

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Reliability Technical Conference

)

Docket No. AD22-10-000

**POST-TECHNICAL CONFERENCE COMMENTS OF
THE AMERICAN PUBLIC POWER ASSOCIATION,
THE LARGE PUBLIC POWER COUNCIL, AND
TRANSMISSION ACCESS POLICY STUDY GROUP**

The American Public Power Association (“APPA”),¹ the Large Public Power Council (“LPPC”),² and Transmission Access Policy Study Group (“TAPS”)³ (together, the “Public Power Associations”) appreciate the opportunity to submit these post-technical conference comments in response to the November 22, 2022 notice issued by the Federal Energy Regulatory Commission (“Commission” or “FERC”) in the above-captioned proceeding.

I. INTRODUCTION

The Public Power Associations were represented at the November 10, 2022 technical conference in this docket by John Haarlow, Chief Executive Officer and General Manager of Public Utility District No.1 of Snohomish County, Washington (“Snohomish”). Mr. Haarlow also serves as a State/Municipal Utility member of the Member Representatives Committee of the North American Electric Reliability Corporation (“NERC”). In his preconference statement,

¹ APPA is the national service organization representing the interests of not-for-profit, state, municipal, and other locally owned electric utilities in the United States. More than 2,000 public power systems provide over 15 percent of all kilowatt-hours sales to ultimate customers and serve over 49 million people, doing business in every state except Hawaii.

² LPPC is the association of the 27 largest state-owned and municipal utilities in the nation. LPPC’s members are located throughout the nation, both within and outside the boundaries of regional transmission organizations and independent system operators. The members comprise the larger, asset-owning utilities in the public power community, owning approximately 90 percent of the transmission assets owned by non-federal public power entities. LPPC members are also members of APPA.

³ TAPS is an association of transmission-dependent utilities located in 35 states. It is an effective voice in the fight for open and equal transmission access and for strong protections against the exercise of market power in electric markets. TAPS supports vigorously competitive wholesale electric markets and a robust grid.

Mr. Haarlow focused on a number of priority reliability issues for the public power community, including the need to maintain a balanced portfolio of generating resources in the midst of a rapidly evolving Bulk Power System (“BPS”), the challenges presented by extreme weather events, and the importance of continued Commission and NERC engagement with the industry to improve reliability.⁴

In these comments, the Public Power Associations underscore and supplement the issues raised by Mr. Haarlow based on the discussion at the technical conference. The Public Power Associations also highlight a number of other important reliability issues raised at the conference. In particular, these comments address:

- Key reliability considerations for the Commission and NERC in the face of grid transformation and more extreme weather.
- The need to address the reliability challenges of inverter-based resources (IBRs) in an efficient and risk-based manner.
- Distribution transformer supply chain concerns.
- Supply chain cybersecurity and the potential benefits of a vendor certification or accreditation model.

II. COMMENTS

A. Key Reliability Considerations in the Face of Grid Transformation and More Extreme Weather

In his preconference statement, Mr. Haarlow highlighted the ongoing grid transformation, and emphasized the importance of a diversified power portfolio to meet customer needs for reliability and affordability while also advancing goals for sustainability and environmental stewardship.⁵ Discussion at the conference further underscored the challenges presented by

⁴ See *Reliability Technical Conference*, Docket No. AD22-10-000, Statement of John Haarlow (“Haarlow Statement”).

⁵ Haarlow Statement at 3-6.

rapid transformation of the resource mix and more extreme weather, and provided useful dialogue on potential industry responses.

In framing the core reliability challenge, NERC CEO Jim Robb observed that “[t]he nation’s power supply portfolio continues to transform the [BPS] at a historic rate,”⁶ noting that the industry is “systematically replacing well understood, large central station generation with the new largely cleaner resource mix”⁷ at a time when “the weather conditions that the grid needs to operate under are becoming more extreme.”⁸ Mr. Robb emphasized “that the pace of the transformation of the electric system needs to be managed, and that transition needs to occur in an orderly way.”⁹ Mr. Robb’s comments reflected NERC’s most recent Long-Term Reliability Assessment (“LTRA”) released on December 15, 2022, in which NERC observed that “[e]nergy systems and the electricity grid are undergoing unprecedented change on a scope, scale, and speed that challenges the ability to foresee—and design for—their future states.”¹⁰ The LTRA pointed to the need to manage the pace of generation retirements while maintaining essential reliability services (“ERS”) historically provided by synchronous resources.¹¹

While NERC’s assessments are sobering enough, the discussion at the conference highlighted the challenges associated with even reliably measuring the pace of the resource transition. As Ms. Bloodworth observed, NERC assessments account for confirmed generation resource retirements, likely undercounting the actual number of resources that will retire,

⁶ See *Reliability Technical Conference*, Docket No. AD22-10-000, Statement of North American Electric Reliability Corporation at 1 (“Robb Statement”).

⁷ *Reliability Technical Conference*, Docket No. AD22-10-000, Technical Conference Transcript (“Tr.”) at 15 (Robb).

⁸ Tr. at 16 (Robb).

⁹ Tr. at 17 (Robb).

¹⁰ 2022 NERC LTRA at 5.

¹¹ *Id.* at 7; see also Tr. at 17 (Robb).

particularly coal units.¹² Commissioner Phillips appropriately cited the lack of consistent retirement data as a potential concern.¹³ At the same time, the provisions of the Inflation Reduction Act (“IRA”) will likely further accelerate the grid transformation, as Mr. Ahlstrom observed at the conference,¹⁴ with significant implications for grid reliability.

The challenges associated with the ongoing grid transformation and more extreme weather emerge at a time when the need for reliable electric service has never been more important. As Mr. Robb observed, the criticality of reliable electricity is growing at the same time that tolerance for outages is decreasing.¹⁵ These challenges require a clear-eyed response from regulators and industry participants that utilizes a variety of tools to help promote reliability.

Among the key elements to promoting grid reliability is ensuring a diversified resource portfolio, including flexible resources. Mr. Haarlow observed in his preconference statement “that the transformation of the BPS requires a diversified power portfolio to meet customer needs for reliability and affordability while also advancing our goals for sustainability and environmental stewardship.”¹⁶ Much of the discussion at the conference focused on concepts of identifying and procuring ERS. However ERS are defined, and however they evolve over time, there is likely to be an ongoing need for flexible resources, particularly natural gas resources. Mr. Robb emphasized the ongoing need for flexible natural gas resources as a complement to

¹² Tr. at 79-80 (Bloodworth).

¹³ Tr. at 81 (Phillips).

¹⁴ Tr. at 32 (Ahlstrom).

¹⁵ Tr. at 89-90 (Robb).

¹⁶ Haarlow Statement at 3.

deployment of variable energy resources,¹⁷ and NERC’s 2022 LTRA similarly stresses that “[n]atural gas is an essential fuel for electricity generation that bridges the reliability needs of the BPS during this period of energy transition.”¹⁸

The ongoing need for flexible natural gas resources will, in turn, require the fuel infrastructure and gas-electric coordination policies to support them.¹⁹ The Public Power Associations have previously highlighted the need to develop pipeline infrastructure in areas that depend on natural gas-fired generation,²⁰ and Mr. Robb also expressed concern at the conference that, at a time of increased reliance on natural gas generation, the nation is effectively relying on a “handful of gas pipelines to keep the lights on.”²¹ Likewise, the Public Power Associations agree with NERC that “[r]egulators and other energy stakeholders must also take steps to promote coordination on [gas-electric] interdependencies.”²² Preliminary assessments of the operational challenges during Winter Storm Elliott in some regions, for example, have pointed to gas-electric coordination difficulties, including securing adequate supply for gas-fired generators during a long holiday weekend.²³ As Mr. Haarlow noted in his preconference statement and at the conference, the Public Power Associations are hopeful that the ongoing Gas-Electric

¹⁷ See Robb Statement at 1 (“As large baseload generators continue to retire, energy from these plants is being replaced in large measure by variable resources and natural gas units. Natural gas – a dispatchable, flexible resource – plays a critical role as a balancing and energy firming resource supporting widespread deployment of variable resources essential to achieving clean energy goals.”).

¹⁸ 2022 LTRA at 8.

¹⁹ See, e.g., *id.*

²⁰ See *Reliability Technical Conference*, Docket No. AD21-11-000, Post-Conference Comments of the American Public Power Association, the Large Public Power Council, and the Transmission Access Policy Study Group at 7-8 (Feb. 22, 2022) (“Public Power Associations 2021 Conference Comments”).

²¹ Tr. at 16 (Robb).

²² 2022 LTRA at 8.

²³ See, e.g., Midcontinent Independent System Operator, Reliability Subcommittee “Overview of Winter Storm Elliott December 23 Maximum Generation Event” (Jan. 17, 2023), available at: <https://cdn.misoenergy.org/20230117%20RSC%20Item%2005%20Winter%20Storm%20Elliott%20Preliminary%20Report627535.pdf>.

Harmonization Forum being conducted by the North American Energy Standards Board (“NAESB”) in response to the request of FERC and NERC will produce recommendations for concrete solutions to help ensure reliability and affordability for both electric and natural gas consumers.²⁴

While the continued growth of non-traditional resources fostered by IRA incentives will, as discussed above, likely present new BPS reliability challenges, the incentives may help utilities and other responsible entities acquire tools that help promote reliability and affordability. The Public Power Associations were particularly pleased with the inclusion of the direct pay provisions in the IRA which Mr. Haarlow characterized as “a game changer for public power.”²⁵ Mr. Haarlow cited the example of a planned Snohomish request for proposal for a planned 25 MW energy storage project which is expected to qualify for IRA incentives.²⁶ Mr. Haarlow also cited the value that demand-side resources can play in helping utilities manage the challenges of an evolving resource mix.²⁷

Beyond a diversified resource mix, Mr. Haarlow and other panelists pointed to the potential benefits of interregional transfer capability in promoting reliability in the face of grid transformation and more extreme weather.²⁸ Mr. Haarlow noted that, at least in the West, getting transmission built in an efficient and effective manner would go a long way toward addressing the current transfer capability concerns in that region.²⁹ Commission Staff convened a workshop in December to explore issues relating to the concept of establishing minimum transfer capability

²⁴ Tr. at 38 (Haarlow); *see also* Haarlow Statement at 7-8.

²⁵ Haarlow Statement at 8.

²⁶ *Id.* at 8-9.

²⁷ Tr. at 74-75 (Haarlow).

²⁸ *See, e.g.*, Tr. at 38-39, 45-46 (Haarlow).

²⁹ Tr. at 46 (Haarlow).

requirements. The Public Power Associations look forward to engaging on the complex issues raised at the workshop, which include substantial differences between regions, and legal limitations on FERC's and NERC's authority under the Federal Power Act.

In working to address the challenges of an evolving resource mix and more extreme weather, the Public Power Associations urge the Commission to be mindful that a “one-size-fits-all” response will seldom be optimal. As Mr. Haarlow noted in his preconference statement, RTOs and ISOs “each have their own unique framework to address the changing resource mix, which points to the need for regional flexibility in designing solutions.”³⁰ This point was highlighted at the technical conference in response to questions from Commissioner Christie, which elicited discussion of important distinctions between restructured and non-restructured states, and between RTO and non-RTO regions and the implications for regional reliability.³¹ In this same vein, Mr. Haarlow pointed to specific ongoing efforts in the West to respond to resource adequacy challenges, emphasizing that these are examples of “regional collaboration efforts underway to enhance coordination and reliability which demonstrate the commitment to find regional solutions to the changing resource mix.”³²

B. The Reliability Challenges Associated with IBRs Call for an Efficient and Risk-Appropriate Response

There was significant discussion at the conference regarding the reliability challenges associated with IBRs. The Public Power Associations generally agree that the proliferation of IBRs warrants an industry response to ensure BPS reliability, including through the development of new or modified reliability standards. As Mr. Haarlow indicated at the conference, however,

³⁰ Haarlow Statement at 4.

³¹ Tr. at 75-77.

³² Haarlow Statement at 4.

there is already substantial ongoing work at NERC to respond to these IBR issues, and Mr. Haarlow encouraged the Commission to defer to the NERC process regarding next steps in addressing IBR reliability challenges.³³ Mr. Ahlstrom also pointed to the potential benefits associated with the ongoing implementation of IEEE Standards 1547 and 2800 in helping to address IBR interconnection concerns.³⁴

Shortly after the technical conference, the Commission issued two orders specifically aimed at addressing IBR reliability challenges through the mandatory standards reliability framework.³⁵ The IBR NOPR acknowledges “that NERC has initiated several standard drafting projects relating to IBRs,”³⁶ but suggests that “a comprehensive review and development of new or modified Reliability Standards to address IBRs is necessary to assure that IBRs are properly considered in Bulk-Power System planning and that their operational characteristics—such as momentary cessation—are addressed.”³⁷ The NOPR also states that, “[g]iven the variety of concerns related to IBRs, there may be efficiencies in developing a new IBR-specific Reliability Standard or Standards that address IBR issues in a comprehensive manner.”³⁸

The Public Power Associations are carefully evaluating the IBR Registration Order and IBR NOPR, and we look forward to engaging with the Commission and with NERC on the issues presented in those orders. The Public Power Associations are assessing, for example, the Commission’s suggestion in the IBR NOPR that a “comprehensive review” of IBR-related

³³ Tr. at 39 (Haarlow).

³⁴ Tr. at 87-88 (Ahlstrom).

³⁵ *Registration of Inverter-Based Resources*, 181 FERC ¶ 61,124 (2022) (“IBR Registration Order”); *Reliability Standards to Address Inverter-Based Resources*, 181 FERC ¶ 61,125 (2022) (“IBR NOPR”).

³⁶ IBR NOPR at P 70. The NOPR also acknowledges the ongoing IEEE efforts. *See id.* at P 23.

³⁷ *Id.* at P 70.

³⁸ *Id.*

reliability issues would be an efficient way to respond to the applicable concerns.³⁹ A relevant consideration in this assessment will be whether the proposals included in the NOPR could be duplicative of (or even potentially in conflict with) ongoing NERC standards development efforts, which could create potentially significant inefficiencies for registered entities. It will also be important to the Public Power Associations that any application of mandatory reliability standards to address IBR-related challenges be appropriately risk-based and recognize the limitations – both legal and practical – that the FPA section 215 framework imposes on the Commission and NERC in addressing IBR risks, particularly the exclusion of distribution facilities from the definition of the BPS in section 215.⁴⁰ In addition, we urge the Commission to be mindful of the difficulty that distribution utilities have in monitoring and modeling the impact of behind-the-meter distributed resources. We further note that we will press NERC to make maximum use of important stakeholder processes when considering modifications to the scope of IBR registration, and not to act unilaterally.

C. Public Power Associations Urge the Commission to Highlight Industry Concerns About Distribution Transformer Shortages

Public Power Associations were encouraged that Chairman Glick and Commissioner Phillips raised the issue of the availability of transformers at the technical conference.⁴¹ A critical shortage of transformers, particularly distribution transformers, is a significant reliability challenge currently facing the industry, and the Public Power Associations urge the Commission to highlight concerns about the shortage with other federal policymakers.

³⁹ *Id.*

⁴⁰ 16 U.S.C. § 824o(a)(1)(B).

⁴¹ *See* Tr. at 155-56 (Glick); 165-66 (Phillips).

In its recent Winter Reliability Assessment, NERC characterized the shortage of distribution transformers as a reliability risk, warning that “[i]nadequate supply of distribution transformers could slow restoration efforts following winter storms.”⁴² This issue also received significant attention at the recent FERC-DOE supply chain technical conference. APPA’s Adrienne Lotto, for example, echoed NERC’s concern that the critical shortage of transformers could result in electric utilities being unable to restore power following a major storm.⁴³ Ms. Lotto also observed that the shortage has economic and public policy implications, as utilities may be unable to initiate service to new customers or expand infrastructure to accommodate an evolving resource mix.⁴⁴ Ms. Lotto pointed to data assembled by APPA indicating that public power utilities have deferred or canceled one in five projects due to the extensive shortages of distribution transformers.⁴⁵

The Public Power Associations recognize that the Commission’s authority does not encompass matters relating to the distribution transformer supply chain. As the agency with jurisdiction over BPS reliability, however, the Commission’s voice is likely to be highly influential in discussions about the risks presented by distribution transformer shortages. Accordingly, the Public Power Associations urge the Commission to engage with other federal policymakers to highlight the reliability, economic, and policy risks associated with the transformer shortage and to encourage federal officials to support meaningful solutions.

⁴² NERC 2022-2023 Winter Reliability Assessment at 5 (Nov. 2022), available at: https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_WRA_2022.pdf. NERC cites an APPA survey indicating that “many utilities have low levels of emergency stocks that are used for responding to natural disasters and catastrophic events.” *Id.*

⁴³ *Joint FERC-DOE Supply Chain Risk Management Technical Conference*, Docket No. AD22-12-000, Statement of Adrienne Lotto at 3 (Nov. 30, 2022) (“Lotto Statement”).

⁴⁴ *Id.*

⁴⁵ *Id.*

D. Public Power Associations Continue to Support the Concept of a Vendor Certification or Accreditation Model to Support Supply Chain Cybersecurity

Another issue of significant interest to the Public Power Associations discussed during Panel II of the technical conference was the concept of a vendor certification or accreditation approach to promoting supply chain cybersecurity⁴⁶ – a matter that, as Chairman Glick noted, was also addressed at the 2021 Reliability Technical Conference.⁴⁷ In their comments following that 2021 technical conference, the Public Power Associations highlighted the challenges for utilities in seeking to ensure the cybersecurity hygiene of their vendors, and urged the Commission to promote the development of third-party accreditation or certification plans for significant suppliers.⁴⁸ The Public Power Associations have consistently advocated for such an accreditation or certification approach.⁴⁹

The Public Power Associations were encouraged that the certification/accreditation concept was the subject of significant discussion at the recent FERC-DOE supply chain technical conference, where Ms. Lotto and other panelists described the potential benefits of a certification or accreditation framework.⁵⁰ While the Public Power Associations have not prescribed any particular approach to vendor certification/accreditation tools, such resources would help to address the electric industry's limited visibility into and control over vendors' internal security

⁴⁶ See Tr. at 147-155.

⁴⁷ Tr. at 147 (Glick).

⁴⁸ Public Power Associations 2021 Conference Comments at 3-5.

⁴⁹ For example, APPA and National Rural Electric Cooperative Association, with input from LPPC and TAPS, promoted a third-party vendor accreditation approach to enhancing supplier security in their *Managing Cyber Supply Chain Risk – Best Practices for Small Entities* whitepaper published in 2018 (available at: <https://www.nerc.com/pa/comp/SupplyChainRiskMitigationProgramDL/Managing%20Cyber%20Supply%20Chain%20Risk.pdf>). Relatedly, comments filed by APPA and LPPC in response to DOE's November 2021 *Request for Information on Energy Sector Supply Chain Review* urged DOE to work directly with equipment manufacturers and vendors to identify areas of concern, including working with manufacturers to establish a method of certification/accreditation that can identify finished goods that comply with applicable standards, including all subcomponents (available at: <https://www.regulations.gov/comment/DOE-HQ-2021-0020-0043>).

⁵⁰ See Lotto Statement at 7-9.

practices, and would appropriately shift to suppliers the responsibility to implement best security practices by requiring them to demonstrate the security of their supply chain for equipment and services.

As noted, the discussion at the 2022 Reliability Technical Conference reiterated some of the challenges for utilities in validating vendor cybersecurity and referenced a certification model as a solution. Echoing a point that the Public Power Associations have made in the past, Mr. Miller of the Midcontinent Independent System Operator (“MISO”) explained that “it’s very difficult for [MISO] to assess the risk from a supplier today,”⁵¹ noting that “at the end of the day we’re not a very big organization, so from a buying power perspective we don’t have the leverage to try and force a large vendor to agree to contract terms.”⁵² Mr. Miller observed in this respect that “I do think there is an opportunity to leverage external certifications,” pointing, for example, to the Federal Risk and Authorization Management Program (“FedRAMP”) as a model – a program that the Public Power Associations have also cited as instructive.⁵³

The Public Power Associations continue to urge the Commission to support the development of supplier accreditation or certification programs calling for industry vendors to step up to provide evidence of security measures that will protect the grid when their products are employed.

III. CONCLUSION

The Public Power Associations appreciate the opportunity to submit these post-technical conference comments, and we respectfully ask the Commission to consider the Public Power

⁵¹ Tr. at 149 (Miller).

⁵² *Id.*

⁵³ Public Power Associations 2021 Conference Comments at 4-5.

Associations' views in pursuing policies to address the reliability challenges discussed at the technical conference.

Respectfully submitted,

/s/ John E. McCaffrey

John E. McCaffrey
Senior Regulatory Counsel
AMERICAN PUBLIC POWER
ASSOCIATION
2451 Crystal Drive, Suite 1000
Arlington, VA 22202
(202) 467-2900
jmccaffrey@publicpower.org

/s/ Jonathan D. Schneider

Jonathan D. Schneider
STINSON LLP
1775 Pennsylvania Avenue, NW
Suite 800
Washington, DC 20006
(202) 728-3034
jonathan.schneider@stinson.com

*Counsel to the
Large Public Power Council*

/s/ Brian Evans-Mongeon

Brian Evans-Mongeon
President
UTILITY SERVICES
93 Pilgrim Park Rd. Suite A
Waterbury, VT 05676
802-241-1465
brian.evans-mongeon@utilitysvcs.com

*On behalf of Transmission Access Policy
Study Group*

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