

# U.S. DEPARTMENT OF ENERGY

## Draft National Corridor Designations: Key Findings and Conclusions

April 26, 2007

### Designation of a National Corridor:

- Represents a determination by the Department of Energy (DOE) under section 216(a) of the Federal Power Act (FPA) [created by section 1221(a) of the Energy Policy Act of 2005] that consumers are being adversely affected by transmission capacity constraints or congestion, and that resolving the area's electricity problem (or problems) is a matter of sufficient national importance to warrant the exercise of the Secretary's discretion to designate a national interest electric transmission corridor (National Corridor).
- Provides a potential siting venue at the Federal Energy Regulatory Commission (FERC) for transmission facilities within the area bounded by the National Corridor pursuant to FPA section 216(b). (See Regulations for Filing Applications for Permits to Site Interstate Electric Transmission Facilities, Order No. 689, 71 Fed. Reg. 69,440 (Dec. 1, 2006), FERC Stats. & Regs. ¶ 31,234 (2006)(Final Rule).

### Principal Generic Findings and Conclusions regarding the Draft National Corridor Designations

- With these draft National Corridor designations, the DOE is encouraging a full consideration of all options available to meet local, regional and national demand – including more local generation, demand response, and energy conservation measures. A designation does not direct anyone to build a transmission facility in a certain area or determine the route for any proposed transmission facility. Nor is it an assertion that additional transmission capacity is the only, or preferred, solution to resolve the congestion. In other words, the Federal government is *not* dictating *how* the States, regions, transmission providers or electric utilities should meet their energy challenges.
- A National Corridor should cover a sufficiently broad geographic area. It should be large enough to help facilitate access to a range of possible generation sources that could serve the congested area, and preserve the options of State authorities and private companies to determine which generation sources are of principal interest. It should also be broad enough to allow consideration of a range of potential

transmission projects and routes by the appropriate transmission planning entities, siting authorities (e.g., State agencies and, under certain conditions, FERC) and prospective transmission developers.

- In determining the boundaries of the two draft National Corridors, DOE did not carve out environmentally sensitive lands because the statute does not exclude such lands from inclusion in a National Corridor. In the event of a FERC siting proceeding, FERC would conduct a review under the National Environmental Protection Act, which would include analysis of alternative routes for that project, including route realignments necessary to avoid adverse effects on the environment, landowners, and local communities. Therefore, DOE has attempted to make the draft National Corridors broad enough to encompass a range of alternative routes for potential transmission projects, thus leaving the determination of the best route for a specific project to the siting authorities, who are better positioned to make such a determination.

Further, nothing in FPA section 216 alters the applicability of Federal environmental and cultural statutes and regulations. Thus, any permit issued by FERC would be subject to all the requirements of Federal environmental or cultural statutes and regulations. Such requirements approvals would include approvals that are required from the Fish and Wildlife Service, and from State agencies that administer the Clean Water Act, the Clean Air Act and the Coastal Zone Management Act (which are Federal statutes administered by State agencies).

Finally, any routing of a transmission facility through property owned by the United States or a State would be subject to the consent of the appropriate Federal or State land-managing agency, because the statute does not grant the holder of a FERC permit the right of eminent domain over such land.

- A National Corridor should have specific, readily identifiable boundaries, so that government officials, land-owners, and other parties will be able to determine easily whether specific areas are within the Corridor. Accordingly, DOE proposes to make the boundaries of these draft National Corridors coincident with the boundaries of enclosed counties.
- A National Corridor should remain in place for a substantial period of time, because it takes 5 to 10 years or longer to develop proposals for new transmission facilities (or alternatives to them), obtain government approvals, obtain rights-of-way, and put such new infrastructure in place. As a general practice, DOE proposes to make National Corridor designations for an initial period of 12 years, with the possibility of renewal or extension under appropriate conditions (such as while an application remains under consideration by FERC), and has used that period for these draft National Corridors designations.

## **Principal Findings and Conclusions Concerning the Draft Mid-Atlantic Area National Corridor Designation**

- Since at least 2004, transmission constraints have been limiting electricity flows on key trunk lines in Pennsylvania-New Jersey-Maryland Interconnection (PJM) and the New York Independent System Operator (NYISO), causing persistent congestion that adversely affects consumers in downstream urban load centers, including those in the metropolitan New York City area, New Jersey, eastern Pennsylvania, Delaware, eastern Maryland, the District of Columbia, and northern Virginia.
- Modeling for DOE's 2006 Congestion Study projected that, without corrective action, the congestion in this area, with its adverse effects on consumers, will continue or worsen.
- As a result of transmission constraints, high-production-cost generators in eastern PJM and southeastern New York State are used extensively, while generating capacity at lower-production-cost generators in western PJM and western and northern New York State is available but inaccessible. These additional costs are passed on to electricity consumers.
- In terms of the additional electricity production costs they cause, the constraints in PJM and NYISO are among the worst in the entire Eastern Interconnection. PJM, for example, reported total congestion costs within its footprint of \$2.09 billion for 2005.
- Congestion problems, when severe, may threaten reliability. Analyses conducted by PJM project that without the addition of new west-to-east transmission capacity, reliability violations will occur in the Baltimore-Washington-northern Virginia area by 2011, in northern New Jersey by 2014, and in central Pennsylvania by 2019. Similarly, NYISO reports that due to the combination of demand growth, retirement of aging generation capacity, and transmission constraints, resource adequacy violations are expected in southeastern New York State by 2011, unless corrective actions are taken.
- Even without reliability problems, transmission congestion raises consumers' electricity bills. Reliability problems, however, would introduce additional major costs. Estimates of the total cost of the August 14, 2003 blackout in the Midwest and Northeast ranged between \$4 and \$10 billion for the U.S. alone; substantial additional costs were incurred in Canada. Smaller scale reliability events still involve significant costs and disruptions.
- The Mid-Atlantic Critical Congestion Area is home to 55 million people (19 percent of the Nation's 2005 population) and is responsible for \$2.3 trillion of gross state product (18 percent of the 2005 gross national product). Given the large number of military and other facilities in this area that are extremely important to the national defense and homeland security, as well as the vital importance of this populous area to the Nation as an economic center, any deterioration of the electric reliability or

economic health of this area would constitute a serious risk to the well-being of the Nation.

- Given the long lead-times associated with the development of new transmission capacity (or possible alternatives) and the economic and strategic importance to the Nation of this broad area, focused attention to address the area's congestion problems is needed.

### **Findings and Conclusions Concerning the Draft Southwest Area National Corridor Designation**

- Since at least 2004, key transmission paths into and within southern California have been constrained causing persistent congestion that adversely affects consumers in downstream urban load centers.
- The modeling performed for the Congestion Study projected that without corrective action, the congestion in this area, with its adverse affects on consumers will continue.
- Congestion problems, when severe, may threaten reliability. In recent years, the electricity supply capability within Southern California, combined with supplies that can be imported from external sources, has been barely enough to meet peak electricity demand. In the summer of 2005, the California Independent System Operator (CAISO) declared two "Stage 2 Emergencies" in Southern California (July 21 and 22) and a transmission emergency occurred on August 25 that resulted in the curtailment of 900 megawatts (MW) of firm load. In the summer of 2006, rolling blackouts were avoided during a period of extremely hot weather only through a combination of good fortune, extraordinary efforts by the utilities, CAISO, and the Bonneville Power Administration, and timely cooperation by electricity consumers to reduce electricity demand. CAISO expects that electricity supply resources in Southern California will be very tight again in the summer of 2007.
- CAISO notes that load in Southern California has been growing at a rate of approximately 1.5 percent annually, which translates into a total of approximately 657 MW of new load that needs to be served each year. CAISO notes that this rate of load growth, combined with the threat of extreme weather conditions, such as a 1-in-10-year heat wave, could mean that by 2015, the loss of the transmission capacity in a single critical transmission path could necessitate the curtailment of approximately 1,500 MW of load. CAISO states that in the event of a double-line contingency on that path at peak load, anywhere from 500 to 1,000 MW of load would need to be curtailed.
- Particular areas in Southern California are especially vulnerable to reliability problems. CAISO notes that the San Diego area is projected to be deficient in overall generation capacity by the year 2010 due to severe import limits. CAISO also notes

looming reliability problems on the South of Lugo path, a major CAISO internal path that serves the Los Angeles Basin. Similarly, the Los Angeles Department of Water and Power (LADWP) stated in its comments to the Department that: “Zone SP26 is a large load center that is currently experiencing reliability problems because of transmission constraints. . . . Zone SP26 will likely continue its dependence on imports, so transmission improvements are needed to avoid future violations of reliability standards. . . .”

- Even without reliability problems, transmission congestion raises consumers’ electricity bills. Reliability problems, however, would introduce additional major costs. For example, on Saturday, August 10, 1996, a blackout affected several western states, including much of California, for several hours. The California Energy Commission (CEC) conducted a survey to gauge the effects and implications of the blackout. The outage affected slightly less than half of California’s residential electricity customers, 20 percent of the commercial customers, and 25 percent of the industrial customers. Forty-one percent of the commercial respondents and 31 percent of the industrial respondents said that the outage was “very disruptive” to their operations and reported losses in excess of \$40 million.
- The Southern California Critical Congestion Area is home to 20.7 million people (7.0 percent of the Nation’s 2005 population) and produces about \$950 billion of gross state product (7.7 percent of the 2005 gross national product). Given the large number of military and other facilities in the Southern California Critical Congestion Area that are extremely important to the national defense and homeland security, as well as the vital importance of this populous area to the Nation as an economic center, any deterioration of the electric reliability or economic health of this area would constitute a serious risk to the well-being of the Nation.
- Given the long lead-times associated with the development of new transmission capacity (or possible alternatives) and the economic and strategic importance to the Nation of this broad area, focused attention to address the area’s congestion problems is needed.