UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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

COMMENTS OF CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, ISO NEW ENGLAND INC., MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC., NEW YORK INDEPENDENT SYSTEM OPERATOR, INC., AND SOUTHWEST POWER POOL, INC.

The California Independent System Operator Corporation ("CAISO"), ISO New England Inc. ("ISO-NE"), Midcontinent Independent System Operator, Inc. ("MISO"), New York Independent System Operator, Inc. ("NYISO"), and Southwest Power Pool, Inc. ("SPP") ("Joint Commenters") respectfully submit this limited reply to the Comments and Responses of PJM Interconnection, L.L.C. ("PJM"), filed with the Federal Energy Regulatory Commission ("Commission") on March 9, 2018.[1] In response to questions posed by the Commission in the January 8, 2018 *Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures* in the captioned proceeding,[2] PJM requests that the Commission require all Regional Transmission Organizations ("RTOs") and Independent System Operators ("ISOs") to undertake a series of actions, many of which are based on initiatives or reforms PJM is pursuing to address issues it faces.

In this reply, the Joint Commenters respectfully request that the Commission decline to impose the PJM-identified proposals on other regions.[3] As fully discussed below, the record in this proceeding does not support any universal resilience standard or tariff changes requirements

[1] *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Comments and Responses of PJM Interconnection, L.L.C., Docket No. AD18-7-000 (March 9, 2018) ("PJM Response").
[2] *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, 162 FERC ¶ 61,012 (2018) ("Resilience Order").
[3] The individual RTOs/ISOs joining in these comments may also file separate reply comments in this proceeding.

to be applied to all RTOs/ISOs. To the contrary, the record demonstrates that RTOs/ISOs have different resilience issues and priorities, and requiring all RTOs/ISOs to follow PJM's proposed schedule on the issues pertinent to PJM will undermine each RTO/ISO's efforts to address the specific challenges within its region. Thus, the Commission should reject PJM's requests and allow individual RTOs/ISOs to pursue the resilience-related issues and initiatives they have identified in their region through collaborative efforts with their stakeholders and pursuant to the timeframes they have established. Joint Commenters take no position on PJM's requested relief insofar as it relates solely to specific circumstances presented within PJM's region.

I. BACKGROUND

In the Resilience Order, the Commission terminated a rulemaking initiated by the United States Department of Energy's Proposed Rule on Grid Reliability and Resilience Pricing,[4] and established the instant proceeding to examine the resilience of the bulk power system in RTO/ISO regions. The Commission sought to comprehensively examine the bulk power system's resilience with the goals of developing a common definition of resilience, better understanding how each RTO/ISO assesses resilience in its region, and evaluating whether further Commission action regarding resilience is necessary.[5] To those ends, the Commission posed specific questions to the RTOs/ISOs seeking information on how each RTO/ISO understands resilience, assesses resilience in its respective region, and mitigates resilience risks.[6]

[4] *Grid Resilience Pricing Rule*, 82 Fed. Reg. 46,940 (Oct. 10, 2017).

[5] *See* Resilience Order at P 19 (explaining, "[w]e recognize that the RTOs/ISOs are well-suited to understand the needs of their respective regions and initially assess how they address resilience given their individual geographic needs.").

[6] *Id*. at P 23 (noting that the Commission understands resilience to mean "[t]he 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 recovery from such an event."). *See id*. at P 19 (emphasizing, "[t]he efforts of RTOs and ISOs on grid resilience encompass a range of activities, including wholesale electric market design, transmission planning, mandatory reliability standards, emergency action plan development, inventory management, and routine system maintenance.").

On March 9, 2018, each RTO/ISO filed its response to the Resilience Order.[7] The responses focused on how each respective RTO/ISO currently assesses and supports resilience of the bulk power system within its footprint, the specific or unique challenges facing its region, and the path forward within its region to address potential challenges to resilience.

Each RTO/ISO's response identified the steps it has undertaken in planning, markets, and operations to support the reliability and resilience of the bulk power system in its region. The responses make clear the prevalence and strong influence of regional differences in assessing and addressing resilience given, among other things, differences in various factors, such as geography, resource mix, fuel supply options, and environmental requirements. Although not all RTOs/ISOs identified immediate or imminent resilience concerns in their regions, each identified specific potential improvements intended to enhance resilience within their respective region. The potential improvements identified by each RTO/ISO and their ongoing evaluation thereof reflect each region's specific needs, circumstances, and conditions. The responses also described the ongoing initiatives or future efforts within each region to further pursue these potential enhancements.

Despite the unique circumstances and conditions facing each region, PJM's Response requests in several instances that the Commission direct all RTOs/ISOs to undertake certain

[7] *See Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Comments of the California Independent System in Response to the Commission's Request for Comments About System Resiliency and Threats to Resilience, Docket No. AD18-7-000 (March 9, 2018) ("CAISO Response"); *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Response of ISO New England Inc., Docket No. AD18-7-000 (March 9, 2018) ("ISO-NE Response"); *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Responses of the Midcontinent Independent System Operator, Inc., Docket No. AD18-7-000 (March 9, 2018) ("MISO Response"); *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Response of the New York Independent System Operator, Inc., Docket No. AD18-7-000 (March 9, 2018) ("NYISO Response"); *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Comments of Southwest Power Pool, Inc., Docket No. AD18-7-000 (March 9, 2018) ("SPP Response").

reforms based on efforts PJM is actively pursuing to address issues specific to its region.[8] For example, PJM requests that the Commission take the following action:

> Requests that all RTOs (and jurisdictional transmission providers in non-RTO regions) submit a subsequent filing, including any necessary proposed tariff amendments, for any proposed market reforms and related compensation mechanism to address resilience concerns within nine to twelve months from issuance of a Final Order in this docket. PJM, together with its stakeholders, is already actively evaluating such potential reforms that advance operational characteristics that support reliability and resilience, including (i) improvements to its Operating Reserve market rules and to shortage pricing, (ii) improvements to its Black Start requirements, (iii) improvements to energy price formation that properly value resources based upon their reliability and resilience attributes, and (iv) integration of distributed energy resources ("DERs"), storage, and other emerging technologies. A deadline for submission of market rule reforms that the RTO feels would assist with the resilience efforts would help ensure focus on these issues in the stakeholder process.

The PJM Response similarly requests that the Commission establish a deadline (9-12 months) for all ISOs and RTOs (as well as all transmission providers in non-RTO regions) to (1) submit filings, including any necessary tariff amendments, to implement resilience planning criteria and processes, and (2) file any necessary rule changes to improve cross-industry coordination, planning, restoration activities, and market mechanisms.[9] The Joint Commenters address these requests in this reply.

II. COMMENTS.

The Commission Should Not Impose on Other RTOs/ISOs the Actions and Deadlines Specified in PJM's Response

The Commission should not impose on other RTOs/ISOs the specific actions and deadlines PJM requests, many of which are based on reforms PJM is pursuing to address issues specific to its region. The record in this proceeding is comprehensive and reflects the unique resilience issues and initiatives that vary from region to region. The Commission should

[8] *See* PJM Response at 5-8, 65-66, 68.
[9] *See id*. at 5-8, 65-66.

continue to recognize regional differences that exist among RTO/ISO wholesale market structures, tariffs, and governance structures. If the Commission chooses to impose any obligations or deadlines as a result of PJM's requests, the Joint Commenters request the Commission only apply those obligations to PJM.

Consistent with the expectations and requirements of the Resilience Order, each of the RTOs/ISOs has identified unique resilience challenges that exist in their respective regions given the specific circumstances and conditions in their regions, such as differences in geography, resource mix, fuel supply, environmental requirements, and how each approaches and mitigates these challenges.[10] The considerations and approaches reflected in the responses are different even with respect to threats that potentially affect all regions, such as weather-related events and fuel supply.

Although challenges presented by ongoing changes to the resource mix and fuel supply potentially affect all regions, the actual and expected resource mix, the specific risks presented, the urgency and magnitude of the impact, and the potential solutions to address such risks vastly differ among the regions. For example, as detailed in ISO-NE's response, New England's continuing industry trends of replacing coal-fired, oil-fired, and nuclear generation with natural gas-fuel and renewable resources that rely on non-firm or inherently intermittent fuel have

[10] *See* CAISO Response at 10-11 (identifying naturally occurring risks, such as earthquakes, drought, and changing weather conditions (cloud cover, solar eclipse) as the primary challenges to the resilience of the CAISO bulk power system); ISO-NE Response at 4-5 (identifying fuel security as the most significant risk to the resilience of New England's bulk power system); MISO Response at 2-3 (noting, "MISO does not have any imminent or immediate resilience concerns," but identifying three areas were improvements can be made relative to the experiences in its region - information technology tools, transmission planning, and inter-regional operations); NYISO Response at 28-33 (identifying ongoing initiatives and future efforts in response to the ongoing transformation of the electric system that is occurring in New York); SPP Response at 4 (identifying extreme weather, such as tornados and drought, as primary resilience risks).

heightened the region's fuel-security risk,[11] which ISO-NE's response identifies as the most significant and imminent risk to the resilience of New England's bulk power system.[12] MISO, like ISO-NE, is also experiencing an influx of natural gas-fired resources; however, such increases do not present the same risks as in New England, where fuel-infrastructure and dual-fuel capability are limited. As MISO's response indicated, while reliance on gas-fired generation has grown significantly in recent years, because of MISO's geographic scope and position, natural gas supply infrastructure disruptions are low-probability risks.[13] The NYISO is also experiencing ongoing changes to the resource mix in New York, including increasing reliance on natural gas-fired generation, increasing levels of renewable resources, and increasing deployment of distributed energy resources. The NYISO's current fuel-security risks, as its response explained, are "mitigated by the strong presence of dual-fuel capability throughout the State's current natural gas-fired generation fleet, and diversity of natural gas pipelines and LDC systems that serve the generators."[14] The NYISO, however, recognized the need to continue to evaluate potential fuel-security concerns on an ongoing basis.[15] The NYISO also noted the challenges and opportunities presented by the ongoing transformation of New York's electric system and identified a series of initiatives it is already pursuing with its stakeholders in response thereto.[16]

Further, the CAISO and SPP identified naturally-occurring weather events as the primary risks to resilience within their footprints, but their paths forward differ. The CAISO footprint "faces natural threats primarily from earthquakes, drought, and fires, not hurricanes or extreme

[11] ISO-NE refers to fuel-security risk is the possibility that the region's generating fleet will not have, or be able to obtain, the fuel they need to produce the energy required to meet system demand and maintain required reserves during expended periods of cold winter weather.
[12] *See id*. at 6-8.
[13] *See* MISO Response at 13.
[14] NYISO Response at 25.
[15] *Id*. at 31-32
[16] *Id*. at 28-33.

cold conditions like other regions."[17] As the CAISO explained, CAISO-specific planning standards and operational measures already enable the CAISO to assess and prepare for extreme events.[18] For example, the CAISO has adopted specific regional planning standards that permit it, *inter alia,* to identify and approve reliability solutions that go beyond NERC- and WECC-established requirements[19] (*e.g.*, to mitigate the risk of extreme events in the San Francisco Peninsula and potentially other areas on the grid and to mitigate NERC TPL-001-4 standard P1-P7 contingencies in high density urban load areas in lieu of allowing non-consequential load dropping). Given its geographical footprint, SPP's response also identified severe weather events, such as tornados (which can destroy significant portions of the bulk power system), drought, and ice storms, as the primary impacts to the region's bulk power system resilience.[20] SPP currently evaluates these extreme events through planning assessments. However, SPP identified, *inter alia*, clear resilience-supporting cost recovery and cost allocation mechanisms to ensure sufficient funding for identified transmission needs to support the robustness of the system in order to mitigate these resilience risks as an area where more work needs to be done in its region.[21]

As the Resilience Order recognized,[22] and the responses show, resilience challenges differ in each RTO/ISO-operated region, given significant regional differences. RTOs/ISOs must be afforded the flexibility to prioritize, in collaboration with their respective region's

[17] CAISO Response at 5, 10-11.
[18] *See id*. at 13-14 (describing, the efforts CAISO undertakes to understand risks associated with these types of extreme events, such as regularly communicating and coordinating with third parties with expertise in these areas, such as the "experts at the US Geological Survey regarding earthquake risks," "weather agencies regarding potential El Nino, La Nina, and weather-related matters," and "the California Department of Forestry and Fire Protection" regarding "expected fire dangers as California's fire season approaches and during the season itself."); *id*. at 14, 27 (describing, CAISO planning and operational efforts to assess and prepare for the impacts of extreme events).
[19] *See id*. at 23-24, 46-47.
[20] *See* SPP Response at 4, 12.
[21] *See id*. at 12-13, 14.
[22] Resilience Order at P 25-26.

stakeholders, their own efforts, and identify the solutions that are needed to maintain reliability and resilience based on their specific circumstances and conditions. PJM's request for the Commission to impose selected reforms and arbitrary deadlines on all RTOs/ISOs fails to account for differences in the nature and scope of any concerns among the regions. The request also fails to account for unique regional governance structures, stakeholder concerns, and decision-making dynamics that must be respected in order to develop broadly supported proposals within each region and minimize otherwise avoidable litigation before the Commission. As a result of these differences, the priorities and solutions PJM has identified as appropriate for its region might not be appropriate or necessary to resolve problems in another region. A Commission directive to all RTOs/ISOs imposing deadlines to address the PJM-identified proposals could thwart or frustrate progress made, or divert resources from further progress, in addressing a region's specific needs.

Accordingly, if the Commission chooses to impose any obligations as a result of PJM's requests, the Joint Commenters request the Commission apply those obligations only to PJM, and allow for other RTOs/ISOs to continue working through the governance processes within their respective regions on resolving the resilience challenges they face within timeframes that account for the complexities of the challenges and the potential solutions to address them.

III. CONCLUSION

WHEREFORE, for the reasons set forth above, the Joint Commenters respectfully request that the Commission take these comments into consideration and not impose the actions or deadlines identified in the PJM Response on all RTOs/ISOs, given regional differences and the unique circumstances and conditions facing each region.

Respectfully submitted,

/s/ *Anthony J. Ivancovich*
Roger E. Collanton
General Counsel
Anthony J. Ivancovich
Deputy General Counsel
Anna McKenna
Assistant General Counsel
Andrew Ulmer
Director, Federal Regulatory Affairs
California Independent System Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 608-7135
Fax: (916) 608-7222
Email: aivancovich@caiso.com

/s/ *Garrett E. Bissell*
Robert E. Fernandez, General Counsel
Raymond Stalter, Director, Regulatory Affairs
Garrett E. Bissell, Senior Attorney
New York Independent System Operator, Inc.
10 Krey Boulevard
Rensselaer, New York 12144
Email: gbissell@nyiso.com

/s/ Raymond W. Hepper
Raymond W. Hepper
Vice President, General Counsel, and Secretary
Monica Gonzalez
Senior Regulatory Counsel
ISO New England Inc.
One Sullivan Road
Holyoke, Massachusetts 01040
Tel: (413) 535-4000
Fax: (413) 535-4379
Email: mgonzalez@iso-ne.com

/s/ Joseph W. Ghormley
Paul Suskie
Executive Vice President,
Regulatory Policy &
General Counsel
Joseph W. Ghormley
Senior Attorney
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223
Phone: (501) 614-3200
Fax: (501) 482-2022
Email: psuskie@spp.org
jghormley@spp.org

/s/ Jonathan J. Tauber
Andre T. Porter
Vice President and General Counsel
Jonathan J. Tauber
Managing Senior Corporate Counsel
Midcontinent Independent
System Operator, Inc.
720 City Center Drive
Carmel, IN 46032
Phone: (317) 249-5200
Email: aporter@misoenergy.org
jtauber@misoenergy.org

Dated: May 8, 2018

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Holyoke, Massachusetts this 8th day of May, 2018.

/s/ Julie Horgan
Julie Horgan
eTariff Coordinator
ISO New England Inc.
One Sullivan Road
Holyoke, MA 01040
(413) 540-4683