

**Before the
United States Department of Energy
Office of Electric Transmission and Distribution**

Designation of National Interest Electric Transmission Bottlenecks

**Comment of the
Federal Trade Commission**

September 20, 2004

¹ 69 Fed. Reg. 43833 (July 22, 2004).

² Electricity Advisory Board, “Transmission Grid Solutions Report” (Sept. 2002), *available at* <<http://www.eab.doe.gov/Documents/TGSReport1-10.pdf>>.

³ *See, e.g.*, Paul Joskow and Jean Tirole, “Merchant Transmission Investment,” NBER Working Paper 9534 (Feb. 2003); Thomas-Olivier Leautier, “Transmission Constraints and Imperfect Markets for Power,” 19 J. Reg. Econ. 27 (Jan. 2001); S. Auerbach, M. Crew, and P. Kleindorfer, “Transmission—Enabler of Wholesale Competition,” in Expanding Competition in Regulated Industries (M. Crew, ed., 2000). The Federal Energy Regulatory Commission (FERC) has testified before Congress that transmission investment has not kept pace with electricity consumption. *See* Testimony of Pat Wood, III, Chairman, Federal Energy Regulatory Commission, before the Subcommittee on Energy and Air Quality of the Committee on Energy and Commerce, United States House of Representatives, May 19, 2004, *available at*

barrier to the efficient operation of regional electricity markets, threaten the safe and reliable operation of the electric system, and/or impair national security.”⁴

Before designating a particular area of transmission congestion as a NIETB, DOE may wish to require that (1) there is compelling evidence that the benefits of alleviating the congestion exceed the costs and (2) the market is unlikely to provide an efficient level of investment in a reasonable time frame. NIETB designations are more likely to benefit consumers in areas that do not have processes to identify and – where efficient – to alleviate transmission congestion.⁵ DOE also may wish to include sensitivity analysis and contingent designations in its NIETB process because NIETB designations are likely to change with changes in underlying market conditions, such as changes in relative fuel prices or in U.S. energy policies.

The FTC is an independent agency responsible for maintaining competition and safeguarding the interests of consumers through enforcement of the antitrust and consumer protection laws and through competition advocacy. In the electric power industry, the FTC often analyzes regulatory or legislative proposals that may affect competition or the efficiency of resource allocation and reviews proposed mergers involving electric and gas utility companies. In the course of this work, as well as in antitrust research, investigations, and litigation, the FTC

⁴ 69 Fed. Reg. at 43833. DOE has stated that the NIETB designation process may also serve as a preliminary step toward implementation of “backstop” transmission siting authority that is proposed for DOE in some versions of the pending energy legislation before Congress. *Id.* at 43834. “Backstop” provisions would provide DOE with transmission siting authority if an NIETB designation occurred and the affected states did not grant siting permits or develop an alternative approach to alleviate the associated transmission congestion.

⁵ Where the costs of alleviating transmission congestion exceed the benefits, congestion is consistent with efficient operation of the grid.

entry of new generators or transmission projects, long litigation delays in reaching siting decisions, or other factors⁸ – may cause socially suboptimal investment in transmission.

Despite these known and potential problems, DOE should not assume that all transmission congestion is a result of socially suboptimal transmission investment. Where there is transmission congestion, transmission service should be priced to take account of its scarcity.⁹ If transmission capacity expansion and its substitutes are costly, then some level of congestion (during at least some time periods or conditions) is efficient, even in long-run equilibrium. Absent lumpiness in investments to reduce transmission congestion, it is inefficient to expand transmission capacity (or substitute investments such as generation located within a transmission constraint) so much that all congestion is eliminated. An investment to relieve transmission congestion may not be efficient and economically attractive to investors, for example, when the associated transmission congestion is expected to be temporary and, therefore, the project's expected cost is greater than the expected profits from the investment. A variety of events could cause transmission congestion to be short-lived.¹⁰ These include, for example, generation

⁸ Other causes for socially suboptimal private investment may include incentives of vertically integrated utilities to discriminate in granting transmission access to independent generators that compete with the generation assets of the utility (*see* FERC Orders No. 888 and 2000), or incentives to cross-subsidize affiliated generators when the regulated utility has unexercised market power. *See* FTC Comment in the Matter of Solicitation Processes for Public Utilities Acquisition and Disposition of Merchant Generation Assets by Public Utilities, FERC Docket Nos. PL04-6-000 and PL04-9-000 (July 14, 2004), *available at* <<http://www.ftc.gov/os/comments/ferc/v040022.pdf>>.

⁹ Efficient transmission pricing also may provide the market with efficient signals for investment to reduce transmission congestion.

¹⁰ Transmission investments are just one of a portfolio of approaches to reduce transmission congestion. As DOE explained in its National Transmission Grid Study, better grid operations, introduction of advanced transmission system technologies, or improved security can also increase transmission capacity on a particular transmission path. U.S. Dept. of Energy,

investment inside the transmission constraint,¹¹ programs to promote price-responsive demand for electricity,¹² shifts in geographic patterns of growth in demand,¹³ changes in relative fuel prices,¹⁴ or transmission investments in other locations.¹⁵

Because transmission congestion may reflect efficient investment decisions, there is a risk that NIETB designations could distort efficient investments rather than steer them toward the socially optimal level. Consumers could be harmed by a suboptimal level of investment that

“National Transmission Grid Study” (May 2002), *available at* <http://www.eh.doe.gov/ntgs/gridstudy/main_screen.pdf>. Better grid operations include consideration of alternative ownership and management arrangements. Shmuel Oren, George Gross, and Fernando Alvarado, “Alternative Business Models for Transmission Investment and Operation,” Attachment C to the National Transmission Grid Study. Advanced transmission technologies include ultra-high-voltage transmission lines, high-voltage direct current transmission lines, energy storage devices, distributed generation, and enhanced power device monitoring. National Transmission Grid Study at 62.

¹¹ Generation investment inside the transmission constraint can supply an additional portion of the demand in the area and, therefore, reduce the amount that must be transmitted into the area to meet demand.

¹² An increase in the price-responsiveness of demand generally will reduce consumption during high price periods and, therefore, may reduce the amount that must be transmitted into the area.

¹³ Shifts in relative economic growth in one area can result in changes in transmission patterns and generation investment patterns that can reduce (or increase) transmission congestion in other areas.

¹⁴ Short-term changes in relative fuel prices will change the dispatch order of generators, and this may directly reduce (or increase) transmission congestion. Non-transitory changes in relative fuel prices may create incentives for new generation that will relieve transmission congestion (or, in rarer cases, increase it).

¹⁵ Because electric power flows over the path of least resistance, transmission investments in one part of the grid may relieve congestion in other parts of the grid. In more unusual circumstances, transmission investment in one part of the grid may increase transmission congestion in other parts of the grid because of loop flows. Steven Stoft, Power System Economics: Designing Markets for Electricity 397 (2002).

U.S. energy policies).

DOE and FERC have already been presented with an example of how NIETB designations may vary based on prospective changes in U.S. energy policy and relative fuel prices. The 2003 report of the Seams Steering Group-Western Interconnect examined prospective transmission congestion patterns projected for 2013 and transmission investments to alleviate the projected congestion.¹⁶ These transmission congestion areas might well be prospective NIETB designations in the West. In the study, congestion patterns and associated transmission projects to alleviate the congestion were developed for three different scenarios about the fuel sources for new generation in the West. The first scenario assumed that natural gas prices were relatively low, leading to use of natural gas to fuel 86% of new generation added between 2008 and 2013. This capacity was assumed to be sited close to load centers. The second scenario assumed that coal prices were relatively low, leading to use of coal to fuel 66% of new capacity in the period. The third scenario assumed that security concerns prompted policies resulting in 72% of new generation coming from renewables (largely wind generation).

The results of these transmission simulations are directly relevant and important for DOE's NIETB designation process. The simulations reveal that the prospective NIETB designations under the three scenarios are substantially different. A few individual prospective NIETBs are common to all three scenarios, but most are contingent upon changes in relative fuel

¹⁶ Steve Waddington (PacifiCorp), "Western Perspective," presentation at the DOE Workshop on Designation of NIETBs (Salt Lake City, July 14, 2004), *available at* <http://electricity.doe.gov/documents/nietb_workshop/waddington.pdf>; Seams Steering Group-Western Interconnection, "Framework for Expansion of the Western Interconnection Transmission System" (Oct. 2003), *available at* <http://www.ssg-wi.com/documents/316-FERC_Filing_103103_Final_TransmissionReport.pdf>.

