



Rayburn Load Integration Study

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Introduction

- ❑ **Rayburn Electric Cooperative (RCEC) is considering connecting the remainder of its load, approximately 190 MW, to the ERCOT Grid as early as December 2019**
- ❑ **Rayburn and Lone Star Transmission performed their own study & identified preferred options**
- ❑ **PUCT instructed ERCOT to study the impact of integrating Rayburn into the ERCOT Grid**
- ❑ **Objective to identify transmission facilities that will be required to integrate the Rayburn load and transmission network into the ERCOT Grid and satisfy ERCOT and NERC Transmission Planning reliability standards in the most efficient way possible**
- ❑ **ERCOT study will be informed by but not necessarily limited to preferred options identified in Rayburn/Lone Star study**

Assumptions

- Rayburn load is expected to be transferred to ERCOT by Summer 2021**
- Expected 2021 Summer Peak Conditions will represent worst-case steady-state conditions for year of initial interconnection**
- Study region will include North, North Central and East Weather Zones**

Study Case

❑ **Steady-State**

- ❑ Constructed from latest 16RTP reliability case
16RTP_2021_SUM_NNC
- ❑ Transmission Projects expected to be in-service within the study region by 2021 at the time of the study will be added to the case
- ❑ Generator additions that meet Planning Guide Section 6.9 criteria at time of study will be added to the case
- ❑ North, North Central and East Weather Zone loads will be adjusted to the higher of the SSWG or the ERCOT 90TH Percentile forecast per the 2016 RTP scope
- ❑ Load outside of North, North Central and East Weather Zones will be adjusted to balance adjustments to study area per the 2016 RTP scope

Contingencies and Criteria

Steady-State Reliability Analysis

Contingencies

TPL-001-4 and ERCOT Planning Criteria

(http://www.ercot.com/content/wcm/current_guides/53526/04_050115.doc):

P0

P1 and P7

P3: G-1 + P1*/P7 (G-1 worst case only)

P6: X-1 + P1/P7 (X-1 is 345 kV Auto outages) and selected N-1-1

Criteria:

Thermal

Monitor all transmission lines and transformers in study region (excluding GSU)

Use Rate A for Normal Conditions

Use Rate B for Emergency Conditions

Voltages

Monitor all busses 69 kV and above

0.95 < 1.05 Normal

0.90 < 1.05 Emergency

Study Procedure

❑ **Steady-State Analysis**

- ❑ Identify options to interconnect Rayburn

 - ❑ Scale loads in zones outside study zone down to create transfer from ERCOT to Rayburn

 - ❑ Iterate on these steps until no pertinent violations are present:

 - ❑ Model potential interconnection configuration

 - ❑ Set N-1 SCOPF dispatch

 - ❑ Evaluate P0, P1, P3, P6, P7 contingencies to identify pertinent reliability violations

❑ **Additional Assessments**

- ❑ Load Deliverability estimate for each option

- ❑ Evaluate P2, P4, P5 for preferred option

- ❑ Economic Analysis

Deliverables

- ❑ Written Report Discussing
 - ❑ Interconnection Options preferred by ERCOT
 - ❑ Additional studies recommended by ERCOT
- ❑ Tentative Timeline
 - ❑ Nov. 2016 – Status Update to RPG
 - ❑ Jan. 2017 – Study Results to RPG
 - ❑ March 2017– Final Report

