Unofficial Comment Form

Project 2013-03 Geomagnetic Disturbance Mitigation

Please **DO NOT** use this form for submitting comments. Please use the [electronic form](https://www.nerc.net/nercsurvey/Survey.aspx?s=a11ca696bb504b5691729c0fe0e62154) to submit comments on the draft stage 1 EOP-010-1 Standard. The electronic comment form must be completed by 8:00 p.m. ET by Monday, **August 12, 2013**.

If you have questions please contact [Mark Olson](mailto:mark.olson@nerc.net) via email or by telephone at 404-446-9760.

The project page may be accessed by [clicking here](http://www.nerc.com/pa/Stand/Pages/Project-2013-03-Geomagnetic-Disturbance-Mitigation.aspx).

## Background Information

On May 16, 2013 FERC issued [Order No. 779](http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13260635), directing NERC to develop Standards that address risks to reliability caused by geomagnetic disturbances in two stages:

* Stage 1 Standard(s) that require applicable entities to develop and implement Operating Procedures. Stage 1 Standard(s) must be filed by January 2014. An implementation period of six-months was recommended in the FERC Order.
* Stage 2 Standard(s) that require applicable entities to conduct assessments of the potential impact of benchmark GMD events on their systems. If the assessments identify potential impacts, the Standard(s) will require the applicable entity to develop and implement a plan to mitigate the risk of instability, uncontrolled separation, or Cascading. Stage 2 Standards must be filed by January 2015. A specific implementation period for Stage 2 was not addressed in Order No. 779.

This posting is soliciting comment on a draft stage 1 Standard and a Standard Authorization Request (SAR) addressing stages 1 and 2. The draft Standard is a new EOP Standard to specifically address the stage 1 directives in Order No. 779. Including GMD requirements in an existing EOP Standard is not feasible within the prescribed filing deadline due to the other relevant directives and 5-year review requirements that must be considered by the drafting team to revise the existing Standards. This effort to revise older EOP Standards is being carried out by a 5-year review team.

Question 1 asks for stakeholder comment on applicability of the stage 1 Standards. The draft stage 1 Standard applies to Reliability Coordinators, Balancing Authorities with a Balancing Authority Area that includes any transformer with high side terminal voltage greater than 200 kV, and Transmission Operators with a Transmission Operator Area that includes any transformer with high side terminal voltage greater than 200 kV. While some Generator Operators also have Operating Procedures to mitigate the effects of GMD, the standards drafting team (SDT) did not support including them in mandatory stage 1 standards because the actions that would be included in a Generator Operator's procedures would require studies and monitoring equipment that will not be addressed until stage 2. Applicability was also limited by the minimum voltage threshold of 200 kV. Experience with modeling geomagnetically-induced currents (GIC) has shown that because the resistances of conductors are much higher in systems below 200 kV, the affects of GMD on these systems are significantly reduced. Historical evidence of transmission systems affected by severe solar storms supports this conclusion. The [2012 GMD Report](http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2012GMD.pdf) contains additional information.

Question 2 asks for stakeholder comment on Requirement R1, which requires Reliability Coordinators to develop, maintain, and implement a GMD Operating Plan. This coordinating role for the RC is based on the functional model and addresses Order No. 779 directives to consider the coordination of Operating Procedures across regions by a functional entity with a wide-area view. The defined term "Operating Plan" provides the RC with latitude to determine specific activities necessary to achieve this goal.

Question 3 asks for stakeholder comment on Requirement R3, which requires Transmission Operators and Balancing Authorities to develop, maintain, and implement GMD Operating Procedures. The draft standard is intended to allow entities to develop their own procedures based on entity-specific factors. Recently the GMD Task Force developed [Operating Procedure templates](http://www.nerc.com/comm/PC/Geomagnetic%20Disturbance%20Task%20Force%20GMDTF%202013/Template_TOP.pdf) that provide a technical resource for entities to use in developing procedures. Included in the templates are a number of actions that could be employed to mitigate the effects of GMD, such as reduction of equipment loading, increasing reactive reserves, reconfiguration of the system, recalling outages, and Load shedding. The templates also describe indicators of GMD conditions that could be used as trigger conditions for steps or tasks in an entity's Operating Procedures.

Question 4 asks for stakeholder comment on Requirements R2, R4, and R5. R2 and R4 require applicable entities to review their GMD Plans/Operating Procedures every 36-months. This periodicity would ensure improvements in the scientific understanding of GMDs can be incorporated into Operating Procedures in a timely manner as directed in Order No. 779. Requirement R5 requires each Transmission Operator and Balancing Authority to have a copy of its GMD Operating Procedures in its Primary and Back-up Control Rooms, which is consistent with other EOP Reliability Standards.

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.

## Questions (1-5) on Draft 1 of EOP-010-1

1. The SDT is proposing that the draft stage 1 Standard should apply to Reliability Coordinators, Balancing Authorities with a Balancing Authority Area that includes any transformer with high side terminal voltage greater than 200 kV, and Transmission Operator with a Transmission Operator Area that includes any transformer with high side terminal voltage greater than 200 kV. Do you agree that the SDT has correctly identified the applicable functional entities in the initial draft stage 1 Standard? If you do not agree, or you agree in general but feel that alternative language would be more appropriate, please provide specific suggestions in your comments.

Yes

No

Comments:

2. In Requirement R1, the SDT is proposing to require Reliability Coordinators to develop, maintain, and implement a GMD Operating Plan. This coordinating role for the RC is based on the functional model and addresses the Order No. 779 directive to consider the coordination of Operating Procedures across regions by a functional entity with a wide-area view. The defined term "Operating Plan" provides the RC with latitude to determine specific activities necessary to achieve this goal. Do you agree that the SDT has correctly addressed this directive? If you do not agree that this requirement addresses the directive, or you agree in general but feel that alternative language would be more appropriate, please provide specific suggestions in your comments.

Yes

No

Comments:

3. In Requirement R3, the SDT is proposing to require each applicable Transmission Operator and Balancing Authority to develop, maintain, and implement GMD Operating Procedures. The draft Standard is intended to allow each entity to develop its own procedures based on entity-specific factors as directed in Order No. 779. Do you agree that the SDT has correctly addressed the stage 1 directives in Order No. 779? If you do not agree that this requirement addresses the directive, or you agree in general but feel that alternative language would be more appropriate, please provide specific suggestions in your comments.

Yes

No

Comments:

4. In Requirements R2 and R4 the SDT is proposing to require applicable entities to review their GMD Plans/Operating Procedures every 36-months. This periodicity would ensure improvements in the scientific understanding of GMDs can be incorporated into Operating Procedures in a timely manner as directed in Order No. 779. In Requirement R5, the SDT is proposing to require each applicable Transmission Operator and Balancing Authority to have a copy of its GMD Operating Procedures in its Primary and Back-up Control Rooms, which is consistent with other EOP reliability standards. Do you agree that the SDT has correctly addressed the directives in Order No. 779 in a manner that is good for reliability with these requirements? If you do not agree, or you agree in general but feel that alternative language would be more appropriate, please provide specific suggestions in your comments.

Yes

No

Comments:

5. If you have any other comments on this draft Standard that you haven’t already mentioned above, please provide them here:

Comments:

## Questions (6-10) on SAR for Project 2013-03

**The scope of this project is intended to address FERC directives from Order No. 779, including:**

* Within six months of the effective date of Final Rule, NERC submit for approval one or more Reliability Standards that require owners and operators to develop and implement operational procedures to mitigate the effects of GMDs.
* Within 18-months of the effective date of Final Rule, NERC submit one or more Reliability Standards that require owners and operators to conduct initial and on-going assessments of the potential impact of benchmark GMD events.
* The Second Stage GMD Reliability Standard must identify what severity GMD events (i.e., benchmark GMD events) that responsible entities will have to assess for potential impacts.
* If the assessments identify potential impacts from benchmark GMD events, owners and operators must develop and implement a plan to protect against instability, uncontrolled separation, and Cascading.
* The standards development process should consider tasking Planning Coordinators, or another functional entity with a wide-area perspective, to coordinate mitigation plans across Regions under the Second Stage GMD Reliability Standards to ensure consistency and regional effectiveness.
* The Second Stage GMD Reliability Standards should not impose “strict liability” on responsible entities for failure to ensure the reliable operation of the Bulk-Power System in the face of a GMD event of unforeseen severity.

6. Do you agree that the SAR, as drafted, provides a scope within which to address the directives in Order No. 779? If not, please explain.

Yes

No

Comments:

7. The SAR identifies a list of reliability functions that may be assigned responsibility for requirements in the set of standards addressed by this SAR. Do you agree with the list of proposed applicable functional entities? If no, please explain.

Yes

No

Comments:

8. The intent of the project is to develop continent-wide requirements that allow responsible entities to tailor operational procedures or strategies based on the responsible entity's assessment of entity-specific factors such as geography, geology, and system topology. However, the need for regional variances will be researched throughout the proposed project and may be supported by analysis required to develop stage 2 Standard(s). Are you aware of any regional variances that will be needed as a result of this project? If yes, please identify the regional variance in your comments:

Yes

No

Comments:

9. Are you aware of any business practice that will be needed or that will need to be modified as a result of this project? If yes, please identify the business practice in your comments:

Yes

No

Comments:

10. If you have any other comments on this SAR that you haven’t already mentioned above, please provide them here.

Comments: