UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Reliability Standards for Geomagnetic Disturbances	**)** **)**	**Docket Nos. RM14-1-000**

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

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March 24, 2014

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The North American Electric Reliability Corporation ("NERC")[1] hereby provides these comments in response to the Federal Energy Regulatory Commission's ("FERC" or the "Commission") January 16, 2014, Notice of Proposed Rulemaking ("NOPR")[2] proposing to approve Reliability Standard EOP-010-1 – Geomagnetic Disturbance Operations. Proposed Reliability Standard EOP-010-1 is designed to mitigate the effects of geomagnetic disturbances on the Bulk-Power System by requiring responsible entities to implement Operating Plans, Processes, or Procedures. NERC supports the Commission's proposal to approve proposed Reliability Standard EOP-010-1. The proposed Reliability Standard is consistent with the Commission's guidance in Order No. 779 and is an important first step in addressing the issue of geomagnetic disturbances ("GMDs").

I. BACKGROUND

On November 13, 2013, NERC petitioned the Commission to approve proposed Reliability Standard EOP-010-1. The proposed Reliability Standard was submitted in compliance with Order No. 779, in which the Commission directed NERC, pursuant to section

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[1] The Federal Energy Regulatory Commission certified NERC as the electric reliability organization ("ERO") in its order issued on July 20, 2006, in Docket No. RR06-1-000. *North American Electric Reliability Corporation*, 116 FERC ¶ 61,062 (2006).

[2] *Reliability Standards for Geomagnetic Disturbances*, 146 FERC ¶ 61,015 (2014) ("NOPR").

215(d)(5) of the Federal Power Act, to develop and submit for approval proposed Reliability Standards that address the impact of geomagnetic disturbances on the reliable operation of the Bulk-Power System.[3]

The Commission proposes to approve Reliability Standard EOP-010-1 and states that it "satisfies the directive in Order No. 779 that NERC submit one or more Reliability Standards that require owners and operators of the Bulk-Power System to develop and implement operational procedures to mitigate the effects of GMDs consistent with the reliable operation of the Bulk-Power System."[4]

II. NOTICES AND COMMUNICATIONS

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

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[3] *Reliability Standards for Geomagnetic Disturbances*, Order No. 779, 143 FERC ¶ 61,147 (2013) ("Order No. 779").

[4] NOPR at P 12.

[5] Persons to be included on the Commission's service list are indicated with an asterisk. NERC requests waiver of 18 C.F.R. § 385.203(b) to permit the inclusion of more than two people on the service list.

III. COMMENTS

NERC supports the Commission's proposal to approve Reliability Standard EOP-010-1. The purpose of proposed Reliability Standard EOP-010-1 is to mitigate the reliability impacts of GMD events by implementing Operating Plans, Processes, and Procedures. The proposed Reliability Standard allows responsible entities to tailor their Operating Plans, Processes, or Procedures as needed, given that there are a number of factors to consider, including: transformer winding configuration, grounding and core construction, system topology, geographic location and local earth conductivity, and resistance values of the elements of the DC network used to evaluate geomagnetically-induced current ("GIC") distribution within the network. The proposed Reliability Standard was developed expeditiously per Order No. 779 and is an important first step in addressing the issue of GMDs. The NERC GMD Task Force has prepared several publicly available documents to assist the industry in the development of Operating Plans, Processes, or Procedures.[6]

The next phase of the project is development of a Reliability Standard(s) that requires owners and operators of the Bulk-Power System to conduct initial and on-going assessments of the potential impact of benchmark GMD events on Bulk-Power System equipment and the Bulk-Power System as a whole. The standard drafting team assigned to Project 2013-03, is currently developing the Stage 2 GMD Reliability Standard(s). A key aspect of the Stage 2 Reliability Standard(s) is the development of a benchmark GMD event, as contemplated in Order No. 779.[7]

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[6] *See e.g.*, Geomagnetic Disturbance Operating Procedure Template, available at: http://www.nerc.com/comm/PC/Geomagnetic%20Disturbance%20Task%20Force%20GMDTF%202013/Template_TOP.pdf. Additional documents are *available at*: http://www.nerc.com/comm/PC/Pages/Geomagnetic-Disturbance-Task-Force-(GMDTF)-2013.aspx.

[7] Order No. 779 at P 2 ("The Second Stage GMD Reliability Standards must identify 'benchmark GMD events' that specify what severity GMD events a responsible entity must assess for potential impacts on the Bulk-Power System. The benchmark GMD events must be technically justified because the benchmark GMD events will define the scope of the Second Stage GMD Reliability Standards (i.e., responsible entities should not be required to assess GMD events more severe than the benchmark GMD events)").

The standard drafting team's work thus far indicates that the benchmark GMD event will be multi-dimensional, consisting of a reference geo-electric field amplitude and scaling factors to account for local geomagnetic latitude (geographic location) and local earth conductivity. Furthermore, the benchmark GMD event will specify the characteristics necessary for responsible entities to assess the potential impacts of GIC on the system, including power transformers. As NERC has previously noted, the science related to GMD events is still maturing,[8] and consistent with Order No. 779, the Stage 2 Reliability Standard(s) may need to incorporate improvements in scientific understanding of GMDs in the future.[9]

NERC supports the Commission's proposal to approve, without modification, the proposed Reliability Standard EOP-010-1 and appreciates the participation of FERC Staff in the development of the Stage 2 Reliability Standard(s).

[8] *Comments of the North American Electric Reliability Corporation in Response to Notice of Proposed Rulemaking*, Docket No. RM12-22-000 (December 26, 2012) at 15-16.

[9] Order No. 779 at P 68 ("NERC should consider developing Reliability Standards that can incorporate improvements in the scientific understanding of GMDs."). *See also*, Order No. 779 at P 2 ("Given that the scientific understanding of GMDs is still evolving, we recognize that Reliability Standards cannot be expected to protect against all GMD-induced outages.").

IV. CONCLUSION

NERC respectfully requests that the Commission approve, without modification, the proposed Reliability Standard EOP-010-1.

Respectfully submitted,

/s/ Stacey Tyrewala

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