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FERC Order 1000 as a New Tool for Promoting Energy Efficiency and Demand Response

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In July 2011, the Federal Energy Regulatory Commission (FERC) issued Order No. 1000, the latest in a series of orders directed at improving federal transmission access, planning, and coordination.¹ Order 1000 requires, for the first time, that electricity transmission providers engage in regionwide transmission planning, and further mandates that such planning consider how federal and state public policies affect transmission needs. Public utility transmission providers are now in the process of amending their operating tariffs to comply with this new order. It is therefore an important time for all those with an interest in the future of the electric grid to pay attention to how Order 1000 is being interpreted and implemented by various regions across the country.

Order 1000 has been widely touted for its potential to help update our national transmission grid to meet the increasing demand for new transmission created by policies promoting renewable energy. Less remarked upon is the role that Order 1000 could play in ensuring more thoughtful consideration during regional transmission planning of how energy efficiency and demand response policies—critical demand *reduction* strategies—affect the need for new transmission. This Article describes some of Order 1000's key planning reforms, discusses how the order can facilitate consideration of these demand-side policies, and offers suggestions on the ways that regional transmission planners might use Order 1000 as an opportunity to update transmission planning to better match our nation's evolving priorities for the electricity grid.

1. See Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, Order No. 1000, 76 Fed. Reg. 49842 (Aug. 11, 2011), 136 FERC Stats. & Regs. ¶ 61051 (2011) [hereinafter Order 1000].

I. Order 1000 in Context

Order 1000 responds to the growing challenge facing the United States of helping electricity transmission planning and construction keep pace with national and state energy policy priorities. Transmission planning has undergone considerable change since the 1990s, prior to which it was managed primarily by individual utilities responding to their customers' needs. Several landmark FERC orders helped initiate this change. Order 888, issued in 1996, took initial steps to establish open, nondiscriminatory access to utility-owned transmission facilities.² Order 2000, issued in 1999, expanded the scale of transmission management and planning by encouraging—though not requiring—regions to form Regional Transmission Organizations (RTOs) to administer the transmission grid on a regional basis.³ A decade later, in 2007, FERC issued Order 890 to improve transmission access rules and to establish “an open, transparent, and coordinated transmission planning process.”⁴ Taken together, these orders created a major restructuring of transmission operations, opening transmission access to a broader range of market participants

2. Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities and Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 Fed. Reg. 21540 (May 10, 1996), FERC Stats. & Regs. ¶ 31036 (1996). At the same time, FERC also issued a companion order, Order 889, which established requirements for the information that transmission providers were required to make public. Open Access Same-Time Information System (Formerly Real-Time Information Networks) and Standards of Conduct, Order No. 889, 61 Fed. Reg. 21737 (May 10, 1996), FERC Stats. & Regs. ¶ 31035 (1996).

3. Regional Transmission Organizations, Order No. 2000, 65 Fed. Reg. 809 (Jan. 6, 2000), FERC Stats. & Regs. ¶ 31089 (1999). Order 2000 also set forth criteria that RTOs had to meet in order to receive FERC approval.

4. Preventing Undue Discrimination and Preference in Transmission Service, Order No. 890, 72 Fed. Reg. 12266 (Mar. 15, 2007), FERC Stats. & Regs. ¶ 31241 (2007).

and leading to the establishment of more effective transmission planning.⁵

However, as FERC explains in Order 1000, major changes in the nation's electric power industry have accelerated since these orders were issued.⁶ Over the last few decades, and especially in recent years, federal and state lawmakers and regulators have passed a host of laws and regulations with major impacts on the generation mix and future transmission needs. These policies include significantly increased recognition and promotion of renewable energy, energy efficiency, and demand response. As FERC acknowledged in promulgating Order 1000, its existing orders regarding transmission did not provide regional planners adequate direction as to how to consider these new reforms.⁷ As a result, new transmission development lags behind need in many areas with increased renewable energy supply, while at the same time, opportunities for efficiency and economy in transmission expansion may be missed where anticipated demand forecasts fail to consider fully the many new policies that will help tamp down demand growth.

Order 1000 attempts to update transmission planning to cope with these ongoing changes to the power industry and the energy regulatory landscape by setting forth several major new requirements. The order contains important reforms related to cost allocation, interregional planning, and elimination of federal rights of first refusal. Most relevant for purposes of this Article, though, are Order 1000's reforms of the regional planning processes. Order 1000 formally requires *all* public utility transmission providers to participate in a regional planning process (which some regions already have in place).⁸ It also sets forth important parameters for this process, requiring that (1) the process consider transmission needs driven by "Public Policy Requirements," and (2) planners give non-transmission alternatives comparable consideration to transmission alternatives.⁹ Each of these reforms has important ramifications for better integrating energy efficiency and demand response, as well as renewable energy, into transmission planning.

II. Consideration of Public Policy-Driven Transmission Needs

To understand the importance of Order 1000's requirement that regions "consider" transmission needs driven by

Public Policy Requirements,¹⁰ it is helpful to begin with a closer examination of precisely what this mandate entails. Through Order 1000 and a May 2012 Order on Rehearing and Clarification, FERC has provided guidance on what it means by Public Policy Requirements. Order 1000 declines to delineate specific public policy requirements for all regions to take into consideration,¹¹ recognizing that different regions may have very different policy scenarios. At a minimum, though, Order 1000 mandates that local and regional planning incorporate currently enacted "state or federal laws or regulations that drive transmission needs,"¹² including local laws and regulations.¹³

Transmission providers are not limited, however, to consideration of currently enacted laws and regulations; the order also permits incorporation of "transmission needs driven by additional public policy objectives not specifically required by state or federal laws or regulations."¹⁴ In other words, transmission providers—and states that may be charged with leading the inquiry into relevant public policy considerations—are able to take an expansive view of what policies will drive the transmission needs of the future.

FERC also provides guidance on what it means to require transmission providers to "consider" transmission needs driven by these requirements. By consider, FERC means that planners must both *identify* transmission needs driven by Public Policy Requirements and *evaluate* potential solutions to meet those identified needs.¹⁵ Moreover, regions must allow for stakeholder involvement in identifying potential needs driven by public policies.¹⁶ Not every need suggested by a stakeholder must be accepted for inclusion in the regional plan and evaluated for solutions, but regional procedures must create a nondiscriminatory, just, and reasonable way to identify, "out of this larger set of needs, those needs for which transmission solutions will be evaluated."¹⁷ Public utility transmission providers must post on their websites explanations of which needs are selected for evaluation of potential solutions, and of why other suggested needs are not accepted.¹⁸

It is relatively easy to conceptualize how the requirement to "consider transmission needs driven by Public Policy Requirements" relates to renewable energy policies. Renewable energy policies, if successful, increase the supply of renewables. However, the areas with the best renewable resources are typically not the areas of highest

5. See, e.g., Order 1000, *supra* note 1, at ¶ 21.

6. *Id.* ¶ 31.

7. *Id.*; see also Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, Order No. 1000-A ¶ 336, 77 Fed. Reg. 32184 (May 31, 2012), 139 FERC Stats. & Regs. ¶ 61132 (2012) (Order on Rehearing and Clarification) [hereinafter Order 1000-A]. Order 1000 notes that the North American Reliability Council has identified 39,000 circuit-miles of projected high-voltage transmission over the next 10 years, roughly one-third of which will be needed to integrate variable and renewable generation. Order 1000, at ¶ 29.

8. Order 1000, *supra* note 3, at ¶ 6.

9. *Id.* ¶¶ 6, 203-16. We discuss what FERC means by "Public Policy Requirements" *infra*.

10. As Order 1000 acknowledges, some regions already include consideration of some public policy-driven transmission needs in their transmission planning processes. *Id.* ¶ 204. Order 1000 provides that where a region believes it already complies with this requirement of Order 1000, it should explain in its compliance filing why it believes that its current tariff already meets the requirements of Order 1000. *Id.* ¶ 280.

11. *Id.* ¶¶ 207-08.

12. *Id.* ¶ 214.

13. Order 1000-A, *supra* note 7, at ¶ 319.

14. Order 1000, *supra* note 1, at ¶ 216.

15. Order 1000-A, *supra* note 7, at ¶ 320; see also Order 1000, *supra* note 3, at ¶ 205.

16. See Order 1000, *supra* note 1, at ¶ 206.

17. *Id.* ¶ 209.

18. *Id.*

demand. To connect areas with robust renewable generation resources to areas that anticipate increased demand for renewables, more transmission—and strategically located transmission—is necessary. Order 1000's reforms should help transmission providers better plan for the transmission necessary to meet growing renewable energy incentives, mandates, and goals.

Equally important, but less examined, is how Order 1000's mandate to consider policy-driven transmission needs relates to energy efficiency and demand-response policies. Unlike renewable energy policies, which will require transmission to expand in strategic locations, energy efficiency and demand response have the potential to play an opposite role, reducing or even negating the need for new or enhanced transmission in some areas. Factoring energy efficiency and demand-response policies fully into regional transmission planning will thus help ensure that transmission is not *over*-built.

The range of public policies that might prove relevant to this endeavor is impressive. The federal government and states now have in place an expansive—and expanding—body of laws, regulations, executive orders, plans, and incentives to promote energy efficiency and demand response.¹⁹ Federal laws have long endorsed energy efficiency,²⁰ and several federal initiatives will have direct impacts on transmission needs. Federal appliance standards, for one, are a major success story in energy conservation, and these standards considerably reduce energy demand. As these appliance standards continue to be updated—most recently through the establishment of new standards for light bulbs²¹—they will continue to help decrease demand for electricity and new transmission (or at least moderate growth). Similarly, federal standards for government energy performance also will drive decreases in energy demand. The Energy Independence and Secu-

rity Act of 2007 updated federal energy reduction goals to require each agency to achieve 3% annual reductions in federal agency buildings' energy consumption, amounting to a cumulative 30% savings by 2015.²² And in 2009, the American Recovery and Reinvestment Act provided \$5 billion in funding for home weatherization projects—another critical method of lowering energy demand.²³ These are but a few of the currently enacted federal policies that might be included in regional planning as potential influences on transmission needs, to say nothing of additional agency-specific policies and executive orders.²⁴

In addition to these nationwide policies, many of the regions that have established RTOs or independent system operators (ISOs) have yet another potential policy driver of demand response and energy efficiency that bears consideration: the participation of these resources in regional capacity markets.²⁵ Robust and increasing participation by energy efficiency and demand response in capacity markets should help give regional transmission planners one measure of committed energy efficiency and demand-response resources over a multi-year time frame.

The commendable federal policies described above are dwarfed by state efforts to promote energy efficiency and demand response. Every state in the country has in place at least some relevant policy measures. Most significantly, 24 states have adopted a form of an “energy efficiency resource standard” (EERS).²⁶ These standards require utilities to achieve specified annual reductions in electricity demand—often quite ambitious reductions—over the next decade or so.²⁷ In some cases, these standards also require utilities to achieve certain reductions in peak demand.²⁸ These mandates can be expected to have considerable impact on the need for additional transmission.

State policies extend far beyond EERS. Some other laws and policies that may have important impacts on trans-

19. There are also many federal and state initiatives in place to promote natural gas efficiency, another important component of energy efficiency. However, given this Article's focus on electricity transmission policy, it discusses only policies aimed at electric energy efficiency.

20. See, e.g., Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 1975 Stat. 622, codified at 42 U.S.C. §6321(3) (2012) (“[T]he Federal Government has a responsibility to foster and promote comprehensive energy conservation programs and practices by establishing guidelines for such programs and providing overall coordination, technical assistance, and financial support for specific State initiatives in energy conservation.”).

21. 42 U.S.C. §§6291 et seq. sets minimum standards of energy efficiency for many major appliances (which were first established in the Energy Policy and Conservation Act of 1975 and have since been amended through several acts, including the Energy Independence and Security Act of 2007, Pub. L. No. 110-40, 121 Stat. 1492, which set new general service lighting standards). The 2007 light bulb standards, which will result in a gradual phaseout of incandescent bulbs, see *id.* §321, met some opposition as they neared their effective date of January 1, 2012: in late 2011, U.S. House of Representatives Republicans secured inclusion of a measure blocking funding for enforcement of the standards through September 2012 in a year-end spending bill. But despite this enforcement delay, the standards remain in effect, and most manufacturers are reportedly already complying. See Diane Cardwell, *Despite Delay, the 100-Watt Bulb Is on Its Way Out*, N.Y. TIMES, Dec. 16, 2011, at B1; Brian Palmer, *How Many Light Bulbs Does It Take to Start a Revolution?*, WASH. POST, May 15, 2012, at E2 (reporting that in most places, retailers have only a few remaining incandescent bulbs on the shelves because manufacturers began complying with the law at the beginning of 2012).

22. *Energy Independence and Security Act of 2007*, Pub. L. No. 110-140, 2007 H.R. 6, §431, codified at 42 U.S.C.A. §8253 (2012).

23. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 138.

24. See, e.g., Executive Order No. 13423 of January 24, 2007, Strengthening Federal Environmental, Energy, and Transportation Management (setting a goal for federal agencies to reduce energy intensity 3% per year through 2015).

25. See, e.g., PJM Press Release, *PJM Capacity Auction Secures Record Amounts of New Generation, Demand Response, Energy Efficiency* (May 18, 2012), available at <http://pjm.com/-/media/about-pjm/newsroom/2012-releases/20120518-pjm-capacity-auction-secures-record-amounts-of-new-generation-demand-response-energy-efficiency.ashx>; ISO New England, Results of New England's FCA #5, available at http://www.iso-ne.com/markets/othrmkts_data/fcm/cal_results/ccp15/fca15/fca_5_totals_%20flow_diagram.pdf.

26. MICHAEL SCIORTINO ET AL., ENERGY EFFICIENCY RESOURCE STANDARDS: A PROGRESS REPORT ON STATE EXPERIENCE 18 (American Council for an Energy Efficiency Economy, June 2011).

27. See SANDY GLATT, STATE ENERGY EFFICIENCY RESOURCE STANDARDS ANALYSIS 6 (Dep't of Energy 2010); STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK, SETTING ENERGY SAVINGS TARGETS FOR UTILITIES 4 (Sept. 2011).

28. See, e.g., EmPower Maryland Energy Efficiency Act of 2008, MD. PUB. UTS. COS. CODE §7-211 (requiring utilities to achieve per capita peak demand reductions of 5% by 2011, 10% by 2013, and 15% by 2015); Penn. Act 129 of 2008, 66 PA. CONS. STAT. §2806.1 (requiring utilities to reduce peak demand by 4.5% by May 31, 2013).

mission planning include voluntary efficiency standards, public benefit funds devoted to energy efficiency, policies requiring state-owned buildings to reduce energy use, state appliance standards, state building codes, demand-response programs, state energy and climate plans, as well as many local laws, regulations, and initiatives.²⁹

Looked at together, and as a whole, these federal and state policies amount to a resounding embodiment of a public policy to maximize renewable energy, energy efficiency, and demand response. Thus, implementing Order 1000's call for consideration of public policy-driven transmission needs necessarily involves a serious look at energy efficiency, demand response, and renewables not as incidental considerations, but as central drivers of the transmission planning process. Determining how each of these policies relates to future transmission needs will in some cases be challenging, and will require thoughtful discussion to form realistic assumptions. But the planning process—and, ultimately, consumers who bear the costs for new transmission—will benefit from having as complete an understanding as possible of all the relevant policy drivers out there, whether these drivers are enshrined in current laws and regulations or work through other channels to affect electricity supply and demand.

III. Energy Efficiency and Demand Response as Non-Transmission Alternatives

A second important contribution of Order 1000 is to require “comparable consideration” during the planning process of transmission and non-transmission alternatives for meeting identified needs.³⁰ By requiring this comparable treatment, Order 1000 recognizes the important fact that even once a potential transmission need is identified, a new line is not always the best way to meet that need. In some cases, targeted energy efficiency and demand response may prove to be a more cost-effective *and* socially desirable way of addressing forecasted demand growth.

The comparable-consideration requirement presents an opportunity for regional planners to revise their operating tariffs to create a more robust, transparent comparison process. FERC has declined to establish particular metrics for how this comparison should operate, leaving regions to determine this for themselves.³¹ The ideal process will have clear parameters for how transmission and non-transmission alternatives are compared side-by-side, as well as clarity in the rules for how one resource is ultimately chosen over another competing alternative.

It should be noted that there are open questions about how the implementation of identified non-transmission

alternatives such as energy efficiency and demand response might proceed. Order 1000 put in place a number of reforms related to cost allocation of *transmission* projects specifically, in an effort to ensure that disputes over how costs are spread among beneficiaries will not delay or stymie necessary new transmission.³² However, FERC chose not to require cost allocation for non-transmission alternatives.³³ This decision means that even where it is determined that energy efficiency or demand response is a more efficient or cost-effective solution, potential developers of this non-transmission alternative will likely not have available regional cost allocation as a method for funding the project.

It therefore remains to be seen how, in practice, non-transmission alternatives that are selected as superior solutions to transmission alternatives are implemented and paid for. Perhaps an RTO or ISO could, of its own initiative, include provisions in its tariff establishing cost allocation for some non-transmission alternatives, even though FERC has not required it. FERC is, at least, not entirely closed off to the possibility: Order 1000 notes that “in appropriate circumstances, alternative technologies may be eligible for treatment as transmission for ratemaking purposes.”³⁴ Stakeholders might consider pursuing the issue of developing cost-allocation methodologies for non-transmission alternatives further in front of particular ISOs/RTOs. But even if success on this front is limited at the current time, the robust comparison process that Order 1000 requires is a critical first step in creating more parity between transmission and non-transmission alternatives, thereby protecting consumers and the environment by ensuring that transmission is neither under- *nor* over-built.

IV. Stakeholder Involvement in Regional Planning

There is one additional feature of Order 1000 that will be important in ensuring robust consideration of all policies that may affect transmission needs: Order 1000's focus on stakeholder participation. FERC stresses that it intends for Order 1000 to be highly process-oriented. Instead of mandating certain substantive outcomes, Order 1000 asks regions to design their own processes to incorporate public policy requirements into transmission planning.³⁵ However, FERC is careful to emphasize one point about these processes: they must be transparent and participa-

32. See Order 1000, *supra* note 1, at ¶¶ 482 et seq.

33. *Id.* ¶ 779. FERC may have declined to venture into setting cost allocation methodologies for non-transmission alternatives due to jurisdictional concerns: whereas the Federal Power Act clearly gives FERC jurisdiction over interstate transmission, states traditionally control generation and load. See 16 U.S.C. §824(a).

34. *Id.* ¶ 779 n.563 (citing Proposed Rule, FERC Stats. & Regs. ¶ 32660 at n.58 and *Western Grid Development, LLC*, 130 FERC ¶ 61056 (2010)). In *Western Grid*, FERC held that certain sodium sulfur battery storage projects qualified as “wholesale transmission facilities” because the projects interacted with the relevant ISO in a manner similar to transmission and shared important characteristics with transmission equipment. See *Western Grid Development, LLC*, 133 FERC ¶ 61029 (2010) (Order Denying Rehearing).

35. See Order 1000, *supra* note 1, at ¶¶ 203-18.

29. The Center for Climate Change Law has assembled a list of some of the major federal and state energy efficiency, demand-response, and renewable energy policies that regional transmission planners may want to consider, available on our website at https://www.law.columbia.edu/null/download?&exclusive=filemgr.download&file_id=621900.

30. Order 1000, *supra* note 1, at ¶ 155.

31. See Order 1000-A, *supra* note 7, at ¶ 745.

tory, allowing “*all* stakeholders the opportunity to provide input into what they believe are transmission needs driven by Public Policy Requirements.”³⁶

Order 1000 recognizes the central role that states will have in identifying relevant public policy requirements.³⁷ Given states’ authority over transmission permitting, siting, and construction, as well as many states’ use of integrated resource planning for their utilities, they are in many ways the entities best positioned to estimate future transmission needs.³⁸ In its Clarification Order, FERC demonstrates the primacy that it gives to state planners by suggesting that “regional state committees,” comprised of relevant state regulators from the states within a particular transmission planning region, might be an appropriate starting point for identifying relevant public policies.³⁹

Nevertheless, Order 1000 explicitly declines to recognize states as the sole parties responsible for identifying relevant public policies. Instead, the Order embraces the idea that the participation of a wide community of stakeholders will enhance the transmission planning process.⁴⁰ To facilitate such participation, the Order specifies that there should be a two-way flow of information between stakeholders and regional planners.⁴¹ Regional planning entities are in a superior and unique position with respect to possessing the systems information necessary to evaluate needs and weigh alternatives. Access to relevant data, models, and analyses is therefore an important component of enabling meaningful stakeholder participation, and for this reason, FERC has declared that “transmission providers should make as much transmission planning information publicly available as possible.”⁴²

In turn, Order 1000 requires that regional planning processes be designed to accommodate stakeholder input at multiple stages. The Order calls for stakeholders to be

involved both in identifying potential transmission needs driven by public policy requirements, and later in evaluating potential solutions to meet selected policy-driven transmission needs.⁴³ It will thus be important that regions ensure that if a state-centric approach to identifying public policies is chosen, the process still leaves ample room for other stakeholders to voice their views on relevant policies and have those views seriously considered.

V. Conclusion

FERC’s decision to strengthen regional transmission planning through Order 1000 should be celebrated by those who care about setting our country on a path toward a sustainable energy future. Order 1000’s reforms have tremendous potential to update regional planning efforts to incorporate consideration of our evolving energy priorities and needs. However, it will be up to transmission providers to determine how to translate the general principles of Order 1000 into transparent, inclusive regional planning processes. Public utility transmission providers’ initial compliance filings describing how they will meet the regional planning and cost allocation requirements of Order 1000 were due in October 2012.⁴⁴ Selection of regional processes that allow for ample consideration of relevant energy efficiency and demand-response policies, in addition to renewable energy policies, should improve transmission planning on two important fronts: not only will such processes ensure a cleaner national electricity infrastructure, but by eliminating extraneous transmission where possible, they will also help meet the fundamental system goal of ensuring reliable power at lowest cost. And that is a result that the national government, states, consumers, and environmental advocates should all be able to endorse.

36. *Id.* ¶ 203 (emphasis added). FERC specifies that “‘stakeholder’ is intended to include any party interested in the regional transmission planning process.” *Id.* at ¶ 151 n.143.

37. *See id.* ¶ 209 n.189.

38. *See* Order 1000-A, *supra* note 7, at ¶ 291.

39. *Id.* ¶ 295.

40. *See* Order 1000, *supra* note 1, at ¶¶ 11, 14, 62, 147-49, 151, 155, 157, 160, 164, 167, 203, 206-09, 211-12, 215, 220.

41. *See id.* ¶ 150.

42. Order 1000-A, *supra* note 7, at ¶ 282.

43. *See* Order 1000, *supra* note 1, at ¶¶ 206-09, 211.

44. Public utility transmission providers are given an additional six months to develop compliance plans for interregional planning and cost allocation. *See Summary of Compliance Filing Requirements*, FERC, <http://www.ferc.gov/industries/electric/indus-act/trans-plan/comp-filing.asp> (last visited Aug. 19, 2012).