

Meeting Notes Project 2013-03 (Geomagnetic Disturbance) Standard Drafting Team

August 21-23, 2013

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Administrative

1. Introductions

The chair called the meeting to order at 8:00 a.m. EDT, August 21, 2013. Participants were:

Members			
Name	Company	Name	Company
Frank Koza, Chair	PJM Interconnection	Randy Horton, Vice Chair	Southern Company
Donald Atkinson	Georgia Transmission Corporation	Emanuel Bernabeu	Dominion Resource Services, Inc
Kenneth Fleischer	NextEra Energy	Luis Marti	Hydro One Networks
Qun Qiu	American Electric Power	Antti Pulkkinen	NASA GSFC
Mark Olson	Standards Developer		
Observers			
Name	Company	Name	Company
Patti Metro	NRECA	Darrell Piatt	FERC
Laura Hussey	NERC	Stacey Tyrewala	NERC
Mary Agnes Nimis (Remote)	FERC	Noha Abdel-Karim	NERC

2. Determination of Quorum

The rule for NERC Standard Drafting Team (SDT or team) states that a quorum requires two-thirds of the voting members of the SDT. Quorum was achieved as 8 of 8 total members were present.

3. NERC Antitrust Compliance Guidelines and Public Announcement

NERC Antitrust Compliance Guidelines and public announcement were reviewed by Mark Olson. There were no questions raised. Participant conduct policy was reviewed.

4. Administrative and Safety

Building evacuation plan, emergency procedures, and office layout were reviewed by Mark Olson.

Agenda

1. **Chair Introductory Remarks.** Frank Koza welcomed the drafting team and observers. He reviewed the agenda.
2. **Reviewed Ballot Results** - Frank Koza provided the results from the initial ballot. He remarked that the drafting team had found a good starting point with industry and looked forward to the meeting to discuss comments.

Project 2013-03 GMD (EOP-010-1) Initial Ballot	
Total Ballot Pool	397
Quorum	76.32%
Approval vote	62.74%

3. Reviewed Balancing Authority (BA) Technical Briefing Sheet

- a. Frank Koza presented the draft. He stated that commenters on the draft standard made compelling arguments for not including the BA in the applicability. His view was that the BA would not initiate actions unilaterally during a GMD event and would instead respond to the direction of the TOP and RC. As such, the independent actions that the BA would take are very limited, if any, and that they should be removed in a revision to EOP-010-1. He invited other views.
 - 1) Luis Marti stated that the drafting team was in agreement before that there were very limited, if any actions that a BA could do.
 - 2) Darrell Piatt stated that the functional model and the body of Reliability Standards establish a hierarchy with responsibility roles at the top for the Reliability Coordinator (RC), Transmission Operator (TOP), and BA.
 - 3) The drafting team considered actions that a BA could take and determined that they were the same as would be taken for real-time balancing.

- 4) The drafting team concluded that the BA should not be included as an applicable entity in EOP-010-1. A white paper would be developed to provide the team's justification. Frank Koza offered to revise the technical briefing sheet and make it a white paper which will be posted with the standard.

4. Reviewed voltage limits on applicability technical briefing sheet

- a. Luis Marti led a review of the draft briefing sheet justification for the 200 kV threshold. It was agreed that the revised draft should state that it applied to functional entities with wye-grounded high-side power transformers since GIC flow requires a grounded connection. He also disagreed with commenters that recommended increasing the threshold to 345 kV as this would not include significant parts of the network. He disagreed with commenters that recommended including networks below 200 kV. Peer reviewed references were available to support the view that including networks below 200 kV does not significantly change the reactive power affects on the system. In GIC studies it adds complexity without changing results.
- b. The drafting team discussed adding the word 'networks' to the applicability statement. The drafting team believed that some commenters were interpreting the existing applicability statement as a definition of equipment to protect (such as transformers above 200 kV). The drafting team agreed not to introduce a term 'network' into the applicability statement because it would need to be defined. They resolved to use the comment response to help stakeholders interpret the drafting team's intentions with the applicability statement.
- c. The drafting team concluded that the justification for the 200 kV lower bound threshold would be strengthened by conducting a sensitivity analysis of the effects of excluding voltages below 345 kV (to examine whether a higher threshold would neglect a significant portion of the network) and a sensitivity analysis of the effects of including 115 kV and 161 kV circuits (to examine whether adding these produced a significant result in terms of reactive power loss). The technical analysis white paper will be posted with the revised standard.

5. Reviewed Generator Operator applicability technical briefing sheet

- a. Ken Fleischer led a review of the draft. It was noted that several commenters recommended adding GOP to the applicable entities for the standard. The drafting team agreed that some GSUs can and should be included in GOP GMD operating procedures, however they would need to have equipment specific studies to support any actions. GIC monitoring equipment to trigger actions would also be required.
- b. Ken Fleischer commented that a NUC GOP, without any predetermined GIC thresholds for the equipment, would take actions based on alarms and indicators as at any other time.
- c. Darrell Piatt commented that including GOPs in the standard has a compliance benefit even if not all GOP are specifically tasked with requirements in the standard.
- d. Luis Marti asked how a GOP that does not currently have GMD operating procedures would get them, and what would they be based on. The drafting team concluded that GOP should

remain omitted from the applicability for stage 1. They emphasized that this omission applies to stage 1 only and that the GOP will appropriately be considered for stage 2. The applicability briefing sheet would be updated into a white paper and posted with the standard.

6. **Trigger conditions** - The drafting team decided not to further develop a technical justification for the generalized trigger condition language in the standard. They will address questions through comment responses.
7. **Reviewed Comments and prepared responses to EOP-010-1 Comments (Question 1)**. Luis Marti led the review of received comments. The question asked stakeholders: *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.*
 - a. The drafting team discussed comments about the relationship to the Bulk Electric System definition. Commenters wanted clarification about applicability to non-BES elements, or recommended language to specifically exclude non-BES elements. The drafting team concluded regardless of BES definition, the >200 kV network can experience GMD impacts and needs to be included for the reliable operation of the Bulk-Power System as directed in FERC Order No. 779. The drafting team believes commenters would benefit from clarification that EOP-010-1 does not include or exclude specific transformers in their Operating Procedures. A draft response was prepared. All other comments were addressed in the briefing sheet/whitepaper discussions (Item 3-5).
8. **Reviewed Comments and prepared responses to EOP-010-1 Comments (Question 2)**. Frank Koza led the review of received comments. The question asked stakeholders: *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.*
 - a. Commenters recommended replacing the word "implement" with "coordinate" in Measure M1, and to clarify what is meant by 'Implement'. The SDT discussed this suggestion and agreed that the measure and requirement needed to be improved for consistency. A rationale box was added to state the SDT considers an operating plan, process, or procedure to be implemented by carrying out its stated actions. The measure was revised to specify appropriate evidence.

- b. Commenters recommended a longer implementation period to all coordination among applicable entities, or for additional studies or information. The SDT recognized the challenge of completing the necessary coordination in a 6 month time period, but the 6 month implementation period was suggested in FERC Order No. 779. The SDT did not find a compelling technical justification to change.
 - c. A commenter stated that in areas with a lower historical risk it is inefficient or ineffective for all TOPs to develop Operating Procedures. A commenter stated that when historical and physical evidence shows GIC conditions do not exist for a TOP then the RC should not be required to include them in their coordinating plans. The SDT considered the order to apply to all applicable TOPs in each RCA. Response to GMD events will vary based on local conditions but a key feature to response is to ensure that all applicable entities are responding in a coordinated manner within the RC area.
 - d. Commenters stated that the RC was given too much latitude; some commenters stated that the RC should be required to establish trigger conditions and a means for verifying compliance within the RCA. The SDT did not agree. The variability in the impacts of GMD across the system based on a number of factors precludes the ability to develop prescriptive requirements for GMD response at the RC level.
 - e. Commenters expressed concerns over the burden being required of RCs to coordinate Operating Procedures. The SDT believes it necessary to include RCs to obtain the wide-area view. The RC has sufficient authority to resolve coordination issues with applicable entities related to GMD Operating Plans, Processes and Procedures in the Reliability Coordinator Area.
9. **Reviewed Comments and prepared responses to EOP-010-1 Comments (Question 3).** Emanuel Bernabeu led a review of comments. Question 3 asked stakeholders: *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.*
- a. Many comments were addressed in considering Question 2. The drafting team reviewed the NERC glossary definition of Operating Process and agreed that it could satisfy the reliability objective of R3.
 - b. Comments highlighted concerns with overlapping or duplicative requirements related to space weather. IRO-005-3.1a requirement R3 requires RCs to ensure entities have GMD information, but could be retired as a result of IRO-005-4 filing. The drafting team believes that receiving space weather information is an essential component to GMD Operating Procedures or Processes. The drafting team changed the language in Part 3.1 from "steps or tasks for the acquisition and dissemination of space weather information" to "steps or tasks to receive space weather information" and added a new requirement in the standard for RC's to provide

space weather information. The new requirement will have language in the implementation plan so that it would not take effect until after the retirement of IRO-005-3.1a R3.

10. **Reviewed Comments and prepared responses to EOP-010-1 Comments (Question 4).** Don Atkinson led a review of comments. Question 4 asked stakeholders: *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.*
 - a. The drafting team agreed with commenters that these requirements could be removed from the standard. They are administrative in nature and would meet P.81 criteria. Also, since R1 and R3 require plans and procedures to be 'maintained' and 'implemented', the reliability objective is addressed.
11. **Reviewed Comments and prepared responses to EOP-010-1 Comments (Question 5).** Frank Koza led a review of comments. Question 5 asked stakeholders for any other comments. The drafting team developed responses on a range of topics.
12. **Reviewed revisions to EOP-010-1.** The drafting team reviewed the changes that were made to the draft standard during the earlier parts of the meeting and made minor changes for clarity.
13. **Reviewed Next Steps for Stage 1**
 - a. Laura Hussey proposed having a webinar early in the posting to explain revisions to stakeholders and present technical justifications for applicable entities and the 200 kV threshold. The drafting team agreed. A date of September 5 was set.
 - b. Mark Olson advised the SDT that their posting target was September 4. A conference call was set for August 30 to review smoothed response to comments and revised standard.
 - c. The drafting team agreed to host a webinar prior to balloting. October 3 was set.
 - d. The team agreed to meet in Atlanta on October 23-24 to review comments and ballot results.
14. **Initial Discussion on Stage 2 standards**
 - a. Frank Koza discussed the recent MRC meeting in which a policy input was solicited on the Benchmark GMD Event. The drafting team was provided with the responses from the NERC website to illustrate that there are a variety of viewpoints.
 - b. The drafting team discussed how contingencies and severe events are currently handled in NERC planning standards, and how tools and models are progressing with the GMD Task Force.

15. Schedule future meetings

- a. August 30 (Conference Call)
- b. October 23-24 (Atlanta)

16. Adjourn

- a. The meeting adjourned at 12:30 p.m. EDT on August 23, 2013