

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

**Reliability Standards for** ) **Docket No. RM12-22-000**  
**Geomagnetic Disturbances** )  
)

**JOINT COMMENTS OF AMERICAN ELECTRIC POWER SERVICE  
CORPORATION, CITY OF COFFEYVILLE, KANSAS, CITY OF  
INDEPENDENCE, MISSOURI, OKLAHOMA MUNICIPAL POWER  
AUTHORITY, SOUTHWEST POWER POOL, INC., SOUTHWESTERN POWER  
ADMINISTRATION, WESTAR ENERGY, INC.,  
AND WESTERN FARMERS ELECTRIC COOPERATIVE**

American Electric Power Service Corporation (“AEP”),<sup>1</sup> City of Coffeyville, Kansas (“Coffeyville), City of Independence, Missouri (“Independence”), Oklahoma Municipal Power Authority (“OMPA”), Southwest Power Pool, Inc. (“SPP”),<sup>2</sup> Southwestern Power Administration (“Southwestern”), Westar Energy, Inc. (“Westar”), and Western Farmers Electric Cooperative (“Western Farmers”) (collectively the “SPP Parties”) submit the following comments in response to the Federal Energy Regulatory Commission’s (“Commission”) Notice of Proposed Rulemaking regarding the

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<sup>1</sup> AEP filed separate comments in this proceeding on December 20, 2012. Comments of American Electric Power Service Corp., Docket No. RM12-22-000 (Dec. 20, 2012).

<sup>2</sup> SPP also joins the comments submitted today by the “Joint ISOs/RTOs” in this proceeding. Comments of Alberta Electric System Operator, California Independent System Operator, Electric Reliability Council of Texas, the Independent Electric System Operator of Ontario, Inc., ISO New England Inc., Midwest Independent Transmission System Operator, Inc., New York Independent System Operator, Inc., and Southwest Power Pool, Inc., Docket No. RM12-22-000 (Oct. 21, 2012).

development of Reliability Standards to address the potential risks to the Bulk-Power System (“BPS”) from geomagnetic disturbances (“GMD”).<sup>3</sup>

## **I. BACKGROUND**

On October 18, 2012, the Commission issued the GMD NOPR proposing to direct the North American Electric Reliability Corporation (“NERC”) to submit in two stages for Commission approval Reliability Standards that address the impact of GMD on the reliable operation of the BPS. Specifically, the Commission proposes to direct NERC first to file, within 90 days of the effective date of the final order in this proceeding, one or more Reliability Standards that would require owners and operators of the BPS to develop and implement operational procedures to mitigate the effects of GMDs consistent with reliable operation of the BPS.<sup>4</sup> In the second stage, the Commission proposes to direct NERC to file, within six months of the effective date of the final rule in this proceeding, one or more Reliability Standards that would require owners and operators of the BPS to conduct initial and on-going assessments of the potential impact of GMDs on BPS equipment and the BPS as a whole, and, based on those assessments, require BPS owners and operators to develop and implement plans so that GMD events will not result in instability, uncontrolled separation, or cascading failures of the BPS, or damage to critical or vulnerable BPS equipment.<sup>5</sup>

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<sup>3</sup> *Reliability Standards for Geomagnetic Disturbances*, Notice of Proposed Rulemaking, 141 FERC ¶ 61,045 (2012) (“GMD NOPR”).

<sup>4</sup> *Id.* at PP 18-22.

<sup>5</sup> *Id.* at PP 23-26.

SPP is a Commission-approved Regional Transmission Organization. AEP, Coffeyville, Independence, OMPA, Westar, and Western Farmers are members of SPP under the SPP Membership Agreement,<sup>6</sup> and Southwestern participates in SPP through a contract set forth in SPP's Open Access Transmission Tariff.<sup>7</sup> The SPP Parties are owners and/or operators of BPS facilities that will be affected by the final rule in this proceeding.

## **II. COMMENTS**

The SPP Parties are concerned about the Commission's proposal to require NERC to rush to develop and implement GMD standards, both the operational procedures and the follow-up assessments. The GMD NOPR proposes to require NERC to develop Reliability Standards in very shortened time-frames (90 days for Reliability Standards relating to operating procedures and 120 days for Reliability Standards related to assessments and additional, potentially costly plans). Rather than rushing to implement standards that are not well thought-out and vetted among the industry, the Commission should focus on working with NERC and industry participants to understand the issues associated with preparing the BPS to withstand GMD events. Currently, the technology to protect against GMDs is in its infancy and has a long way to go to establish credibility, and many owners and operators of BPS facilities do not have the required data to identify their high risk facilities. The Commission should take time to assess the feasibility of

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<sup>6</sup> Southwest Power Pool, Inc., Membership Agreement, First Revised Volume No. 3.

<sup>7</sup> Southwest Power Pool, Inc., Open Access Transmission Tariff, Sixth Revised Volume No. 1 at Attachment AD.

developing Reliability Standards given current technology and available information before rushing to mandate NERC action.

While the SPP Parties acknowledge that the peak of the next solar activity cycle is forecast for June 2013,<sup>8</sup> it is doubtful that NERC can develop and implement Reliability Standards by that time without circumventing its normal standards development process. Additionally, even if NERC were to adopt such standards in such an expedited time-frame, it is unlikely that owners and operators of BPS facilities would be able to comply in sufficient time to respond to the June 2013 forecast solar activity peak. Rather than mandate the expedited, two-phase Reliability Standards that may prove onerous and beyond the capabilities of current technology and industry knowledge, the Commission should instead consider encouraging NERC to issue a reliability guideline prior to the summer of 2013 to assist owners and operators of BPS facilities in addressing GMD threats to the BPS.

For example, the NERC interim report on “Effects of Geomagnetic Disturbances on the Bulk Power System”<sup>9</sup> includes information that could provide a basis for developing such a guideline. NERC could develop a reliability guideline much more quickly than undertaking the process to develop the mandatory Reliability Standards that would be required under the GMD NOPR. NERC could then follow with a Reliability Standard, if necessary. Given the time necessary for the Commission to consider the

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<sup>8</sup> See GMD NOPR at P 3 (acknowledging testimony at a Commission technical conference indicating that the current 11-year solar activity cycle is expected to hit its maximum activity in 2013).

<sup>9</sup> North American Electric Reliability Council, *2012 Special Reliability Assessment Interim Report: Effects of Geomagnetic Disturbances on the Bulk Power System* (Feb. 2012), <http://www.nerc.com/files/2012GMD.pdf>.

comments in this proceeding and issue a final rule (which would likely have an effective date of a month or more following publication in the *Federal Register*) and the additional time it would take NERC to develop the necessary Reliability Standards for filing with the Commission, a reliability guideline may be the only realistic option to provide the industry with guidance to prepare for possible GMD events during the 2013 solar cycle peak.

The SPP Parties also caution the Commission against proposing a continent-wide solution for a problem that does not present a uniform, continent-wide threat. Determining impacts from a given GMD is a very complicated issue involving many variables including the latitude of the location of interest, geology, type of soil, line configuration, equipment design, loading, and grid topology. The myriad combinations of these variables and other factors across the North American continent result in some locations where GMDs may present a significant threat and others where there is little risk of a problem. Treating all locations the same with a one-size fits all Reliability Standard, particularly given the lack of adequate information regarding the vulnerability of various BPS components, creates unnecessarily burdensome requirements for many owners and operators of BPS facilities without a marked improvement on reliability. Any approved Reliability Standard should recognize these differences and allow waivers for entities that own or operate BPS facilities that are not materially impacted by GMDs. The Commission also should focus on encouraging NERC to develop Reliability Standards that target those specific areas and specific facilities where GMDs can create issues, once such areas and facilities are identified.

Furthermore, the GMD NOPR is unclear regarding which entities will perform which functions under the proposed Reliability Standards. For example, in paragraph 23, the Commission proposes to direct NERC to adopt “Reliability Standards that require owners and operators of the [BPS] to conduct initial and on-going assessments of the potential impact of GMDs on [BPS] equipment and on the [BPS] as a whole.”<sup>10</sup> However, in paragraph 22, the Commission “proposes to accept aspects of the ‘Initial Actions’ proposal set forth in NERC’s May 21, 2012 post-Technical Conference comments” in which NERC proposed “to ‘conduct [a] wide-area geomagnetic disturbance vulnerability assessment.’”<sup>11</sup> Given these paragraphs, it is unclear whether the proposed Reliability Standards would require NERC or individual owners and operators to conduct this assessment. Because of their knowledge of their systems, it is critical that owners and operators be included in this assessment process. However, if the Commission adheres to its proposed timeline, these same entities may be working on compliance with data requirements established by NERC under Reliability Standards interpreted in Order No. 754<sup>12</sup> during the same time frame that the Reliability Standards proposed in the GMD NOPR would require GMD assessments to be conducted.

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<sup>10</sup> GMD NOPR at P 23.

<sup>11</sup> *Id.* at P 22.

<sup>12</sup> *Interpretation of Transmission Planning Reliability Standard*, Order No. 754, 136 FERC ¶ 61,186 (2011); *see also* Order 754 – Data Request, North American Electric Reliability Corp., [http://www.nerc.com/filez/standards/order\\_754.html](http://www.nerc.com/filez/standards/order_754.html) (last visited Dec. 21, 2012) (NERC website listing timeline for compliance with Reliability Standards interpreted by Order No. 754).

Moreover, the Commission uses the term “critical” in conjunction with transformers, BPS facilities, and load,<sup>13</sup> but does not define what is meant by “critical.” This use of critical needs to be clarified so that the industry has a better understanding of the extent of the required assessments. The same applies to the use of the “priority” to define loads to be included in the vulnerability assessment.<sup>14</sup>

Finally, GMD Reliability Standards must be crafted very carefully, particularly when considering any requirement to implement automatic isolation of equipment to prevent potential damage from GMDs.<sup>15</sup> First, removing equipment from service at a time when voltage collapse is a real possibility could potentially lead to instability, uncontrolled separation, or cascading failures of the BPS, which are the very conditions that the GMD NOPR purports to seek to avoid.<sup>16</sup> Automatic isolation without an evaluation of the consequences of that isolation should be avoided. Moreover, to the extent that the threat from GMDs is determined to be more harmful than the threat from automatic isolation, the Commission should consider implementing a process by which

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<sup>13</sup> GMD NOPR at P 22.

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

<sup>15</sup> *See id.* at P 16 (proposing to direct NERC to adopt Reliability Standards that “would require owners and operators to develop and implement a plan so that instability, uncontrolled separation, or cascading failures of the [BPS], caused by damage to critical or vulnerable [BPS] equipment, or otherwise, will not occur as a result of a GMD” including “instituting specification requirements for new equipment, inventory management, and isolating certain equipment that is not cost effective to retrofit”).

<sup>16</sup> *See, e.g., id.* at PP 1, 6, 16, 23, 25, 34 (indicating the Commission’s proposal to require NERC to develop Reliability Standards to require owners and operators of the BPS to implement plans to avoid instability, uncontrolled separation, or cascading failures of the BPS resulting from GMD events).

owners and operators of BPS facilities can seek a waiver of other Reliability Standards that could potentially be violated by an entity seeking to adhere to the GMD standards.

### III. CONCLUSION

The SPP Parties respectfully request that the Commission formulate the final rule in this proceeding in a manner consistent with these comments.

Respectfully submitted,

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