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

<b>Electric Storage Participation in Markets</b>	)	<b>Docket Nos. RM16-23-000</b>
<b>Operated by Regional Transmission</b>	)	<b>AD16-20-000</b>
<b>Organizations and Independent System</b>	)	
<b>Operators</b>	)	

**COMMENTS OF THE  
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION  
IN RESPONSE TO NOTICE OF PROPOSED RULEMAKING**

Shamai Elstein  
Senior Counsel  
Lauren A. Perotti  
Counsel  
North American Electric Reliability Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099– facsimile  
shamai.elstein@nerc.net  
lauren.perotti@nerc.net

*Counsel for the North American Electric  
Reliability Corporation*

February 13, 2017

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The North American Electric Reliability Corporation (“NERC”) hereby provides comments on the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) Notice of Proposed Rulemaking (“NOPR”) issued on November 17, 2016 in the above-referenced proceeding.<sup>1</sup> In this NOPR, the Commission proposes to amend its regulations under the Federal Power Act to remove barriers to the participation of electric storage resources and distributed energy resource aggregators in the capacity, energy, and ancillary service markets operated by regional transmission organizations and independent system operators (organized wholesale electric markets). The Commission also seeks comment regarding “whether and to what extent the Commission-approved Glossary of Terms and associated Reliability Standards...may create barriers to the participation of electric storage resources or other non-synchronous technologies in the organized wholesale electric markets.”<sup>2</sup>

NERC is the Electric Reliability Organization (“ERO”) designated under Section 215 of the Federal Power Act to develop and enforce Reliability Standards for the reliable operation of

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<sup>1</sup> Notice of Proposed Rulemaking , *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 157 FERC ¶ 61,121 (Nov. 17, 2016) (hereinafter the “NOPR”).

<sup>2</sup> NOPR at P 52.

the North American Bulk-Power System, subject to Commission approval.<sup>3</sup> As the ERO, NERC submits that Reliability Standards, including the terms used in those standards and defined in the *Glossary of Terms Used in NERC Reliability Standards* (“NERC Glossary”), would create no barriers to the participation of electric storage resources or other non-synchronous technologies in the organized wholesale electric markets.

## I. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:<sup>4</sup>

Shamai Elstein\*  
Senior Counsel  
Lauren A. Perotti\*  
Counsel  
North American Electric Reliability  
Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099– facsimile  
shamai.elstein@nerc.net  
lauren.perotti@nerc.net

Howard Gugel\*  
Senior Director of Standards and Education  
North American Electric Reliability  
Corporation  
3353 Peachtree Road, N.E.  
Suite 600, North Tower  
Atlanta, GA 30326  
(404) 446-2560  
(404) 446-2595 – facsimile  
howard.gugel@nerc.net

## II. COMMENTS

The body of NERC Reliability Standards work together as an integrated whole to protect and preserve the reliability of the Bulk-Power System. Each Reliability Standard is developed through an open and inclusive American National Standards Institute-accredited process, approved by stakeholders, adopted by the NERC Board, and submitted for Commission approval

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<sup>3</sup> The Commission certified NERC as the electric reliability organization (“ERO”) in accordance with Section 215 of the Federal Power Act (16 U.S.C. § 824o) on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006).

<sup>4</sup> 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 (2016), to allow the inclusion of more than two persons on the service list in this proceeding.

prior to becoming effective in the United States.<sup>5</sup> To promote consistency throughout the Reliability Standards, NERC maintains the NERC Glossary, which contains definitions of terms that have been approved through NERC’s process and are used in one or more Reliability Standards.<sup>6</sup> As the Commission noted in Order No. 693, “The terms defined in the glossary have an important role in establishing consistent understanding of the Reliability Standards Requirements and implementation.”<sup>7</sup>

Reliability Standards fall within one of 14 standard families that address different aspects of reliable operations. One standard family in particular, the Resource and Demand Balancing (“BAL”) Reliability Standards, is of particular relevance to the Commission’s NOPR. The BAL Reliability Standards address balancing resources and demand to maintain Interconnection frequency within prescribed limits, which is essential for reliably operating an electric power system. As discussed herein, while the BAL Reliability Standards are associated with the dispatch of generation on the Bulk-Power System, they provide entities with the flexibility to meet the performance-based requirements of those standards. As such, these Reliability Standards would not create a barrier to the participation of electric storage resources or other non-synchronous technologies in the organized wholesale electric markets.

Three BAL standards in particular work together to ensure that resources are used in conjunction with one another in furtherance of reliable operations:

- BAL-001-2 (Real Power Balancing Control Performance)

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<sup>5</sup> NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual. The NERC Rules of Procedure are available at <http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>. The NERC Standard Processes Manual is available at [http://www.nerc.com/comm/SC/Documents/Appendix\\_3A\\_StandardsProcessesManual.pdf](http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf).

<sup>6</sup> The NERC Glossary is available on NERC’s website at [http://www.nerc.com/files/Glossary\\_of\\_Terms.pdf](http://www.nerc.com/files/Glossary_of_Terms.pdf).

<sup>7</sup> Order No. 693, *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (“Order No. 693”) at P 1893, *order on reh’g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

- BAL-002-1 (Disturbance Control Performance), to be retired by approved BAL-002-2 (Disturbance Control Standard – Contingency Reserve for Recovery from a Balancing Contingency Event)
- BAL-003-1.1 (Frequency Response and Frequency Bias Setting)

Reliability Standard BAL-001-2 is designed to ensure that Interconnection frequency is maintained within predefined limits by requiring responsible entities to operate such that certain long-term and short-term system performance measures are met.<sup>8</sup> Approved Reliability Standard BAL-002-2 is designed to ensure that the responsible entity is prepared to balance resources and demand by requiring the maintenance of adequate reserves and deployment of those reserves to return its Area Control Error (“ACE”)<sup>9</sup> to defined values following a qualifying event.<sup>10</sup>

Reliability Standard BAL-003-1.1 is designed to ensure that each of the interconnections has sufficient frequency response to maintain Interconnection frequency within predefined bounds and guard against underfrequency load-shedding due to an event in the interconnection.<sup>11</sup>

Each of these standards contains performance-based requirements, meaning that the requirements define the reliability outcome to be achieved without prescribing the specific

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<sup>8</sup> Reliability Standard BAL-001-2 – Real Power Balancing Control Performance was approved by the Commission in 2015 in Order No. 810. *See* Order No. 810, *Real Power Balancing Control Performance Reliability Standard*, 151 FERC ¶ 61,048 (2015). The standard is available at <http://www.nerc.com/pa/Stand/Reliability%20Standards/BAL-001-2.pdf>.

<sup>9</sup> Area Control Error is defined in the NERC Glossary as:

The instantaneous difference between a Balancing Authority’s net actual and scheduled interchange, taking into account the effects of Frequency Bias, correction for meter error, and Automatic Time Error Correction (ATEC), if operating in the ATEC mode. ATEC is only applicable to Balancing Authorities in the Western Interconnection.

<sup>10</sup> On January 19, 2017, the Commission issued Order No. 835 approving Reliability Standard BAL-002-2 with directives for future modifications. *See* Order No. 835, *Disturbance Control Standard – Contingency Reserve for Recovery from a Balancing Contingency Event Reliability Standard*, 158 FERC ¶ 61,030 (2017). Under the approved implementation plan, Reliability Standard BAL-002-2 will become effective on the first day of the first calendar quarter that is six months after the date of Commission approval.

<sup>11</sup> Reliability Standard BAL-003-1 was approved by the Commission in 2014 in Order No. 794. *See* Order No. 794, *Frequency Response and Frequency Bias Setting Reliability Standard*, 146 FERC ¶ 61,024 (2014). Currently-effective errata version BAL-003-1.1 was approved in 2015. *See N. Am. Electric Reliability Corp.*, Docket No. RD15-6-000 (Nov. 13, 2015) (delegated letter order). The standard is available at <http://www.nerc.com/pa/Stand/Reliability%20Standards/BAL-003-1.1.pdf>.

methods that must be used to achieve it. Further, each of these standards are technology neutral. To demonstrate, BAL-001-2 requires each Balancing Authority to operate such that its ACE is greater than or equal to 100 percent for the applicable interconnection in which it operates for each preceding 12 consecutive calendar month period, evaluated monthly. This standard would not affect the specific output of any individual resource; rather, it evaluates the overall ability of the Balancing Authority to balance resources and demand. Likewise, approved Reliability Standard BAL-002-2 requires each Balancing Authority to recover ACE following the unexpected loss of a resource in its area. This standard does not specify the manner a Balancing Authority must use to balance resources and demand. As such, these standards would not create a barrier to the participation of electric storage resources or other non-synchronous technologies.

In addition to the relevant Reliability Standards, NERC has also examined the NERC Glossary to determine whether any defined terms could potentially pose a barrier to the participation of electric storage resources or other non-synchronous technologies. Two defined terms, “Spinning Reserve”<sup>12</sup> and “Operating Reserve-Spinning,”<sup>13</sup> specifically reference

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<sup>12</sup> The term Spinning Reserve is defined as “[u]nloaded generation that is synchronized and ready to serve additional demand.” The Commission approved the definition of this term in 2007 in Order No. 693. *See* Order No. 693 at P 1887.

<sup>13</sup> The term Operating Reserve – Spinning is defined as:

The portion of Operating Reserve consisting of:

- Generation synchronized to the system and fully available to serve load within the Disturbance Recovery Period following the contingency event; or
- Load fully removable from the system within the Disturbance Recovery Period following the contingency event.

A related term, Operating Reserve- Supplemental, is defined as:

The portion of Operating Reserve consisting of:

- Generation (synchronized or capable of being synchronized to the system) that is fully available to serve load within the Disturbance Recovery Period following the contingency event; or
- Load fully removable from the system within the Disturbance Recovery Period following the contingency event.

The Commission approved the definitions of these terms in Order No. 693.

generation that is synchronized to the system. However, NERC does not view the existence of these terms in the Glossary as potentially posing a barrier to the participation of electric storage resources or other non-synchronous technologies in the organized wholesale electric markets for the following reasons. The term “Spinning Reserve” is not used in its defined (i.e. capitalized) or commonly understood (i.e. non-capitalized) meaning in any U.S. mandatory and enforceable Reliability Standard that establishes reserve obligations for registered entities.<sup>14</sup> With respect to the term “Operating Reserve-Spinning,” NERC notes that the Commission has approved the retirement of the only continent-wide Reliability Standard that uses this term, Reliability Standard BAL-002-1. Requirement R2.3 of this standard provides that each responsible entity shall specify its Contingency Reserve policies, including the permissible mix of Operating Reserve-Spinning and Operating Reserve-Supplemental that may be included in Contingency Reserve. As noted above, the approved successor standard BAL-002-2 uses a performance-based approach to ensuring that each responsible entity maintains adequate reserves to recover ACE following the unexpected loss of a resource in its area.

The other currently enforceable standard in which the term “Operating Reserve – Spinning” is used, regional Reliability Standard BAL-002-WECC-2, is the subject of a recently approved interpretation.<sup>15</sup> This interpretation adds the following clarification to the standard regarding the resources that may be used as “Operating Reserve-Spinning”:

[N]on-traditional resources, including electric storage facilities, may qualify as “Operating Reserve-Spinning” so long as they meet the technical and performance requirements in [BAL-002-WECC-2] Requirement R2 (i.e. that the reserves must be immediately and automatically responsive to frequency deviations through the action

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<sup>14</sup> While the term is used in its non-capitalized form in Reliability Standard EOP-002-3.1 – Capacity and Energy Emergencies, it is only referenced in the report that a Balancing Authority must file when declaring an Energy Emergency Alert 3.

<sup>15</sup> *N. Am. Elec. Reliability Corp.*, Docket No. RD17-3-000 (Jan. 24, 2017) (delegated letter order).

of a control system and capable of fully responding within ten minutes.)<sup>16</sup>

This interpretation is entirely consistent with the Commission’s Order No. 789 approving the standard.<sup>17</sup> In light of FERC’s order and this recently approved interpretation, NERC does not view the use of the term “Operating Reserve-Spinning” in the regional standard as potentially posing a barrier to the participation of electric storage resources that meet the regional standard performance requirements. Should the WECC regional standard be retired, NERC would evaluate whether to retire this term using its standard development process.

In conclusion, the NERC Reliability Standards that are associated with the dispatch of generation on the Bulk-Power System provide entities with flexibility to meet the performance-based requirements of those standards. As such, these Reliability Standards would not create a barrier to the participation of electric storage resources or other non-synchronous technologies in the organized wholesale electric markets.

### III. **CONCLUSION**

NERC respectfully requests that the Commission accept these comments in response to the Notice of Proposed Rulemaking.

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<sup>16</sup> *Joint Petition of the North American Electric Reliability Corporation and Western Electricity Coordinating Council for Approval of Interpretation of Regional Reliability Standard BAL-002-WECC-2a*, Docket No. RD17-3-000 (Nov. 9, 2016).

<sup>17</sup> *Id.* at 7-8. See also, Order No. 789, *Regional Reliability Standard BAL-002-WECC-2 – Contingency Reserve*, 145 FERC ¶ 61,141 (2013) at P 48.



Respectfully submitted,

/s/ Lauren A. Perotti

Shamai Elstein  
Senior Counsel  
Lauren A. Perotti  
Counsel  
North American Electric Reliability Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099– facsimile  
shamai.elstein@nerc.net  
lauren.perotti@nerc.net

*Counsel for the North American Electric  
Reliability Corporation*

Dated: February 13, 2017

**CERTIFICATE OF SERVICE**

I hereby certify that I have served a copy of the foregoing document upon all parties listed on the official service lists compiled by the Secretary in Docket Nos. RM16-23-000 and AD16-20-000.

Dated at Washington, DC this 13<sup>th</sup> day of February, 2017.

/s/ Courtney M. Baughan  
Courtney M. Baughan  
Legal Assistant  
North American Electric Reliability  
Corporation  
1325 G Street, N.W., Suite 600  
Washington, DC 20005  
(202) 400-3000  
courtney.baughan@nerc.net