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# **Electric Reliability Council of Texas, Inc.**

## **Grid Resilience Working Group**

## **Grid Resilience Working Group<sup>1</sup>**

The Grid Resilience Working Group (GRWG) is responsible for assessing risks that have a low probability of occurrence but potential high consequence of impact to the ERCOT System if they were to occur. GRWG is further responsible for considering and evaluating practices that may address these risks. Each risk shall be described in further detail as an attachment with the consent of the Chair and Vice-Chair to be included within the scope of the GRWG.

The GRWG is considered an “Other Group” and therefore does not report directly to the ERCOT Board of Directors (ERCOT Board), the Technical Advisory Committee (TAC) or any TAC Subcommittee. The GRWG may discuss proposed changes to any market rules that are within its scope, however, submission of any such changes shall be initiated by individual Entities through the applicable revision request process, not through the GRWG.

### **Leadership**

A representative from Electric Reliability Council of Texas, Inc. (ERCOT) will serve as the Chair of the GRWG. The Vice-Chair shall be a representative from a Transmission Service Provider (TSP) for a term not to exceed 12 months, on a one year, rolling basis. The Vice-Chair shall be selected by participants of the GRWG with a simple majority vote. The Vice-Chair shall act as Chair in the absence of the Chair.

### **Participants**

Participation of the GRWG should include representatives from Transmission and/or Distribution Service Providers (TDSPs), Resource Entities, Consumers and ERCOT. Participation by the Texas Department of Public Safety (DPS), the Public Utility Commission of Texas (PUCT), the Office of Public Utility Counsel (OPUC), the Texas Reliability Entity (Texas RE), and any other appropriate agency is encouraged.

### **Meetings**

GRWG meetings are open to all interested parties. The Chair may create subgroups to discuss specific details including current practices or standards related to the identified risk that owners of Facilities deem confidential or sensitive to the critical infrastructure of the ERCOT System. These subgroups will be closed and limited to participation for those Entities necessary to fulfill the objectives of the subgroup which may include any appropriate agency. Such Entities will be required to execute a standard Non-Disclosure Agreement (NDA), through ERCOT Legal, for participation in the subgroup.

The GRWG shall meet as often as necessary to perform its duties and functions and achieve the objectives associated with the identified risk.

All GRWG meetings shall be called by the Chair and all such meeting notices shall be sent to the GRWG email distribution list and posted to the ERCOT website at least one week prior to the meeting. The Chair or the Vice-Chair shall preside at all meetings and are responsible for preparation of agendas which will be posted to the ERCOT website in advance of the meeting.

Information presented at open GRWG meetings will be posted on the ERCOT website as authorized by the GRWG Chair and the author of the document.

Subgroups of the GRWG are not subject to the meeting requirements of the GRWG as a whole.

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<sup>1</sup> This document may be modified by ERCOT at its discretion after input from the GRWG.

## Attachment A

### Specific Risk – Electromagnetic Pulse (EMP)

GRWG shall coordinate to better understand the potential impacts of an EMP event on the ERCOT System. Such coordination shall include an evaluation of steady state operations and countermeasures to help mitigate or prevent the potential negative effects of a localized, regional or high altitude EMP event. Further, the initiative includes, but is not limited to, the following: (1) an evaluation of practices that might be commonly implemented, (2) a determination of the feasibility and cost of implementing best practices for protection, mitigation and recovery from the potential impacts of an EMP event across the ERCOT Region, and (3) the development of appropriate reports to document findings of the GRWG.

### Background

In its 2010 report on High Impact, Low Frequency Event Risk to the Bulk Power System, North America Electric Reliability Corporation (NERC) identified certain risks to the Bulk Power System in North America that have a relatively lower probability of occurrence but relatively high consequences if they were to occur (as compared to the risks that are conventionally managed on the power system).<sup>2</sup> NERC identified high-altitude EMP (HEMP), as well as Geomagnetic Disturbances (GMD), as potential risks to the power system. Federal standards for protection against GMD have been adopted by NERC, approved by Federal Energy Regulatory Commission (FERC) and are now mandatory for designated entities.<sup>3</sup> No specific federal standards regarding HEMP have been promulgated, although some industry entities have begun to implement measures to address this risk.

### Scope

GRWG's scope of work may include, but is not limited to, consideration of the following in the ERCOT Region:

- Background Review
  - What standards, guidelines, and research are currently available related to the impact of potential EMP events on the electric power system?
- Current Practices
  - What practices and standards are currently used by one or more power system infrastructure owners to protect against or mitigate the impacts of a potential EMP event?
    - Transmission and Distribution facilities
    - Generation facilities
    - Loads (customer facilities)
- Implementation of Additional Protection
  - Feasibility of implementation of additional protection for infrastructure owners.
    - General cost of expanded implementation
    - Corresponding reduction in harm
    - Funding and cost-recovery mechanisms
  - Necessity and reasonableness of additional practices and standards on the ERCOT System which are identified as beneficial in the Background Review.
    - If so, feasibility and general cost of implementation for infrastructure owners.

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<sup>2</sup> See NERC/Department of Energy (DOE) Jointly-Commissioned Summary Report, "High Impact, Low-Frequency Event Risk to the North American Bulk Power System," (June 2010), at <http://www.nerc.com/pa/ci/resources/documents/hilf%20report.pdf>

<sup>3</sup> See NERC Reliability Standard EOP-010-1, Geomagnetic Disturbance Operations, at <http://www.nerc.com/layouts/PrintStandard.aspx?standardnumber=EOP-010-1&title=Geomagnetic%20Disturbance%20Operations&jurisdiction=United%20States>

- Corresponding reduction in harm
    - Funding or cost-recovery mechanisms
  - Recovery plans (including dependencies on Entities and enhancements to plans).
  - Other critical infrastructure hardening considerations.
- Reporting
  - The GRWG Chair and Vice-Chair may prepare reports to document findings to the appropriate regulatory authorities. Reports may be restricted depending upon content.
  - GRWG may report its progress to appropriate governing agencies, the ERCOT Board, TAC or any TAC Subcommittee.