Geomagnetic Disturbance Working Group

Scope Document

Document Information

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Purpose

The SERC Engineering Committee (EC) Geomagnetic Disturbance Working Group (GMDWG) will collect, maintain and share Direct Current (DC) network modeling data[1] of facilities necessary for interconnected systems to adequately conduct Geomagnetic Disturbance event assessments. Furthermore, the GMDWG will guide and assist Transmission Planners (TPs) and Planning Coordinators (PCs) with the implementation of 1) North American Electric Reliability Corporation (NERC) Reliability Standard TPL-007, "Transmission System Planned Performance for Geomagnetic Disturbance Events," and 2) NERC Rules of Procedure Section 1600 Geomagnetic Disturbance Data Request.

Authority and Responsibilities

The GMDWG would conduct activities including, but not limited, to the following:

- Coordinate methodologies regarding the analysis of GMDs and their impacts to the Bulk Power System.
- Identify best practices for requesting and sharing geomagnetically induced current (GIC) modeling data, and develop standard data transfer and sharing formats.
- Develop and communicate best practices regarding techniques for the regular maintenance of GIC system models.
- Assemble and share GIC system data[1] that provides interconnected systems the facilities information necessary to adequately complete Geomagnetic Disturbance event studies, including, where appropriate, transmission and substation information across system borders.
- Discuss computer modeling approaches as well as aid in the understanding and implementation of available power flow tools, transformer thermal assessment tools, and harmonic power flow tools.
- Develop guidelines, when necessary, to meet performance criteria.
- Share best practices for performing benchmark and supplemental GMD Vulnerability Assessments.
- Identify best practices for the collection, storage, and sharing of GIC and geomagnetic field measurement data.

[1] DC network modeling data is needed for the calculation of geomagnetically induced currents (GIC), which are needed to conduct a GMD Vulnerability Assessment. Examples of dc network data include transmission line dc resistances, transformer dc winding resistances, substation grounding dc resistances, substation GPS coordinates, etc.

- Develop training material.
- Monitor ongoing industry activities, including those of the Federal Energy Regulatory Commission (FERC), NERC, the Electric Power Research Institute (EPRI), and other groups; as well as incorporate, when appropriate, recommendations from these groups into the GMDWG work plan. Informally share knowledge and lessons learned from attending industry activities.

Composition

Representation

Each SERC Region member registered as Planning Coordinator, Transmission Planner, Reliability Coordinator, or Transmission Owner is entitled to one representative and one alternate on the GMDWG. Members cannot be marketing function employees as defined by FERC regulations and the FERC Standards of Conduct. GMDWG members must also be signatories to the SERC confidentiality agreement.

All GMDWG representatives should be knowledgeable to perform all the responsibilities and activities as defined in this scope document.

Non-SERC representation: All Reliability Entities and their members will be given invitations to participate in the data sharing, learning and development of best practices. These members will not have voting privileges.

Leadership

The leadership of the GMDWG comprises a chair and vice-chair. The GMDWG will elect the chair and the vice-chair to a term not to exceed 24 months, on a two year, rolling basis. The Vice-Chair shall act as Chair in the absence of the Chair.

Meetings and Governance

The committee will abide by the SERC Confidential Information Policy, SERC Antitrust Compliance Guidelines, and the FERC Standards of Conduct in carrying out its purpose.

The SERC GMDWG shall have two conference calls and one, two-day, in-person meeting per year (summer meeting). Additional conference calls or in-person meetings may be required of the GMDWG or certain subsets of it as determined by deliverables and work plan activities.

Voting

If a vote is required, each member of the GMDWG shall have one vote. A simple majority of the GMDWG representatives present at a scheduled meeting or conference call is needed to

approve any motion or vote.

The GMDWG will also abide by the *Organization and Procedure Manual for SERC Technical Committees*.

Roster Procedures

The committee SERC staff lead will maintain and update the committee roster as per the *Organization and Procedure Manual for SERC Technical Committees*.

Reporting

The SERC GMDWG is sponsored by the SERC Engineering Committee (EC), and reports to the EC Planning Coordination Subcommittee (PLCS), as illustrated in Figure 1.

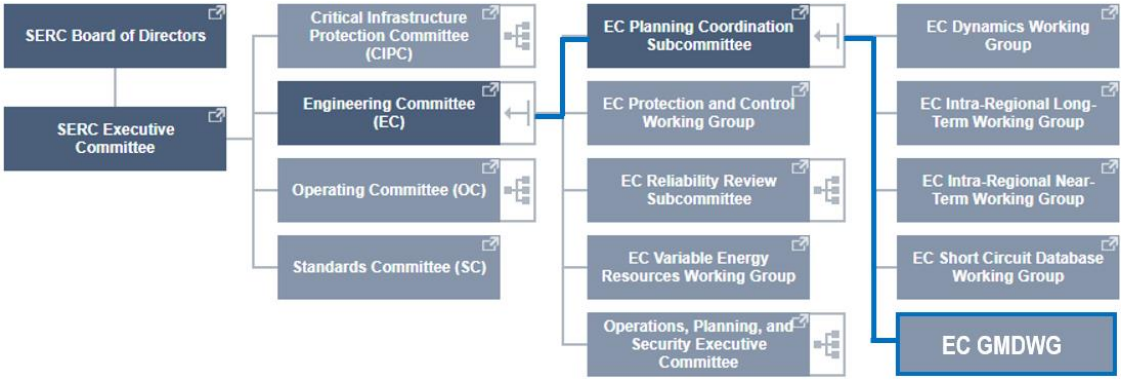

Figure 1: Proposed GMDWG Reporting Flowchart.

Organization and Procedure Manual

For items common among all SERC technical committees, subcommittees, and working groups, see the *Organization and Procedure Manual for SERC Technical Committees*.

Document Revision Information

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