the Mid-Atlantic States and one covering parts of California, Arizona, and Nevada. The comment period closed July 6, 2007.

DOE received 2500+ comments on the draft National Corridors.
The two National Corridor designations pertain to the two areas identified in the Congestion Study as “Critical Congestion Areas”:

- Mid-Atlantic Critical Congestion Area (New York City to Northern Virginia)
- Southern California Critical Congestion Area

The area included in each National Corridor was determined using a “source to sink” approach.

- The Critical Congestion Areas are electricity “sinks.”
- “Sources” are the geographic areas where existing or potential additional generation is available to serve the sink – but for the transmission constraints; and
- Each National Corridor connects the sink and source areas along broad transmission paths which have experienced line congestion.
County Boundaries: The National Corridors are bounded by the outer boundaries of all counties included wholly or partially by the source-to-sink approach.

Duration: The two National Corridors have 12 year terms. Neither designation will be terminated if an accepted permit application is pending at FERC, or, if FERC has granted a permit, during the period in which the approved facilities are under construction.
Mid-Atlantic Area National Corridor
The Mid-Atlantic National Corridor includes the Mid-Atlantic Critical Congestion Area as the sink, and connects source areas bounded by the northern and western borders of New York State, and the eastern margin of the existing 765 KV backbone network running north-south along the Ohio River.

This National Corridor includes some or all counties in OH, PA, WV, VA, DC, MD, DE, NJ, and NY.
Southwest Area National Corridor
Southwest Area National Corridor

- The Southwest Area National Corridor includes the Southern California Critical Congestion Area as the sink, and connects to source areas bounded to the north by the Tehachapi wind resource area, and on the east by key substations in the area around Palo Verde, Arizona (west of Phoenix).

- This National Corridor includes seven counties in California and three counties in Arizona.
Designation of an Area as a National Corridor

- Designation indicates that the Federal government has concluded that a significant transmission constraint or congestion problem exists in the area, that it adversely affects consumers, and that it is in the national interest that the problem be alleviated.

- Designation provides, pursuant to FPA section 216, a potential venue at FERC for siting a proposed transmission facility within a National Corridor, if a State withholds approval of the facility for more than one year.
DOE’s Role

- DOE sees its role as one of problem identification, not solution identification.
- Designation of a National Corridor does *not* endorse any transmission project or prescribe a transmission solution to a regional congestion problem.
- This approach leads to the designation of large areas as National Corridors, because of the need to encompass many possible solutions.
- Designation of a more specific area as a National Corridor would put DOE in the role of choosing a solution – but EPACT does not assign that role to DOE.
Rehearing Requests


- Stakeholders had an automatic 30-day window (through Nov. 5, 2007) to file requests with DOE for rehearing. DOE is still reviewing the requests received and will publish its conclusions as soon as possible.

- For more information regarding the National Corridors, please visit [http://nietc.anl.gov/](http://nietc.anl.gov/).
Implications for FERC Jurisdiction (FPA 216(b))

- If FERC jurisdiction were triggered under FPA section 216(b), FERC would conduct all appropriate NEPA, NHPA and ESA reviews.

- Such reviews would evaluate the reasonably foreseeable effects of transmission construction, including an analysis of alternative routes and mitigation options.

- Drawing on that analysis, FERC would have the authority to approve an application, deny the application, or approve the application with modifications.
National Corridor designation may lead to FERC environmental reviews that are more thorough and/or protective of the environment than State reviews.

An applicant seeking to site a transmission facility in a National Corridor would also have to obtain all necessary approvals from other agencies if a part of the proposed facility would be sited on Federal or State lands.

See FERC Order 689, FERC Statutes and Regulations §31,234.
State of the Grid Today

**Situation**

**Aging Infrastructure**
- Trillion-dollar economy operating on the back of century-old grid technology

**Underinvestment**
- Estimated $100B needed to modernize
- Industry investment ~1%/year

**Lower Power Quality & Momentary Outages**
Short localized outages result in losses as high as $80 billion/yr

**National Security Implications**
Potential for increased vulnerability
Interdependency of critical energy systems

**Congestion**
T&D lines are operated at capacity limits in some areas, costing ratepayers ~ $2B/yr
Power must be provided by more expensive local generation capability
Constrains deployment of renewables, nuclear, and clean-coal generation technologies

**Major Disruptions**
Major, widespread outages cost the nation over $1 billion/yr on average
August 2003 outage cost an estimated $4 - 10B
Preparing the Grid for a Range of Futures

- Changing Supply Mix
- Demand Transformation
- Complexity of the Grid
- Vulnerability of Energy Infrastructure

Wind
Nuclear
Plug-in Hybrids

Fossil Fuels
A Strong Grid is Essential to Coping with Uncertainty

- All of our major generation sources face major regulatory, technological, and economic challenges.

  *Result:* We don’t know how a significant fraction of our new generation will be fueled or where it will be sited.

- We do know, however, that much new generation will be sited distant from the load centers.

  *Result:* We need to plan and build a strong, adaptable transmission grid that will enable us to use a changing generation fleet to maximize economic efficiency and enhance reliability.