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##### Electric Reliability Council of Texas

**Geomagnetic Disturbance Task Force**

**ROS Approved: xxxxxxx, 2013**

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**Geomagnetic Disturbance Task Force**

The Geomagnetic Disturbance Task Force (GMDTF) is a task force reporting to the Reliability and Operations Subcommittee (ROS).

**Background**

Geomagnetic disturbances (GMDs) are caused by solar storms that result in distortions to the earth’s magnetic field. The interaction of the earth’s magnetic field and solar events can cause low frequency geomagnetically-induced currents (GICs) to flow along the surface of the earth and in the oceans. Reliability issues arise when GICs enter the power system from the earth. GMD events have the potential to adversely impact the reliable operation of interconnected transmission systems. During a GMD event, geomagnetically-induced currents (GIC) may cause transformer hot-spot heating or damage, loss of Reactive Power sources, increased Reactive Power demand, and Protection System Misoperation, the combination of which may result in voltage collapse and blackout. Specific impacts are dependent on geography, geology and topology.

On November 7, 2013, the NERC Board approved standard EOP-010-1 related to Geomagnetic Disturbance Mitigation in response to FERC Order 779E. This standard applies to Reliability Coordinators and Transmission Operators having transformers with high side voltages greater than 200kV. This standard has been filed for approval with FERC on 11/14/2013 and approval is expected by XX/2014 and the standard is therefore expected to become effective six months later, around xx/2014.

This standard requires each Transmission Operator to develop an operating procedure that defines (among other items) the operator actions to be initiated during a GMD event based on predetermined conditions. The standard also requires the RC (ERCOT) to have a plan for coordinating and *reviewing* the Transmission Operators’ GMD operating procedures, as well as to disseminate space weather information to appropriate operating entities. The RC’s GMD operating plan must describe “*activities designed to mitigate the effects of GMD events on the reliable operation of the interconnected transmission system*…”

FERC Order 779 also required NERC to produce a standard that requires assessment of the vulnerability of the bulk power system to GMD events and the mitigation of these vulnerabilities in the planning horizon. This standard has not yet been finalized.

**Purpose & Scope**

The purpose of the ERCOT GMDTF is to formalize (through the initiation of appropriate Protocol and Guide changes after appropriate consideration of the technical basis and NERC requirements) the requirements and criteria for reporting of the Transmission Operator’s GMD operating procedures, the review and coordination of those procedures by ERCOT, and the actions that may be taken to mitigate the effects of GMD events. The GMDTF’s scope of work should include consideration of the following issues:

* Is the ERCOT’s current process for communicating space weather information to operating entities acceptable?
* What existing GMD Operating Procedures and processes exist within the ERCOT Region?
* Is there additional information (e.g. ground current measurements, where available) that should be communicated between/among the Transmission Operators and ERCOT to aid in initiating ERCOT’s GMD operating plan or in mitigating the effects of GMD events on the reliable operation of the interconnected transmission system
  + Should additional monitoring equipment be required?
* What process and criteria should ERCOT use to review a Transmission Operator’s GMD operating procedure?
  + What update schedule/frequency should be required for a Transmission Operator’s GMD operating procedure?
  + What type and detail of information should be included in a Transmission Operator’s GMD operating procedure in order to facilitate this review?
  + What process should be used to resolve issues that arise through this review?
* What activities should ERCOT undertake to mitigate the effects of GMD events on the reliable operation of the interconnected transmission system (these should be “including but not limited to,” in order to provide operator discretion)?
  + What “triggers” should be used to initiate various activities?
  + Are different activities warranted at different timeframes?

The scope of the GMDTF will not include consideration of the GMD planning standard unless this scope is amended by ROS to include consideration of those issues. The GMDTF may make a recommendation to ROS on whether the scope should be modified once the GMD planning standard is approved by the NERC Board.

The GMDTF should prepare a report of its findings and recommended Protocol and Guide revisions for ROS by XX/2014. The GMDTF should report its progress to ROS as required.

**Membership**

GMDTF membership consists of representatives from each Transmission Operator that is subject to the EOP-010-1, ERCOT, and other interested Transmission and/or Distribution Service Providers (TDSPs), Qualified Scheduling Entities (QSEs) and Resource Entities. Meetings of the GMDTF shall be open to all interested parties.

**Chair and Vice-Chair**

The Chair and Vice-Chair positions shall be nominated by the GMDTF for approval by ROS to a term not to exceed 12 months, on a one year, rolling basis. The Vice-Chair shall act as Chair in the absence of the Chair.

**Meetings**

The GMDTF shall meet as often as necessary to perform their duties and functions.

All GMDTF meetings shall be called by the Chair and/or Vice-Chair and all such meeting notices shall be sent and posted to the ERCOT website at least one week prior to the meeting.

The Chair shall preside at all meetings and is responsible for preparation of agendas for such meetings which will be posted to the ERCOT website in advance of the meeting. In the absence of the Chair and the Vice-Chair, the group shall select another GMDTF member to preside at the meeting. The Chair, or the presiding member, shall be guided by input from the membership in the conduct of the meetings.

Notes of GMDTF meetings shall be recorded and distributed, along with other communications to all members of the GMDTF. Additionally, such information will be posted on the ERCOT website as authorized by the GMDTF and author of document.