

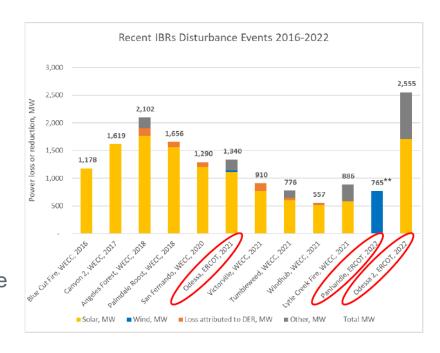
Scope Assessment of Synchronous Condensers for System Strength in West Texas Region

Sun Wook Kang Dynamic Studies, ERCOT

Regional Planning Group Meeting March 22, 2023

Introduction

- Operation presented the operational challenges, recommending synchronous condensers (each 350 Mvar, total 2,100 Mvar) in six locations in West Texas (west side of WTX GTC Interface)
 - Increasing and significant reliability risk due to potential unexpected loss of generation and/or load during disturbance(s)



2023 Feb RPG meeting: RPG Event Details (ercot.com)

- Multiple initiatives are in progress:
 - Model review and updates (e.g., event analysis, the approved PGRR085)
 - Efforts to improve process and requirements (e.g., proposed NOGRR245)
 - Transmission reinforcement recommended to address operational challenges, support system reliability, and minimize any unexpected real-time events



Objectives of Study

□ Conduct and assess operational challenges in the planning horizon, while considering the reactive power support identified in the 2022 RTP

- Evaluate reliability benefits of the potential synchronous condensers and confirm/adjust the reactive power support, if necessary
- Make recommendation such that TSPs can submit RPG projects



High Level Overview – Process and Tentative Schedules

Study Case:

2025 HWLL case developed for the 2022 DWG, updated for the study area Operational need and benefit studies:

Dynamic stability, Short circuit, (e.g., system stress test, system strength, voltage dip, other studies)

Final Report:
Preferred Upgrades
List of benefits and cost,





Tentative: Q2 2023



Next Steps

- More detailed study scope is available in the March RPG website
- Tentative timeline
 - ERCOT will attempt to complete the study in Q2 2023



Questions?



Comments are welcome to:
Sun Wook Kang, Sunwook.Kang@ercot.com

