West Texas Export Capability Study Scope Overview

ERCOT Planning and Operations

Regional Planning Group Meeting
July 22, 2014

Objective and Schedule

- This study will identify the following:
  - **West-North IROL**: examine the need to maintain the existing West-North transfer limit implemented in Operations as an Interconnection Reliability Operational Limit (IROL) without including the series compensation in west Texas
  - **Impact of series capacitor on the west Texas export capability**:
    - The west Texas power export capability with/without series capacitors
    - Export capability with/without series capacitors for sub-regions within west Texas
    - The benefit and rank of series capacitors on the west Texas power export capability

Series Capacitor in West Texas

Capacitor(s)	Line
Edison	Big Hill – Kendall
Orsted	Big Hill – Kendall
Romney	W.Shackelford – SamSwitch/Navarro
Kopperl	W.Shackelford – SamSwitch/Navarro
Kirchef	Clear Crossing – Dermott
Gauss	Clear Crossing – Edith Clarke
Cross Texas	Tule Canyon – Tesla
Rocky Mound	Clear Crossing – Willow Creek

Study Cases

- W-N IROL : selected Operation cases
  - Largest number of outages in west Texas, particularly in and around the West-North interface.
  - High-Wind cases in west Texas
  - Binding West-North Transfer limit in Operations

- West Texas Export Capability:
  - 2016 High Wind Low Load
    - Wind generation capacity: ~ 16 GW (include projects that meets Planning Guide 6.9)
    - Load: 36.5 GW

Study Approach and Schedule

- W-N IROL:
  - Perform dynamic stability analysis for the selected Operation cases
  - Tool: TSAT
- West Texas Export Capability
  - Perform voltage stability analysis to identify the transfer limit
  - Perform dynamic stability analysis on the highest transfer condition identified in the voltage stability analysis
  - Perform short circuit analysis to evaluate the impact of series capacitors on the system strength in Panhandle
  - Tool: VSAT, TSAT, PSS/e
- Study Criteria: ERCOT SOL Methodology
- Expect to complete the study in September, 2014