



UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Grid Resilience in Regional Transmission)
Organizations and Independent System) Docket No. AD18-7-000
Operators)

COMMENTS OF THE LARGE PUBLIC POWER COUNCIL

I. INTRODUCTION AND SUMMARY OF COMMENTS

The Large Public Power Council (“LPPC”) submits these Reply Comments pursuant to the Federal Energy Regulatory Commission’s (“FERC” or “the Commission”) January 8, 2018 Order in this docket¹ and its March 20, 2018 Order extending the date for Reply Comments.²

These comments respond to Commission’s request for input on its proposed definition of “resilience,” and the question whether additional action on the issues raised in this docket is warranted. LPPC’s input is this:

1. LPPC supports the Commission’s proposed definition of resilience, recognizing that much activity in this area precedes this inquiry and is diffused among jurisdictions.
2. The RTO/ISO filings support the conclusion that further consideration of resilience measures should be undertaken on a regional basis, not through additional generic rules.
3. There is no basis for applying additional rules governing resilience to non-RTO regions.
4. To the extent further rules or standards are considered, FERC must be mindful of the statutory limits on its authority.

¹ *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures, 162 FERC ¶ 61,012 (2018) (“January 8 Order”).

² The Commission’s March 20, 2018 Order extended the time for entities to submit reply comments by 30 days, *i.e.*, to May 9, 2018. *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Order Extending Time for Comments, 162 FERC ¶ 61,256 (2018).

II. LPPC'S INTEREST IN THIS PROCEEDING

LPPC is an association of the 26 largest state-owned and municipal utilities in the nation and represents the larger, asset-owning members of the public power sector.³ LPPC members are also members of the American Public Power Association (“APPA”) and own approximately 90% of the transmission assets owned by non-federal public power entities. LPPC members are located throughout the nation, both within and outside RTO boundaries, and they are subject to the Commission’s electric reliability authority under Federal Power Act (“FPA”) section 215. Accordingly, LPPC has a direct interest in this proceeding.

LPPC provided comments on the Notice of Proposed Rulemaking initiated by the Department of Energy (“DOE”) in Docket No. RM18-1.⁴ LPPC opposed the NOPR, in view of DOE’s focus on specific generating resources, but supported “a national conversation, through proceedings at FERC and elsewhere, to examine the impact on electric grid resilience and reliability of the nation’s changing generation mix in organized markets.”⁵ LPPC supports the inquiry in this docket as well, seeing it as a valuable further step in an ongoing discussion.

³ LPPC’s members are: Austin Energy, Chelan County Public Utility District No. 1, Clark Public Utilities, Colorado Springs Utilities, CPS Energy (San Antonio), ElectriCities of North Carolina, Grand River Dam Authority, Grant County Public Utility District, IID Energy (Imperial Irrigation District), JEA (Jacksonville, FL), Long Island Power Authority, Los Angeles Department of Water and Power, Lower Colorado River Authority, MEAG Power, Nebraska Public Power District, New York Power Authority, Omaha Public Power District, Orlando Utilities Commission, Platte River Power Authority, Puerto Rico Electric Power Authority, Sacramento Municipal Utility District, Salt River Project, Santee Cooper, Seattle City Light, Snohomish County Public Utility District No. 1, and Tacoma Public Utilities.

⁴ *Grid Resiliency Pricing Rule*, 82 Fed. Reg. 46,940 (Oct. 10, 2017) (“DOE NOPR”); see *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-1-000.

⁵ See Comments of the Large Public Power Council, Docket No. RM18-1-000, at 1 (filed Oct. 23, 2017).

III. COMMENTS

A. **LPPC Supports the Commission’s Proposed Definition of Resilience, Recognizing that Much Activity in this Area Precedes this Inquiry and is Diffused Among Jurisdictions.**

The January 8 Order begins with a definition of resilience that LPPC supports. Working with the framework articulated by the National Infrastructure Advisory Council, FERC proposes to define resilience this way:

The ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to, and/or rapidly recover from such an event.⁶

While the definition is fairly simple, it speaks to a topic that is multi-faceted and on which much has already been done and is being done. Further, the discussion involves a broad range of assets and activities, some within and some outside FERC’s authority, including local distribution, generation and transmission, along with operations and planning regulated at the state, local and federal levels.

The focus on resilience at the distribution level has been ongoing for quite some years, with needed efforts driven by extreme weather-related events, including Hurricanes Sandy, Katrina and Harvey. In New York State, for example, not long after Hurricane Sandy and the recommendations of a commission empaneled by the Governor, the New York Public Service Commission directed state jurisdictional utilities to implement a broad range of measures aimed at (among other things) improving: (1) the development and timely issuance of localized restoration times; (2) utility mutual assistance; and (3) improving procedures for responding to large-scale flooding events.⁷ For its part, the Florida Public Service Commission, responding to

⁶ January 8 Order at P 23.

⁷ State of New York, *Governor Cuomo Announces Strengthened Emergency and Storm Response Requirements for Utilities* (Aug. 15, 2013), available at

the impact of Hurricanes Matthew, Hermine, Irma, Maria and Nate, launched a wide-ranging inquiry into utility preparation, asset resilience and restoration, principally focused on distribution assets. Topics covered by the inquiry include: (1) staging for utility personnel and mutual aid; (2) damage assessment; (3) restoration workload; (4) needed staffing; (5) customer communications; (6) needed materials; and (7) restoration.⁸ In California, LPPC members Sacramento Municipal Utility District and Los Angeles Department of Water & Power have been an integral part of state-wide workshops and working groups aimed at developing best practices addressed to the identification and mitigation of distribution-level risks and vulnerabilities.⁹ These efforts have been mirrored in other proceedings around the nation, and public power utilities have been an integral part of these discussions.¹⁰

Some aspects of the subject are addressed by North American Electric Reliability Corporation (“NERC”) reliability standards, including system planning and emergency operations, and some are not, given significant limitations on NERC’s authority. NERC standards have long provided baseline parameters for transmission planning that contemplate major disturbances, emergency operations and resumption of service following major

[https://www3.dps.ny.gov/pscweb/webfileroom.nsf/Web/834E373162E40F9D85257BC8006B86B2/\\$File/Gov%208-15-13.pdf?OpenElement](https://www3.dps.ny.gov/pscweb/webfileroom.nsf/Web/834E373162E40F9D85257BC8006B86B2/$File/Gov%208-15-13.pdf?OpenElement).

⁸ Fl. Pub. Serv. Comm’n, Docket No. 20170215-EU, Review of Electric Utility Hurricane Preparedness and Restoration Actions, Staff’s First Data Request (Nov. 14, 2017), *available at* <http://www.floridapsc.com/library/filings/2017/09780-2017/09780-2017.pdf>. Prior to this inquiry, the Florida PSC had required jurisdictional utilities to prepare and file plans for hardening their facilities in anticipation of destructive storms. *See*: <http://www.psc.state.fl.us/ClerkOffice/ShowDocket?orderNum=PSC-2007-0043-FOF-EU>.

⁹ *See* Joint Parties’ Filing of Updated Draft Straw Proposal for Physical Security Regulations, Cal. Pub. Utils. Comm’n Rulemaking No. 15-06-009 (filed Aug. 31, 2017), *available at* <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=196148336>.

¹⁰ Public power entities have also been involved in regional and national mutual aid arrangements, such as that reflected in the Regional Equipment Sharing for Transmission Outage Restoration (“RESTORE”) Agreement, pursuant to which the bilateral transfer of electric transformers and other critical transmission-related equipment is facilitated. LPPC member South Carolina Public Service Authority is a non-FERC jurisdictional signatory to this agreement, for which FPA section 203 pre-approval was issued by the Commission on April 3, 2018. *See Jurisdictional Regional Equipment Sharing for Transmission Outage Restoration Participants*, 163 FERC ¶ 61,005 (2018).

disruptions.¹¹ More recently, NERC has developed a “Resilience Framework,” aimed at coalescing the activities within its domain that support resilience with respect to the Bulk Power System.¹²

To the extent this discussion involves the impact of federally regulated wholesale markets on needed investment in generation, it is appropriately within FERC’s authority, but subject to significant limitations depending on the nature of the assets and markets. FERC’s authority over wholesale markets carries with it responsibility for the impact of regulation on generation investment only in organized markets where wholesale pricing affects the adequacy and attributes of generation relevant to a resilient grid. That is not the case in non-RTO markets which have not restructured, as also discussed below.

LPPC supports a national conversation on the subject of grid resilience and the means by which resilience can be enhanced. But the discussion must be bounded by recognition of the limits on FERC’s authority, as also discussed below.

LPPC also emphasizes that in all jurisdictions in which this discussion takes place, it is important for relevant authorities to weigh the impact on resilience of specific recommended measures against the associated costs. System and asset redundancy, for instance, is a prime example of the type of asset reinforcement that can enhance resilience. But where one distribution or transmission tower may be thought adequate, inevitably, two, three or ten redundant systems would add to grid resilience. Of course, few would recommend incurring the associated cost of infinite redundancy, giving rise to the important judgment calls regarding

¹¹ See, e.g., NERC Reliability Standards TPL-001; 004; TPL-007-001; and EOP Standards EOP-004 through EOP-011.

¹² See NERC, Resilience Framework, Agenda Item 8b, NERC Member Representatives Committee Meeting (Feb. 7, 2018), available at https://www.nerc.com/gov/bot/MRC/Agenda%20Highlights%20nad%20Minutes%202013/MRC_Agenda_Package_February_2018.pdf.

diminishing returns on resilience and reliability investments that responsible regulators must acknowledge in this discussion.

B. The RTO/ISO Filings Support The Conclusion That Further Consideration Of Resilience Measures Should Be Undertaken On A Regional Basis, Not Through Additional Generic Rules.

The RTO/ISO March 9, 2018 filings in this proceeding describe wide-ranging circumstances and divergent concerns, with each region's situation a function of different generating resources, weather conditions, fuel supply and gas pipeline capacity, and geography. These varied circumstances result in different emphases on the resources on which each region is focused in enhancing resilience, with some regions relatively more concerned about generation mix, whereas others are focused more so on transmission concerns, distribution and fuel supply. Perceived levels of risk also vary dramatically.

For its part, ISO New England ("ISO-NE") voices significant concern over the lack of firm natural gas transportation needed to serve a generation fleet substantially dependent on natural gas-fired generation.¹³ With coal and oil-fired generation having declined from 40% of its generating fleet in 2000 to 3% in 2016, and with reliance on natural gas-fired generation having increased to 49%, ISO-NE indicates that its most dramatic challenge is to meet the need for additional natural gas infrastructure (pipeline transportation and storage) to provide firm pipeline transportation capacity to generating resources now relying on interruptible natural gas supply. Additional pipeline capacity is also needed to firm up deliveries from LNG facilities.¹⁴ This shortcoming is felt particularly during cold winter periods, when competing reliance on natural gas supply for heating needs is acute. As well, ISO-NE indicates it may endeavor to

¹³ ISO-NE comments at 5-10.

¹⁴ *Id.* at 20-21.

retain the limited coal and oil-based resources that the region retains, though this solution is said to be considered as an interim measure only.¹⁵

In marked contrast, the California Independent System Operator (“CAISO”) identifies natural events such as earthquakes, drought and fires as its highest ranking risks, posing threats to transmission, distribution and generating facilities.¹⁶ Changing weather conditions are said to pose challenges, due to the impact on the availability of renewable solar and wind resources. CAISO points out that these threats differ meaningfully from those facing its eastern RTO/ISO counterparts, where severe cold weather conditions and hurricanes are of greater concern.¹⁷ And while CAISO does not see an issue with resource mix, it identifies certain transmission issues in “uniquely situated areas” such as the San Francisco Peninsula, due to characteristics which include high density urban load and geographic and system configuration.¹⁸ CAISO reports that the system is otherwise managing a high degree of renewable integration.

Working with quite a different resource base, the New York Independent System Operator (“NYISO”) comments that its fuel risk is mitigated by the diversity of in-state resources, and broad availability (84%) of dual fuel capability for natural gas-fired generating capacity.¹⁹ NYISO represents that generating resources secured through the competitive markets it administers meet NERC’s (N-1) planning standard, New York’s enhanced reserve requirement and increased reserve requirements the NYISO implemented following the 2013-14 winter.²⁰ NYISO does not identify generation or transmission shortcomings requiring remedy.

¹⁵ *Id.* at 12.

¹⁶ CAISO comments at 10, 77-83.

¹⁷ *Id.* at 83.

¹⁸ *Id.* at 46-48.

¹⁹ NYISO comments at 31.

²⁰ *Id.* at 6-10.

Similarly, in comments that broadly describe a variety of planning and events assessment tools, the Midcontinent Independent System Operator (“MISO”) comments that it does not face “any imminent reliability or resilience issues.”²¹ The list of threats to resilience compiled by MISO includes: communications interruptions, natural disasters, changing resource portfolio, and physical and cyber threats.²² Significantly, while MISO identifies its changing resource portfolio as a risk, it also indicates that the related issues are being effectively handled through a market structure, which it says optimizes needed energy and ancillary services, and through contingency planning.²³ For its part, PJM Interconnection (“PJM”) describes a multi-faceted risk analysis and management structure. Addressing its asset base, PJM identifies increasing reliance on natural gas pipelines as a significant risk factor calling for further coordination and analysis, and it asks for more direct planning authority to manage risk factors. But PJM does not identify its available asset mix as itself reflecting an unmanageable risk.²⁴

Taken together, these filings make it clear that challenges, solutions and the perception of risk varies substantially across the nation. Within each RTO/ISO, an approach that considers the unique circumstances and conditions facing each region is essential. In some regions, it is certainly possible to envision new structures for compensation through markets designed to elicit needed investment meeting desirable reliability criteria. For example, mechanisms to encourage the development and use of flexible, backstop capacity, in regions with a significant renewable penetration, may be useful. But it would be a mistake to mandate solutions such as this across the board, in situations that are so varied. Receptivity by FERC to such proposals on a region-

²¹ MISO comments at 2, 7, 12.

²² *Id.* at 11-14.

²³ *Id.* at 17-20.

²⁴ PJM comments at 19-34.

specific basis will be useful, but it is difficult to see that generic solutions or additional rules would successfully weave a pattern through the dissimilar situations and conditions in which the RTOs/ISOs operate.

C. There Is No Basis For Applying Any Additional Rules Governing Resilience To Non-ISO/RTO Regions.

LPPC sees no basis for extending additional rules or requirements related to resilience to non-RTO regions, as has been recommended by PJM and MISO, in comments asserting that additional requirements should be imposed on all jurisdictional service providers.²⁵ The animating concern giving rise to the DOE NOPR and running through many of the associated comments focused on generation (resource) adequacy. This is not an issue within FERC's domain in non-RTO regions, where states and localities maintain authority over generation investment decisions and cost recovery.

To be more specific, the DOE NOPR highlighted the impact on grid resilience of retirements of baseload generation, particularly coal and nuclear powered facilities. According to DOE, the importance of these facilities was underscored during the 2014 Polar Vortex, in which these plants played a prominent role in supporting the grid. Citing the imminent retirement of many of these facilities, DOE proposed that FERC provide cost-based compensation for generation with 90-day fuel supply on-site. DOE specifically recommended that RTOs and ISOs with energy and capacity markets establish tariff mechanisms providing for: (1) the purchase of energy from so-called "reliability and resilience resources" having a 90-day fuel supply on-site; and (2) the recovery of costs and a return on equity for such resources.²⁶

²⁵ See MISO comments at 2; PJM comments at 5-7.

²⁶ See January 8 Order at PP 2-3.

None of this has any bearing on the generation mix and resilience attributes of non-RTO regions. In states that have not restructured, and in which utilities, state commissions and local authorities maintain the obligation to ensure that sufficient generation is available to achieve state and locally-mandated resource adequacy requirements, the generation-related resilience concern underlying the DOE NOPR simply does not exist.

Further, as discussed in greater detail below, there is no legal basis for the exercise of federal authority over generation resource adequacy in non-RTO regions. As FERC has observed, its responsibility for resource adequacy in restructured RTO regions follows from the fact that federally administered wholesale markets are substantially responsible for generation compensation.²⁷ Outside these regions, while FERC maintains authority over wholesale sales by jurisdictional entities, FERC-jurisdictional wholesale markets are not the predominant source of funding for the generation sector. Rather, compensation for generation is assured principally through the inclusion of related investment in state-regulated retail rates, while resource adequacy is the responsibility of state and local authorities.

D. To The Extent Any Further Rules Or Standards Are Considered, FERC Must Be Mindful Of The Limits On Its Authority.

To the extent FERC chooses to take further action to address resilience, it is important for the Commission to acknowledge the limitations on its authority under relevant sections of the FPA, sections 215, 205 and 206.²⁸

²⁷ See, e.g., *ISO New England, Inc. and New England Power Pool*, 118 FERC ¶ 61,157 at PP 15-21 (2007); *PJM Interconnection, LLC*, 119 FERC ¶ 61,318 at PP40-48 (2007).

²⁸ 16 U.S.C. §§ 824d, 824e, 824o. These sections of the FPA are cited generally by certain ISO/RTO commenters in support of FERC action in this area. PJM asserts that in defining resilience, “the Commission should clarify that resilience is included in its existing statutory authority.” PJM comments at 11. PJM cites specifically the definition of “reliable operation” under FPA section 215 and the Commission’s obligation to assure just and reasonable rates (FPA sections 205 and 206).

Specifically as to FPA section 215, FERC’s authority is meaningfully constrained procedurally and substantively. As to process, the statute specifies that the Commission can act only through the approval and enforcement of reliability standards. Section 215(b) provides that “[t]he Commission shall have jurisdiction....over the ERO [Electric Reliability Organization] ...any regional entities, and all users, owners and operators of the bulk power system...*for the purposes of approving reliability standards established under this section and enforcing compliance with this section.*”²⁹ FPA section 215 is not a general grant of authority for FERC to take action on reliability or resilience outside its specific statutory role in the approval and enforcement of standards.

As to the substantive reach of FPA section 215, it is important to recognize that the statute authorizes standards governing operations and design, but not investment. Nor does the statute permit FERC or NERC to address local distribution.

FPA sections 215(a)(3) and (a)(4) specify that reliability standards are to provide for the “reliable operation” of the Bulk Power System, while reliable operation is defined to mean “operating the elements of the bulk- power system....so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.”³⁰

Section 215(a)(3) expressly states that the term “reliability standard” encompasses the “*operation* of existing bulk-power system facilities....and the *design* of planned additions or modifications to [bulk power system] facilities to the extent necessary to provide for reliable

²⁹ 16 U.S.C. § 824o(b) (emphasis added).

³⁰ Under the NERC Glossary of Terms Used in NERC Reliability Standards, “Disturbance” defined to include “abnormal system condition[s]” or “unexpected change in ACE that is caused by the sudden failure of generation or interruption of load.” See NERC, Glossary of Terms Used in NERC Reliability Standards (updated Jan. 31, 2018), available at https://www.nerc.com/files/glossary_of_terms.pdf.

operation of the bulk-power system, *but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.*³¹ Even more pointedly, section 215(i)(2) of the statute specifies that it “does no authorize the ERO or the Commission to order the construction of additional generation or transmission capacity or to set and enforce compliance with standards for adequacy or safety of electric facilities or services.”

In a further limitation under section 215(a)(1) of the statute, the term “bulk-power system,” describing the facilities and systems to which reliability standards may be addressed, expressly “does not include facilities used in the local distribution of electric energy.” With respect to the discussion of resilience, of course, that limitation is substantial, since the distribution facilities are on the front line with respect to disturbances associated with naturally occurring events.

FPA sections 205 and 206 also offer FERC some authority in this area, but subject to significant limitations. Though resilience is a relatively new term as used in this setting, it has been said historically that rates should be as low as possible “consistent with the maintenance of safe and reliable service.”³² By the same token, it seems reasonable to say that if the level or structure of FERC rates is not adequate to elicit sufficient investment to provide for grid resilience, as the Commission has defined it, those rates may not be just and reasonable.

With that said, this logic carries its own limitation: Rates may not be adequate to support a resilient grid, and that observation may suggest that FERC-administered markets should be adjusted in order provide for adequate service, but this does not give FERC general authority over practices related to grid resilience. Indeed, if it were otherwise, FERC would have

³¹ 16 U.S.C. §§ 824o(a)(3) (emphasis added).

³² See, e.g., *ExxonMobil Corp. v. Entergy Servs.*, 122 FERC ¶ 61,168, P 35 (2008); *San Diego Gas & Electric Co. v. Sellers of Energy and Ancillary Servs.*, 93 FERC ¶ 61,121 at 61,379 (2000).

had general authority over matters related to Bulk Power System reliability under FPA sections 205 and 206, and FPA section 215 would not have been necessary. Of course, the statute has not been read that way, and FPA section 215 was enacted by Congress in order to provide FERC with express, if limited, authority over reliability matters.

For these reasons, while FERC may have a legitimate interest and need to determine whether the organized wholesale markets it oversees are adequate to support a resilient grid, FPA sections 205 and 206 do not carry it further. For example, there is no general question whether FERC jurisdictional transmission rates are adequate to support grid resilience, and therefore no case for the exercise of general FERC authority over resilience with respect to transmission investment or operations. Nor is there a question whether FERC-approved wholesale rates outside RTOs are generally adequate to support generation investment since, as discussed above, revenue streams associated with generation assets outside RTO markets are largely the responsibility of state commissions and local authorities. Accordingly, FPA sections 205 and 206 do not carry general authority for FERC to oversee practices related to resilience.

IV. CONCLUSION

For the reasons articulated above, LPPC asks the Commission to take these comments into account in connection with its disposition of the issues in this docket.

Respectfully submitted,

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