

TEP and UNSE Responses to Commission Ordered BTA Requirements

Arizona Corporation Commission 2016 Biennial Transmission Assessment

Gary Trent
Tucson Electric Power
9th BTA Workshop No. 1
June 1, 2016



Commission Ordered BTA Requirements

- Tenth Year Snapshot
- Extreme Contingency Analysis
- Reliability Must Run Evaluation
- Analysis of the Effects of Distributed Generation and Energy Efficiency Programs

Tenth Year Snapshot Study

- Study Coordinated within the Arizona Subcommittee of SWAT
- Project Outage Analysis
 - No TEP or UNSE projects met the criteria for inclusion

TEP Extreme Contingency Analysis

- Contains Critical Electric Infrastructure Information
- Presentation is a high level summary of the study

Study Assumptions

- Evaluated using the 2016 and 2024 heavy summer power flow cases
- The integrated Arizona power system is represented
- Corridors selected must contain 3* or more lines
- Substations selected must contain 3* or more transformers with low side voltages of 138kV or above

* TEP's normal planning process accounts for loss of 2 transmission lines or transformers

Extreme Contingency Study – Summary of Results

- **Study results were filed as Critical Energy Infrastructure Information (CEII) with the commission under Docket E-00000D-15-0001 and is exempt from public disclosure**
- **NERC Reliability Standard TPL-004 required evaluation for risks and consequences**
- **TEP will continue to monitor these outages and determine actions based upon TPL-001-4 in future studies**
 - Requirement R3.5 requires an evaluation of possible actions to reduce the likelihood or mitigate the consequences and adverse impacts of the events if Cascading occurs.

Reliability Must Run Evaluation

- **RMR Studies were Suspended in the 7th BTA**
- **Criteria Established to Re-start RMR Studies**
 - An increase in load of more than 2.5% in load forecast relative to the final RMR study year for which RMR studies were last filed; or
 - Planned retirement or expected long-term outage during summer months of a transmission or substation facility required to serve an RMR load pocket; or
 - Planned retirement or expected long-term outage during summer months of a generating unit in a RMR load pocket that has been utilized for RMR purposes; or
 - Significant customer outage (greater of 100MW or 10% of the peak demand) during summer months
- **TEP and UNSE did not meet any criteria which required re-starting RMR studies**

Effects of Distributed Generation and Energy Efficiency Programs

- **Study Year: 2020**
- **TEP Load:**
 - TEP/UNSE net load: 2634MW
 - TEP/UNSE net load including DG and EE: 2540MW
- **Results:**
 - No additional projects were required due to removing the DG and EE from the forecasted load
 - No projects were accelerated due to removing the DG and EE from the forecasted load
- **This analysis did not address additional generation and distribution projects that may be needed due to DG**

Questions

Contact:

Tucson Electric Power Company

Gary Trent

gtrent@tep.com