

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

Reliability Technical Conference

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Docket No. AD21-11-000

**PANEL 1: BULK-POWER SYSTEM RELIABILITY AND SECURITY:  
CURRENT STATE, CHALLENGES, AND INITIATIVES**

**STATEMENT OF ROY L. JONES**

My name is Roy Jones, and I am Chief Executive Officer of ElectriCities of North Carolina, Inc. (“ElectriCities”). I am also privileged to serve as the Vice Chairman of the Member Representatives Committee of the North American Electric Reliability Corporation (“NERC”). ElectriCities is a not-for-profit membership organization that serves 89 public power communities in North Carolina, South Carolina and Virginia. ElectriCities also provides management services to North Carolina’s two municipal power agencies – North Carolina Municipal Power Agency Number 1 and North Carolina Eastern Municipal Power Agency. I am speaking today on behalf of the American Public Power Association (“APPA”),<sup>1</sup> the Large Public Power Council (“LPPC”),<sup>2</sup> and the Transmission Access Policy Study Group (“TAPS”)<sup>3</sup> (collectively, the “Public Power Associations”).

I commend the Commission for opening this conference with a panel focusing broadly on current challenges to the Bulk Electric System (“BES”). The public power community has

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<sup>1</sup> 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.

<sup>2</sup> 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. LPPC members are also members of APPA and own approximately 90% of the transmission assets owned by non-federal public power entities.

<sup>3</sup> 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.

participated in these conferences since their inception, and firmly believes that the broad focus of this panel plays an essential role in fostering dialogue at a high level between the industry, NERC and FERC as together we ensure that industry activities and NERC's and FERC's oversight are focused appropriately on ever-evolving reliability challenges.

In these opening remarks, I will discuss three topics that are top of mind for the public power community in thinking about the electric industry's most pressing reliability challenges. *First*, I will address supply chain cybersecurity in the electric industry, and ask the Commission to assist in pressing for additional government assistance in influencing supplier cybersecurity practices. *Second*, I will address the substantial challenge posed by a rapidly evolving resource mix and the implications for grid reliability. *Third*, I will focus attention on NERC's Electricity Information Sharing and Analysis Center ("E-ISAC"), an essential resource in disseminating threat information to industry. To augment the already critical role that the E-ISAC plays in promoting reliability, the Public Power Associations recommend greater coordination between the E-ISAC and government partners to maximize the use and effectiveness of the E-ISAC platform. We also encourage the E-ISAC to provide more *actionable* information and recommendations.

**1. Expanded Government Role in Ensuring the Cybersecurity Hygiene of Industry Vendors**

Under NERC's Critical Infrastructure Protection ("CIP") supply chain standard (CIP-013), Responsible Entities are obligated to develop supply chain cyber security risk management plan(s) for their high and medium impact BES Cyber Systems. In connection with these requirements, the Public Power Associations have supported the development of third-party accreditation or certification plans for significant suppliers. For example, APPA and the National Rural Electric Cooperative Association ("NRECA"), with input from LPPC and TAPS,

promoted a supplier accreditation approach to enhancing supplier security in their whitepaper “Managing Cyber Supply Chain Risk – Best Practices for Small Entities.”<sup>4</sup> NERC implementation guidance also supports “third party certification” as a recommended element of a compliance plan,<sup>5</sup> and this approach has been promoted through efforts of the North American Transmission Forum (“NATF”).<sup>6</sup> Such an approach helps to address the electric industry’s limited visibility into and control over vendors’ internal security practices. Accreditation would also 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.

Although there is significant support for such a third-party accreditation approach, development has stalled. As the Public Power Associations have noted before, we have made only limited progress because the vendors, who are outside the Commission’s direct authority, have failed to offer broad support for accreditation and because there is no coordinated effort to establish agreed-upon criteria for accreditation nor for developing the scope of its application.

If vendors are to take on what we believe should be a fundamental responsibility if they are to serve the electric industry, the Commission, and governmental partners at the Department of Energy (“DOE”) and the Department of Homeland Security (“DHS”) must bring the vendors to the table to discuss certification criteria and a consensus-based approach to participation.

Electric utilities and other NERC Responsible Entities do not, individually, have the authority or leverage to make this happen. In addition, risks to the reliability of the BES have ramifications

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<sup>4</sup>Available at: <https://www.nerc.com/pa/comp/SupplyChainRiskMitigationProgramDL/Managing%20Cyber%20Supply%20Chain%20Risk.pdf>.

<sup>5</sup> See: <https://www.nerc.com/pa/comp/Pages/SupplyChainRiskMitigationProgramFAQ.aspx>.

<sup>6</sup> See for example: <https://www.natf.net/docs/natf/documents/resources/supply-chain/natf-cip-013-1-implementation-guidance.pdf> and <https://www.natf.net/docs/natf/documents/resources/supply-chain/natf-cyber-security-supply-chain-risk-management-guidance.pdf>.

far beyond the electric industry, including on the vendors herein discussed, thus warranting a coordination role for federal authorities. The Public Power Associations have suggested, for example, that DOE and DHS could work with manufacturers to identify a method of certification that can identify finished goods, including all subcomponents, that comply with standards. DOE could develop a standard for vendors for equipment that connects to the bulk power system that involves a defined process to review of the code in software and chip sets in this equipment. It is especially important that DOE serve as a liaison with vendors for smaller entities, such as public power utilities and electric cooperatives, that typically have less bargaining leverage.

As discussions within the industry proceed, I urge the Commission to participate in this dialogue, and to encourage its government partners to do the same. At a minimum, the Commission should use its influence as the reliability regulator for the BES to foster vendor cooperation in this regard.

## **2. Resource Adequacy Challenges**

Keeping the lights on during a dramatic change in the nation's resource mix may be the single most important challenge of the mid-21<sup>st</sup> century for utility managers and state and federal regulators. NERC's 2021 *ERO Reliability Risk Priorities Report*<sup>7</sup> identifies this ("Grid Transformation) as the "Risk Profile #1" for the industry, defining it as "the shift away from conventional synchronous central-station generators toward a new mix of resources that include natural-gas-fired generation; unprecedented proportions of non-synchronous resources, including

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<sup>7</sup> Available at:  
[https://www.nerc.com/comm/RISC/Documents/RISC%20ERO%20Priorities%20Report\\_Final\\_RISC\\_Approved\\_July\\_8\\_2021\\_Board\\_Submitted\\_Copy.pdf](https://www.nerc.com/comm/RISC/Documents/RISC%20ERO%20Priorities%20Report_Final_RISC_Approved_July_8_2021_Board_Submitted_Copy.pdf).

renewables and battery storage; demand response; smart- and micro-grid; and other emerging technologies.”<sup>8</sup>

While NERC’s 2021 *State of Reliability Assessment: An Assessment of 2020 Bulk Power System Performance*<sup>9</sup> (“2021 Reliability Assessment”) reports generally acceptable reserve margins in the near term, this trend changes dramatically as one looks ahead over the next 10 years and beyond, well within existing planning cycles. This picture is depicted in some detail in NERC’s 2020 Long-Term Reliability Assessment (LTRA),<sup>10</sup> in which shortcomings in Resource Adequacy (the ability of the electricity system to supply the aggregate electric power and energy requirements of the electricity consumers at all times, taking into account scheduled and expected unscheduled outages of system components)<sup>11</sup> and grid resilience in the face of extreme weather events, is a critical focus.

Key findings from the 2020 LTRA are these:

- “Nearly all parts of the Western Interconnection (WI) with the exception of Alberta, face heightened loss of load risk....The recent experience during the wide-area heat wave in August 2020 provides evidence of the challenges faced in the WI to reliably serve the changing demand profile with the evolving resource mix. In the Northwestern United States and Rocky Mountain areas, probabilistic studies are beginning to show potential for loss of load as well.”<sup>12</sup>

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<sup>8</sup> *Id.* at 17.

<sup>9</sup> Available at: [https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC\\_SOR\\_2021.pdf](https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_SOR_2021.pdf).

<sup>10</sup> Available at: [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_LTRA\\_2020.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2020.pdf) (“2020 LTRA”).

<sup>11</sup> *Id.* at 11. Resource Adequacy is also defined in FERC’s approval of RFC BAL-502 as “the ability of supply–side and demand side resources to meet the aggregate electrical demand (including losses).” *Planning Resource Adequacy Assessment Reliability Standard*, 134 FERC ¶ 61,212, at P 6 (2011).

<sup>12</sup> 2020 LTRA at 6.

- “In the Midcontinent Independent System Operator (MISO) area...[r]reserve margin projections of on-peak capacity are falling and are projected to below Reference Margin Level targets beginning in 2025.”<sup>13</sup>
- “Planning for long-term resource adequacy is becoming increasingly complex with a resource mix that is more unpredictable and less energy-assured.”<sup>14</sup>
- “As more solar and wind generation is added, additional flexible resources are needed to offset these resources’ variability.”<sup>15</sup>

The power agencies for which I am responsible are themselves well situated from a resource perspective. But, Resource Adequacy is an interconnection-wide concern and we can all be impacted by decisions made by others in the interconnection. As the federal government, North Carolina, and surrounding states in the East express interest in moving rapidly to a low-carbon environment that is increasingly dependent on variable energy resources, I am concerned about how the pace and nature of that change could affect the reliability of the interconnection as a whole.

NERC’s 2020 LTRA does not despair over solutions, and nor would I. NERC points to the importance of coordination between regulators and industry in supporting the development of flexible ramping and load-following resources, along with energy-assured generation. Further, NERC supports developing natural gas pipeline infrastructure in areas depending on the resource, particularly to backstop intermittent generation. The Commission clearly has the authority to influence the pace at which those changes can be made.

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<sup>13</sup> *Id.* at 7; *see also id.* at 9.

<sup>14</sup> *Id.* at 7.

<sup>15</sup> *Id.*

NERC’s authority in this area is generally limited to the studies it is authorized and required to produce, and to serving as a valuable platform for advancing solutions others will implement. As NERC itself acknowledges, it lacks the authority to promulgate reliability standards for resource adequacy, or to compel the construction of generation or transmission.<sup>16</sup> Nonetheless, the important role that NERC has in identifying reliability challenges and in encouraging policymakers to devise solutions should not be underestimated, as long as policy makers are paying attention.

Outside ISOs/RTOs, state authorities and municipal utilities have, and should continue to have, primary authority for assuring Resource Adequacy. The vertically integrated nature of the utility model in non-RTO regions, ensures that state and municipal authorities may direct the construction of the needed types and amount of resources. Nonetheless, the increasingly integrated nature of regional grids and increased resource competition has driven a discussion over the creation of voluntary frameworks for regional Resource Adequacy. The ongoing effort to develop a regional approach to Resource Adequacy being undertaken by members of the Northwest Power Pool is such an instance.<sup>17</sup> And the voluntary development of the Extended Day-Ahead Market, which extends participation in the California Independent System Operator Corporation’s (“CAISO”) day-ahead market to the Western Energy Imbalance Market (“EIM”) entities located outside of the CAISO, would improve integration of renewable resources over a large area. By 2022 the EIM footprint will represent approximately 80% of the load in the Western Interconnection.<sup>18</sup> To the extent the Commission has authority over these arrangements,

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<sup>16</sup> *Id.* at 8.

<sup>17</sup> See: <https://www.nwpp.org/about/workgroups/12>.

<sup>18</sup> See: <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-day-ahead-market>.

Public Power Associations urge it to exercise substantial deference to regional solutions when they are presented to the Commission.

Within ISOs/RTOs, debates over Resource Adequacy requirements and certainly over mandatory capacity markets have been quite controversial. Here, Public Power Associations urge the Commission to steer clear of creating new Eastern-style mandatory capacity markets where they do not now exist. Predominant among the objections to that framework is the extent to which it intrudes on state and local decision-making as to the generation resource base that best meets state and local policy objectives.

Above all, as the nation's generating resource base changes, Public Power Associations urge the Commission dispassionately to observe and, to the extent it is within its jurisdiction, address measures necessary to protect grid reliability. Public Power Associations' members have been and continue to be committed to reducing their green-house gas emissions through a variety of means, and certain states and federal policymakers are promoting policies designed to limit carbon output. But I can think of no better way to thwart the progress we are making than to implement these changes in a way that threatens grid reliability. Here, I'd ask the Commission to be clear-eyed in its assessment of the data and engineering that is addressed to the system impact of the changing resource mix, to advise sister agencies accordingly, and to take appropriate action to protect grid reliability where it has the authority to do so.

### **3. Coordination Between the E-ISAC and Government Partners**

Public Power Associations believe that identifying cyber and physical security threats, and communicating defenses against those threats, should be a key priority for NERC, the E-



ISAC, and government partners, consistent with NERC’s 2021 State of Reliability Report.<sup>19</sup> We reiterate our support for NERC’s emphasis on promoting physical and cyber security through “effective information exchange between entities, the E-ISAC, and trusted partner organizations.”<sup>20</sup>

Utilities can better respond to security threats with appropriate access to threat data (including classified information) and close collaboration with federal agencies and industry peers, such as through the E-ISAC and the Electricity Subsector Coordinating Council (“ESCC”). NERC’s formal Alert process can quickly provide critical information and recommended actions related to any identified incident or threat.

The E-ISAC’s great value was illustrated, for example, by the response to the threat posed by the SolarWinds compromise. The E-ISAC hosted a rapid industry and partner call, activated the E-ISAC Critical Broadcast Program, and shared actionable information from FireEye, Microsoft, CrowdStrike, DHS, the National Security Agency, and the Canadian Cybersecurity Centre with U.S. government officials and industry.

Public Power Associations recommend even greater coordination between the E-ISAC and government partners to maximize the use and effectiveness of the E-ISAC platform. The benefits to industry from the E-ISAC and government partners would be further enhanced by providing even greater emphasis on issuing *actionable* information and recommendations. By actionable, we mean information that utility cybersecurity operations teams can use for processing threats to prevent intrusions and help detect further threats. Public Power

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<sup>19</sup> See 2021 Reliability Assessment at p. x (recommending that “[t]he ERO, industry, and government should significantly increase the speed and detail of cyber and physical security threat information sharing in order to counter the increasingly complex and targeted attacks by capable nation-state adversaries and criminals on critical infrastructure.”).

<sup>20</sup> NERC 2018 State of Reliability Report at p. viii (June 2018), available at: [https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC\\_2018\\_SOR\\_06202018\\_Final.pdf](https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_2018_SOR_06202018_Final.pdf).

Associations also support E-ISAC enhancement that will improve security analytics with data from other credible sources. Moreover, we endorse improved notification capabilities by the E-ISAC and Multi-State ISAC (“MS-ISAC”)<sup>21</sup> to Public Power Associations’ member companies, as specifically recommended in the 2018 State of Reliability Report.<sup>22</sup>

#### **4. Conclusion**

I thank the Commission for hosting this technical conference and providing a valuable platform for discussing important matters that impact the BES. The three issues I’ve addressed – supply chain cybersecurity, Resource Adequacy, and E-ISAC information sharing – are important priorities for the Public Power Associations and the recommendations will help improve the reliability of the BES.

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<sup>21</sup> <https://www.cisecurity.org/press-release/nerc-partnership-to-strengthen-grids-cyber-physical-security/>

<sup>22</sup> *Id.* at pp. viii-ix (recommending that the E-ISAC should “support American Public Power Association (APPA) and National Rural Electric Cooperative Association (NRECA) member participation.”).