

# Implementation Plan

## Project 2013-03 Geomagnetic Disturbance Mitigation

### Implementation Plan for TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events

#### Approvals Required

TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events

#### Prerequisite Approvals

None

#### Retirements

None

#### Revisions to Glossary Terms

There is one new definition in the proposed standard, which shall become effective when TPL-007-1 is approved by the applicable governmental authority:

**Geomagnetic Disturbance Vulnerability Assessment or GMD Vulnerability Assessment:**

*Documented evaluation of potential susceptibility to voltage collapse, Cascading, or localized damage of equipment due to geomagnetic disturbances.*

#### Applicable Entities

Planning Coordinator with a Planning Coordinator planning area that includes an applicable power transformer as listed in *section 4.2 Facilities* of the standard;

Transmission Planner with a Transmission Planning area that includes an applicable power transformer as listed in *section 4.2 Facilities* of the standard;

Transmission Owner who owns a power transformer(s) as listed in *section 4.2 Facilities* of the standard; and

Generator Owner who owns a power transformer(s) as listed in *section 4.2 Facilities* of the standard.

#### Applicable Facilities

Facilities that include power transformer(s) with high side, wye-grounded winding with terminal voltage greater than 200 kV.

#### Conforming Changes to Other Standards

None

### Effective Dates

Compliance with TPL-007-1 shall be implemented over a 4-year period as follows. Phased implementation provides:

- Necessary time for entities to develop the required models.
- Proper sequencing of assessments. The assessment of thermal impact on transformers is dependent upon geomagnetically-induced current (GIC) flow calculations that are determined by the responsible planning entity.
- Necessary time for development of viable Corrective Action Plans, which may require entities to develop, perform, and or validate new and/or modified studies, assessments, procedures, etc., to meet the TPL-007-1 requirements. Some mitigation measures may have significant budget, siting, or construction planning requirements.

**Requirement R1** shall become effective on the first day of the first calendar quarter that is 60 calendar days after the date that this standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, Requirement R1 shall become effective on the first day of the first calendar quarter that is 60 calendar days after the date this standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

**Requirement R2** shall become effective on the first day of the first calendar quarter that is 14 calendar months after the date that this standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, Requirement R2 shall become effective on the first day of the first calendar quarter that is 14 calendar months after the date this standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

**Requirement R5** shall become effective on the first day of the first calendar quarter that is 18 calendar months after the date that this standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, Requirement R5 shall become effective on the first day of the first calendar quarter that is 18 calendar months after the date this standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

**Requirement R6** shall become effective on the first day of the first calendar quarter that is 36 calendar months after the date that this standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is

required for a standard to go into effect. Where approval by an applicable governmental authority is not required, Requirement R6 shall become effective on the first day of the first calendar quarter that is 36 calendar months after the date this standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

**Requirement R3, Requirement R4, and Requirement R7** shall become effective on the first day of the first calendar quarter that is 48 calendar months after the date that this standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, Requirement R3, Requirement R4, and Requirement R7 shall become effective on the first day of the first calendar quarter that is 48 calendar months after the date this standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.