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

Modernizing Electricity Market Design)

Docket No. AD21-10-000

**COMMENTS OF THE NORTH AMERICAN ELECTRIC RELIABILITY
CORPORATION, MIDWEST RELIABILITY ORGANIZATION, NORTHEAST
POWER COORDINATING COUNCIL, INC., RELIABILITYFIRST CORPORATION,
SERC RELIABILITY CORPORATION, TEXAS RELIABILITY ENTITY, INC., AND
WESTERN ELECTRICITY COORDINATING COUNCIL**

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March 7, 2022

Table of Contents

I. NOTICES AND COMMUNICATIONS	2
II. THE ERO ENTERPRISE IS RESPONSIBLE FOR ASSURING A RELIABLE AND SECURE NORTH AMERICAN BPS.....	3
III. THE ERO ENTERPRISE MUST DEVELOP AND ENFORCE RELIABILITY STANDARDS WHICH ENSURE AN ADEQUATE LEVEL OF RELIABILITY FOR THE EVOLVING BULK ELECTRIC SYSTEM.....	4
IV. ERO ENTERPRISE ASSESSMENTS OF THE BULK-POWER SYSTEM SUPPORT POLICY ENHANCEMENTS THAT PRIORITIZE RELIABILITY UNDER A TRANSFORMING GRID.....	8
V. CONCLUSION	11

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In 2021, the Federal Energy Regulatory Commission (“Commission”) convened technical conferences to discuss energy and ancillary services markets in the evolving electricity sector. On December 6, 2021, the Commission issued a notice inviting post-technical conference comments by February 4, 2022 with reply comments due March 7, 2022.¹ Several comments filed on February 4th highlighted that market enhancements may help address potential reliability concerns associated with the changing Bulk-Power System (“BPS”).² The North American Electric Reliability Corporation (“NERC”), as the Commission-certified Electric Reliability Organization (“ERO”),³ and the Regional Entities⁴ (together, the “ERO Enterprise”) hereby submit Reply Comments supporting recognition that market enhancements may help address reliability needs associated with the transforming grid. The ERO Enterprise supports such comments generally, without endorsing any particular market enhancement described in any Commission proceeding.

¹ *Modernizing Electricity Market Design*, Notice Inviting Post-Technical Conference Comments, Docket No. AD21-10-000 (Dec. 6, 2021).

² *See infra*, Section IV, at n.25-29.

³ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, 114 FERC ¶ 61,104, at P 262, 321-37 [hereinafter Order No. 672], *order on reh’g*, Order No. 672-A, 114 FERC ¶ 61,328 (2006). NERC was certified by the Commission as the ERO, pursuant to § 215(c) of the Federal Power Act, by Commission order issued July 20, 2006. *Order Certifying the North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing*, 116 FERC ¶ 61,062 (2006) [hereinafter Certification Order].

⁴ The Regional Entities are (i) Midwest Reliability Organization; (ii) Northeast Power Coordinating Council, Inc.; (iii) ReliabilityFirst Corporation; (iv) SERC Reliability Corporation; (v) Texas Reliability Entity, Inc.; and (vi) Western Electricity Coordinating Council.

I. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to: ⁵

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⁵ Persons to be included on the Commission's service list are identified by an asterisk. NERC respectfully requests a waiver of Rule 203 of the Commission's regulations, 18 C.F.R. § 385.203 (2020), to allow the inclusion of more than two persons on the service list in this proceeding.

II. THE ERO ENTERPRISE IS RESPONSIBLE FOR ASSURING A RELIABLE AND SECURE NORTH AMERICAN BPS

Electricity is a key component of the fabric of modern society and the ERO Enterprise serves to strengthen that fabric. NERC is a not-for-profit international regulatory authority whose mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid in accordance with section 215 of the Federal Power Act (“section 215”). NERC accomplishes this mission working together with the six Regional Entities to whom NERC has delegated certain authority pursuant to section 215 and accompanying regulation pursuant to Commission-approved Regional Delegation Agreements.⁶ The ERO Enterprise vision is a highly reliable and secure North American BPS. Reliability and security of the BPS is fundamental to national security, economic development, and public health and safety.⁷ In furtherance of its mission and underlying statute, the ERO Enterprise annually assesses seasonal and long-term reliability of the BPS; monitors the BPS through system awareness; educates, trains, and certifies industry personnel; and develops and enforces Reliability Standards for an adequate level of reliability of the Bulk Electric System (“BES”).

In enacting the Energy Policy Act of 2005⁸ and section 215 thereunder,⁹ Congress entrusted the Commission with: (i) approving and enforcing rules to ensure the reliability of the BPS; and (ii) certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards subject to Commission approval, as well as assessing reliability and

⁶ 18 C.F.R. § 39.8.

⁷ See, e.g., 2022 ERO Enterprise Work Plan Priorities (NERC Board of Trustees Approved Nov. 4, 2021) available at https://www.nerc.com/AboutNERC/StrategicDocuments/ERO_2022_Work_Plan_Priorities_Board_Approved_Nov_4_2021.pdf.

⁸ Pub. L. 109–58, title XII, §1211(b), Aug. 8, 2005, 119 Stat. 946 [hereinafter EPA].

⁹ 16 U.S.C. § 824o [hereafter section 215].

adequacy of the North American BPS.¹⁰ On February 3, 2006, the Commission issued Order No. 672 implementing the requirements of section 215 governing electric reliability and setting forth the criteria used to certify a single independent ERO.¹¹ On July 20, 2006, the Commission issued an order certifying NERC as the ERO.¹² As the ERO, NERC is subject to oversight by the Commission in the United States and governmental authorities in Canada. NERC's area of responsibility spans the continental United States, Canada, and the northern portion of Baja California, Mexico. NERC jurisdiction encompasses users, owners, and operators of the BPS.

The following comments outline the manner in which mandatory and enforceable NERC Reliability Standards ensure an adequate level of reliability under a paradigm which recognizes that market solutions may be used by responsible entities seeking to comply with applicable requirements. (*See infra*, Section III.) These comments also highlight the manner in which ERO Enterprise Reliability Assessments examine the evolution of the transforming energy grid and lead the ERO Enterprise to support comments recognizing how market enhancements may contribute toward reliability of a modern grid. (*See infra*, Section IV.) Without endorsing any particular market design or the use of markets as a solution to address potential risks to reliability over other approaches, the ERO Enterprise supports governmental and industry focus on any mechanisms that could incentivize and lead to a more reliable BPS.

III. THE ERO ENTERPRISE MUST DEVELOP AND ENFORCE RELIABILITY STANDARDS WHICH ENSURE AN ADEQUATE LEVEL OF RELIABILITY FOR THE EVOLVING BULK ELECTRIC SYSTEM

As detailed in prior ERO Enterprise filings and consistent with section 215, mandatory and

¹⁰ Section 215(a)(2). *See also* Section 215(c) (providing the ERO certification criteria). *See also* EPA, *supra* (clarifying, “[t]he Electric Reliability Organization... and any regional entity delegated enforcement authority... are not departments, agencies, or instrumentalities of the United States Government.”).

¹¹ Order No. 672, *supra*.

¹² Certification Order, *supra*.

enforceable Reliability Standards define the reliability requirements for planning and operating the North American BPS to ensure an adequate level of reliability for the BES. Entities on the NERC compliance registry must comply with applicable standards. Reliability Standards are developed using a results-based approach that focuses on performance, risk management, and entity capabilities. ERO Enterprise Reliability Standards are also continually evolving to keep pace with changing needs. To that end, existing Reliability Standards are evaluated periodically and standards are modified or developed under a transparent process with opportunity for notice and comment, stakeholder involvement, and Commission oversight. Reliability Standards are enforced under the ERO Enterprise compliance monitoring and enforcement program.

Reliability Standards exist as part of a larger environment comprised of overlapping energy regulation, markets, and jurisdictions. As reflected in NERC's comments on the Commission's Advanced Notice of Proposed Rulemaking of 2021 ("ANOPR"),¹³ several Reliability Standards operate in partnership with the Commission's interconnection procedures and agreements for efficiency, comprehensiveness, and effectiveness. Relevant Standards, such as FAC-002-2 described below, require that responsible entities comply with the stated performance objective while leaving opportunity to address requirements through activities under Commission interconnection procedures. With regard to the matter at issue in this docket, NERC rules recognize that market mechanisms may be one way that responsible entities comply with applicable requirements. The NERC Rules of Procedure ("ROP") state that, "[a] Reliability Standard shall not preclude market solutions to achieving compliance with that Reliability Standard."¹⁴

¹³ Comments of NERC and the Regional Entities on the ANOPR, Docket No. RM21-7-000 (October 12, 2021) (regarding the ANOPR on Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection) [ANOPR Comments].

¹⁴ ROP, Section 303(3). The NERC ROP is available at <https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>.

The ERO Enterprise therefore develops performance-based Reliability Standard requirements which define necessary results without mandating specific means of accomplishing the required outcome. Two Reliability Standards and areas under development are described below for context. Reliability Standard BAL-001-2, Requirement R1 states, “[t]he Responsible Entity shall operate such that the Control Performance Standard 1 (CPS1), ... is greater than or equal to 100 percent for the applicable Interconnection in which it operates for each preceding 12 consecutive calendar month period...” The standard recognizes that a Balancing Authority might, for example, participate in a Regulation Reserve Sharing Group to help manage these obligations. Reliability Standard FAC-002-2 Requirement R1 states, “[e]ach Transmission Planner and each Planning Coordinator shall study the reliability impact of: (i) interconnecting new generation, transmission, or electricity end-user Facilities and (ii) materially modifying existing interconnections...” This requirement works in dovetail with the Commission’s interconnection procedures and Regional Transmission Organization/Independent System Operator rules.

Activity before the NERC Reliability and Security Technical Committee (“RSTC”) and Standards Committee (“SC”) over the past several years illustrates the ERO Enterprise’s commitment toward developing and modifying Reliability Standards to address emerging issues. For example, at present the ERO Enterprise is examining potential modifications to or development of Reliability Standards to address the assessment of and planning for energy availability contingencies (such as those caused by fuel disruption and severe weather). The ERO Enterprise and industry, working under the leadership of the Energy Reliability Assessment Task Force (“ERATF”), are recommending a Standard Authorization Request for potential obligations requiring long-term planning, operational planning, and operating energy reliability assessments to monitor the availability of resources to deliver sufficient amounts of energy.

A further example is work being done under NERC’s revised Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination Standard Authorization Request (“SAR”).¹⁵ On February 25, 2022, the NERC Standards Committee accepted the revised SAR, authorized drafting revisions to Reliability Standards, and appointed a standard drafting team to work on the project. As stated in the SAR, the purpose of Project 2021-07 is to address reliability-related findings and recommendations from the FERC, NERC, and Regional Entity Joint Staff Inquiry into the February 2021 Cold Weather Grid Operations (“Joint Inquiry Report”).¹⁶ In November 2021, the NERC Board of Trustees issued a Resolution directing that new or revised Reliability Standards address the recommendations included in the Joint Inquiry Report in accordance with the timelines recommended by the ERO Enterprise and Commission staff.

Finally, in December 2021, the Resource Security and Technical Committee (“RSTC”) endorsed three SARs associated with inverter based resources: i) two SARs pertained to modifications to Reliability Standard TPL-001 to address issues associated with BPS-connected inverter based resources; and ii) one SAR pertained to modifications to Reliability Standard MOD-032 to require that Distribution Providers provide Distributed Energy Resource data to reliability entities in support of accurate and comprehensive reliability studies. Consistent with the ROP, any Reliability Standard requirement would “neither mandate nor prohibit any specific market structure.”¹⁷

¹⁵ Details of Project 2021-07 are available at <https://www.nerc.com/pa/Stand/Pages/Project-2021-07-ExtremeColdWeather.aspx>.

¹⁶ Available at <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and>.

¹⁷ ROP, Section 303(2).

IV. ERO ENTERPRISE ASSESSMENTS OF THE BULK-POWER SYSTEM SUPPORT POLICY ENHANCEMENTS THAT PRIORITIZE RELIABILITY UNDER A TRANSFORMING GRID

Commission regulations provide that, “[t]he Electric Reliability Organization shall conduct assessments of the adequacy of the Bulk-Power System in North America and report its findings to the Commission, the Secretary of Energy, each Regional Entity, and each Regional Advisory Body annually or more frequently if so ordered by the Commission.”¹⁸ ERO Enterprise assessments identify and evaluate emerging risks to maintain a proactive posture to assure a highly reliable BPS. Assessments over the past several years generally support policy enhancements which prioritize reliability under the transforming energy grid.

For instance, as discussed in other proceedings before the Commission,¹⁹ ERO Enterprise assessments such as the most recent NERC Long-Term Reliability Assessment (“LTRA”),²⁰ the State of Reliability (“SOR”) report,²¹ ERATF White Paper,²² NERC disturbance reports,²³ Alerts,²⁴ and Reliability Guidelines²⁵ document new considerations for a transforming grid. For

¹⁸ 18 C.F.R. §39.11(b).

¹⁹ See, e.g., ANOPR Comments, *supra*; *The February 2021 Cold Weather Outages in Texas and South Central United States* (The February 2021 Cold Weather Outages Report) (prepared by the ERO Enterprise and Commission), available at <https://www.ferc.gov/news-events/news/final-report-february-2021-freeze-underscores-winterization-recommendations>; and Comments of NERC, Docket No. AD18-7-000 (May 9, 2018) (regarding grid resilience in organized markets).

²⁰ Available at

https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2021.pdf.

²¹ Available at

https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_SOR_2021.pdf.

²² Available at

<https://www.nerc.com/comm/RSTC/ERATF/ERATF%20Energy%20Adequacy%20White%20Paper.pdf>.

²³ Major Event Analysis Reports, available at <https://www.nerc.com/pa/rrm/ea/Pages/Major-Event-Reports.aspx> (including, the Blue Cut Fire, Canyon 2 Fire, Palmdale Roost and Angeles Forest Disturbances, San Fernando Disturbance, and Odessa Disturbance reports).

²⁴ Loss of Solar Resources during Transmission Disturbances due to Inverter Settings (June 2017), available at

<https://www.nerc.com/pa/rrm/bpsa/Alerts%20DL/NERC%20Alert%20Loss%20of%20Solar%20Resources%20during%20Transmission%20Disturbance.pdf>; and Loss of Solar Resources during Transmission Disturbances due to Inverter Settings – II (May 2018), available at

https://www.nerc.com/pa/rrm/bpsa/Alerts%20DL/NERC_Alert_Loss_of_Solar_Resources_during_Transmission_Disturbance-II_2018.pdf.

²⁵ Available at <https://www.nerc.com/comm/Pages/Reliability-and-Security-Guidelines.aspx>.

example, the SOR and LTRA highlighted that since 2020, a rapidly transforming BPS has been impacted by a pandemic, extreme weather, cyber security, and supply chain issues. These publications explained that transformation of the grid is changing operational characteristics in important and meaningful ways, especially with regard to the increasing importance and stress being placed on balancing resources generally fueled by natural gas to integrate increasing amounts of variable generation. Further, these changes are challenging the existing processes, assumptions, and approaches in which industry plans and operates the BPS. Operators and planners are maintaining the reliability, resilience, and security on increasingly complex and nontransparent systems.

ERO Enterprise assessments found that the BPS performed well in 2020, in light of ERO Enterprise and industry efforts to collaboratively address evolution of the grid. Performance trends in 2020 in terms of generation, transmission, and protection and control measures appeared generally positive. As a result, the most recent SOR report for 2020 concluded that with appropriate insight, careful planning, and continued coordination, the sector will continue to navigate the challenges associated with a transforming grid in a manner that maintains reliability. Events in February 2021, resulting from extreme temperatures in the mid-section of the United States, illustrated how this transition can result in risks to BPS reliability and resilience that the ERO Enterprise is committed to continuing to address (*see, e.g.*, discussion at Section IV *supra* regarding work in the Reliability Standards arena).

Several comments submitted in this proceeding on February 4th highlighted the manner in which market enhancements (together with the Reliability Standards discussed immediately above in Section III) may help address reliability concerns associated with the changing BPS. In its comments, for example, Edison Electric Institute stated, “[t]o ensure reliability in the face of this

increasing uncertainty, market operators must be able to procure sufficient reserves and other ancillary services through the market.”²⁶ The Midcontinent Independent System Operator, Inc. (“MISO”) stated:

MISO is continuing enhancements to its energy and ancillary service markets as part of its commitment to addressing the region’s “Reliability Imperative.” MISO’s Market Redefinition effort within the Reliability Imperative forms the basis of MISO’s reforms to energy and ancillary service markets and helps inform the MISO Roadmap for future actions.²⁷

ISO New England, Inc.’s (“ISO New England”) comments emphasized that, “[t]he electric power system in New England is undergoing a major transition.”²⁸ Their comments further explained that, “[w]ith respect to the day-to-day business of operating a reliable system, this evolution of the resource mix creates new uncertainties in both energy demand and supply – operational challenges that will grow as the transition continues.”²⁹ ISO New England’s comments provided that,

As a result, the ISO believes enhancements to the energy and ancillary services markets will be essential to maintain reliable operations as the system transitions to a resource mix with evermore renewable resources – whose uncertain output will need to be balanced using energy storage and a pipeline-constrained gas-fired generation fleet.³⁰

Consistent with the findings detailed in its assessments, the ERO Enterprise supports such comments recognizing the role that markets may play in helping ensure the reliability of the modern electric grid, without comment on any particular market enhancement in any region. The ERO Enterprise appreciates comments exploring ways in which market mechanisms can help ensure reliable operation of the BPS now and as the grid continues to evolve.

²⁶ Post-Technical Conference Comments of Edison Electric Institute, Docket No. AD21-10-000, at 5 (Feb. 4, 2022).

²⁷ Post-Technical Conference Comments of the Midcontinent Independent System Operator, Inc., Docket No. AD21-10-000, at 1-2 (Feb. 4, 2022) (footnote omitted).

²⁸ Post-Technical Conference Comments of ISO New England Inc., Docket No. AD21-10-000, at 1 (Feb. 4, 2022).

²⁹ *Id.* at 2.

³⁰ *Id.* at 4.

V. **CONCLUSION**

Therefore, for the reasons provided in these Reply Comments, the ERO Enterprise supports the recognition of reliability needs as parties design wholesale market enhancements for a transforming grid.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of this document upon all parties listed on the official service list compiled by the Secretary in the above-captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Washington, D.C., this 7th day of March, 2022.

/s/ Candice Castaneda

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