

**GMD Vulnerability Assessment Scope and Process Version 1.0**

Document Revisions

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Table of Contents

[1. Introduction 1](#_Toc484760179)

[2. Definitions 1](#_Toc484760180)

[2.1. Initial Conditions 1](#_Toc484760181)

[2.2. Mitigation Measures 1](#_Toc484760182)

[2.3. Initial GIC Flows 1](#_Toc484760183)

[2.4. Subsequent GIC Flows 1](#_Toc484760184)

[3. Scope 1](#_Toc484760185)

[4. Transmission Topology 1](#_Toc484760186)

[4.1. Start Cases 1](#_Toc484760187)

[4.2. FACTS Devices 1](#_Toc484760188)

[4.3. Criteria 1](#_Toc484760189)

[4.4. Event Descriptions 1](#_Toc484760190)

[5. Generation and Demand 1](#_Toc484760191)

[6. GMD Vulnerability Assessment Process and Method of Study 2](#_Toc484760192)

[6.1. Initial Case Conditioning 2](#_Toc484760193)

[6.2. GIC Flows Calculations 2](#_Toc484760194)

[6.3. Thermal Assessment 2](#_Toc484760195)

[6.4. Case Conditioning with Mitigation Measures Modeled 2](#_Toc484760196)

[6.5. GMD Event Angle Increments 2](#_Toc484760197)

[6.6. Reactive Losses 2](#_Toc484760198)

[7. Deliverables 2](#_Toc484760199)

# Introduction

# Definitions

## Initial Conditions

* FACTS and Switch Shunt status only

## Mitigation Measures

* FACTS, Switched Shunts, loads, generation, lines, and transformer status

## Initial GIC Flows

* Used for thermal analysis and initial steady state study

## Subsequent GIC Flows

* Not used for thermal analysis. Used for subsequent steady state studies

# Scope

* General Overview of Process to perform the GMD Vulnerability Assessment

# Transmission Topology

## Start Cases

* 2021 Summer Peak and 2021 Minimum SSWG cases

## FACTS Devices

* Status of FACTS devices will be determined by TSP

## Criteria

* Minimum required Criteria to be used by ERCOT will be set forth in Planning Guide: To be determined in future PGRR

## Event Descriptions

* Events will be submitted by each TSP as described in PGRR 057

# Generation and Demand

* For initial conditions, no changes will be made to the generation dispatch or DC ties modeled in the chosen SSWG case
* For initial conditions, no changes will be made to the load profile modeled in the chosen SSWG case

# GMD Vulnerability Assessment Process and Method of Study

## Initial Case Conditioning

* FACTS and Switched Shunt status determined by TSP, no changes to load, generation, line or transformer status

## GIC Flows Calculations

* Initial GIC Flows will be calculated using Initial Case Conditions
* Subsequent GIC Flows will be calculated using Corrective Action Plans or developed Mitigation Measures

## Thermal Assessment

* If required, the thermal assessment will be performed using Initial GIC Flows
* It is not expected that transformer owners perform a thermal assessment of their transformer using Subsequent GIC Flows
* Status of transformer must be determined and submitted to ERCOT within 12 months of receiving Initial GIC Flows

## Case Conditioning with Mitigation Measures Modeled

* Developed Mitigation Measures or Corrective Action Plans allowed for subsequent simulations

## GMD Event Angle Increments

* 15 degree increments will be used for both GIC Flow calculations and the Steady State analysis
* The Maximum Effective GIC value for any angle for each transformer will be used as the GIC Flows as described in NERC TPL-007-1.

## Reactive Losses

* Use the highest calculated reactive losses for each transformer at the angle that produces the highest sum of all calculated reactive losses for the whole system.
* As a sensitivity, the highest calculated reactive losses for each transformer regardless of angle will be used in the steady state analysis (Worst of the Worst Condition);

## Roles

* TSP & ERCOT…

# Deliverables

* ERCOT to submit final GMD Vulnerability Assessment