

Planning Geomagnetic Disturbance Task Force (PGDTF) Update to the ROS

November 3, 2016

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PGDTF Chairman

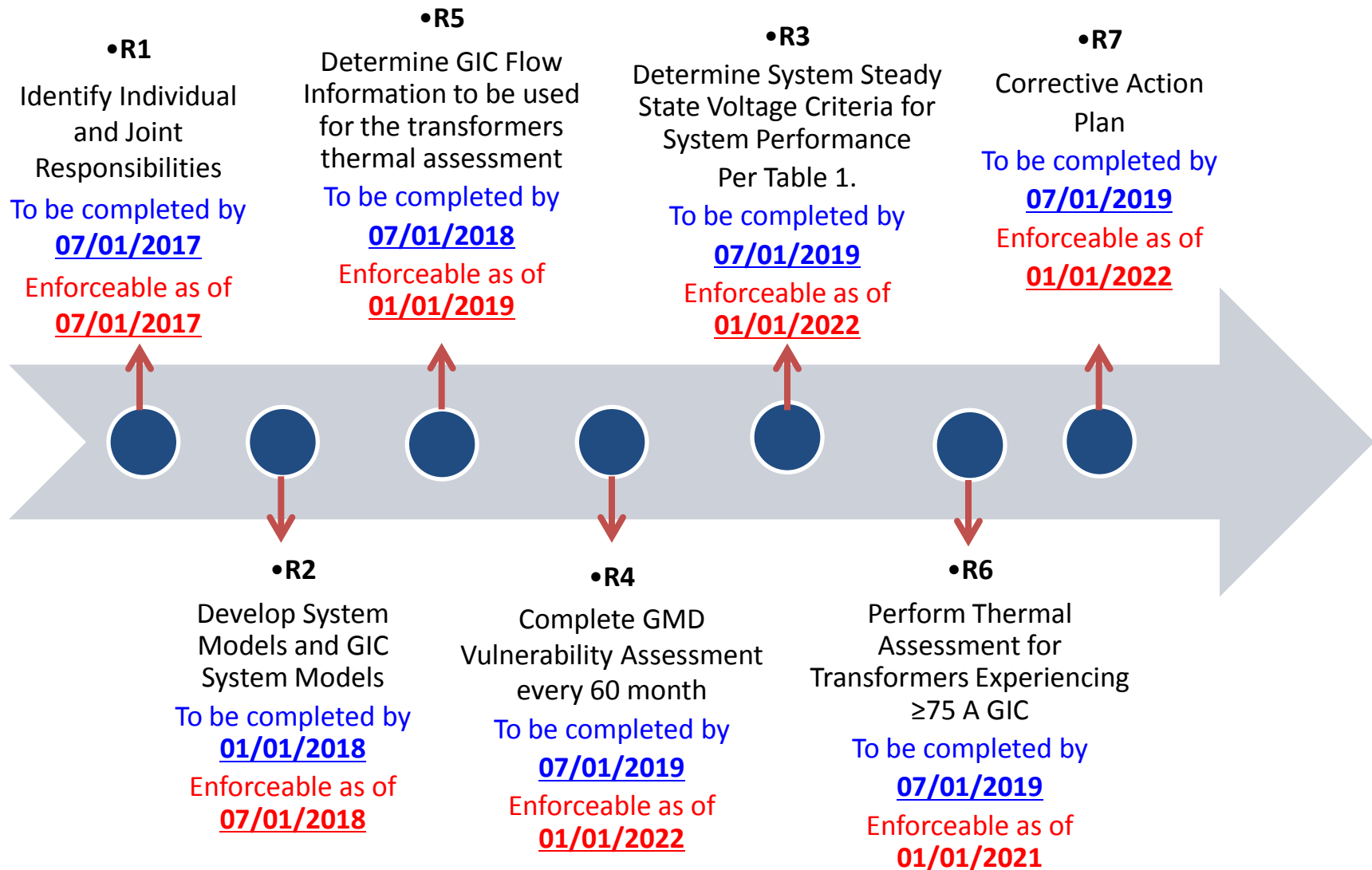
October 26, 2016 Meeting

- Discussed National Activities Regarding GMD.
- Discussed Schedule for Meeting Requirements in GMD Planning Standard TPL-007-1.
- Reviewed Assignment of Responsibilities for Requirements in TPL-007-1.
- Discussed Schedule and Data for GIC System Model.
- Discussed Next Activities.

Next Activities for the PGDTF

- Develop Documentation for GMD Planning Responsibilities for June 2017 BOD Meeting (R1).
- Create GIC System Model for Geomagnetic Disturbance (GMD) Vulnerability Assessment (R2).
- Refine Schedule for Meeting Requirements in the Standard.
- Hold Meeting in Early December 2016.

PDGTF Implementation Plan to Meet the Requirements of NERC TPL-007-1



Responsibilities from TPL-007-1

R1 – Each Planning Coordinator, in conjunction with its Transmission Planner(s), shall identify the individual and joint responsibilities of the Planning Coordinator and Transmission Planner(s) in the Planning Coordinator's planning area for maintaining models and performing the study or studies needed to complete GMD Vulnerability Assessment(s).

- ERCOT PC Responsibility – Yes
- TP (TSP) Responsibility – Yes
- TO Responsibility – No
- GO (RE) Responsibility – No

Responsibilities from TPL-007-1

R2 – Each responsible entity, as determined in R1, shall maintain System models and GIC System models of the responsible entity’s planning area for performing the study or studies needed to complete GMD Vulnerability Assessment(s).

- ERCOT PC Responsibility – Yes
- TP (TSP) Responsibility – Yes
- TO Responsibility – No
- GO (RE) Responsibility – No

Responsibilities from TPL-007-1

R3 – Each responsible entity, as determined in R1, shall have criteria for acceptable System steady state voltage performance for its System during the benchmark GMD event described in Attachment 1

- ERCOT PC Responsibility – Yes
- TP (TSP) Responsibility – Yes
- TO Responsibility – No
- GO (RE) Responsibility – No

Responsibilities from TPL-007-1

R4 – Each responsible entity, as determined in R1, shall complete a GMD Vulnerability Assessment of the Near-Term Transmission Planning Horizon once every 60 calendar months. This GMD Vulnerability Assessment shall use a study or studies based on models identified in Requirement R2, document assumptions, and document summarized results of the steady state analysis.

- ERCOT PC Responsibility – Yes
- TP (TSP) Responsibility – No
- TO Responsibility – No
- GO (RE) Responsibility – No

Responsibilities from TPL-007-1

R5 – Each responsible entity, as determined in R1, shall provide GIC flow information to be used for the transformer thermal impact assessment specified in Requirement R6 to each Transmission Owner and Generator Owner that owns an applicable Bulk Electric System (BES) power transformer in the planning area.

- ERCOT PC Responsibility – Yes
- TP (TSP) Responsibility – No
- TO Responsibility – No
- GO (RE) Responsibility – No

Responsibilities from TPL-007-1

R6 – Each Transmission Owner and Generator Owner shall conduct a thermal impact assessment for its solely and jointly owned applicable BES power transformers where the maximum effective GIC value provided in Requirement R5 Part 5.1 is 75 A per phase or greater.

- ERCOT PC Responsibility – No
- TP (TSP) Responsibility – No
- TO Responsibility – Yes
- GO (RE) Responsibility – Yes

Responsibilities from TPL-007-01

R7 – Each responsible entity, as determined in R1, that concludes, through the GMD Vulnerability Assessment conducted in R4, that their System does not meet the performance requirements of Table 1 shall develop a Corrective Action Plan addressing how the performance requirements will be met.

- ERCOT PC Responsibility – Yes
- TP (TSP) Responsibility – Yes
- TO Responsibility – No
- GO (RE) Responsibility – No

Schedule for Creating GIC System Model

- 12/31/2016 – TSP Data for 345 kV System Based on 2021 Summer Peak Case Released on 10/15/2016 Due to ERCOT
- 3/31/2017 – TSP Data for 138 kV and 69 kV Systems and REs' Data Based on 2021 Summer Peak Case Released on 10/15/2016 and Update to 345 kV System Data Due to ERCOT
- 6/1/2017 – ERCOT Provides First Pass of GIC System Model for Review to TSPs and REs
- 7/1/2017 – TSPs and REs Provide Changes to GIC System Model to ERCOT
- Subsequent Model Review Passes as Needed
- 1/1/2018 – Complete 2021 Summer Peak and 2021 Minimum GIC System Models Using July 2017 SSWG 2021 Summer Peak and 2021 Minimum Base Cases

Other GMD Activities

- 9/22/2016 – The Edison Electric Institute (EEI) Submitted Request for Rehearing of the Final Rule on the GMD Planning Standard to the FERC.
 - Final Order Creates Regulatory Uncertainties.
 - EEI Requests Extension of Some of the Deadlines Beyond Expected Date for Completion of Directives in the Final Order.
- 10/13/2016 – Executive Order: Coordinating Efforts to Prepare the Nation for Space Weather Events.
 - Defines Agency Roles and Responsibilities, and Directs Agencies to Take Specific Actions to Prepare Nation for Hazardous Effects of Space Weather.
 - Activities are to be Implemented in Conjunction with *2015 National Space Weather Action Plan*.
 - Implementation Dates for Various Activities Range from 60 to 120 Days After 10/13/2016.
 - Link to Order is <https://www.whitehouse.gov/the-press-office/2016/10/13/executive-order-coordinating-efforts-prepare-nation-space-weather-events>
 - Link to *2015 National Space Weather Action Plan* is https://www.whitehouse.gov/sites/default/files/microsites/ostp/final_national_spaceweatheractionplan_20151028.pdf

Questions and Answers

