



**BEC – Moffat to Hasse Voltage Conversion  
– ERCOT Independent Review Scope**

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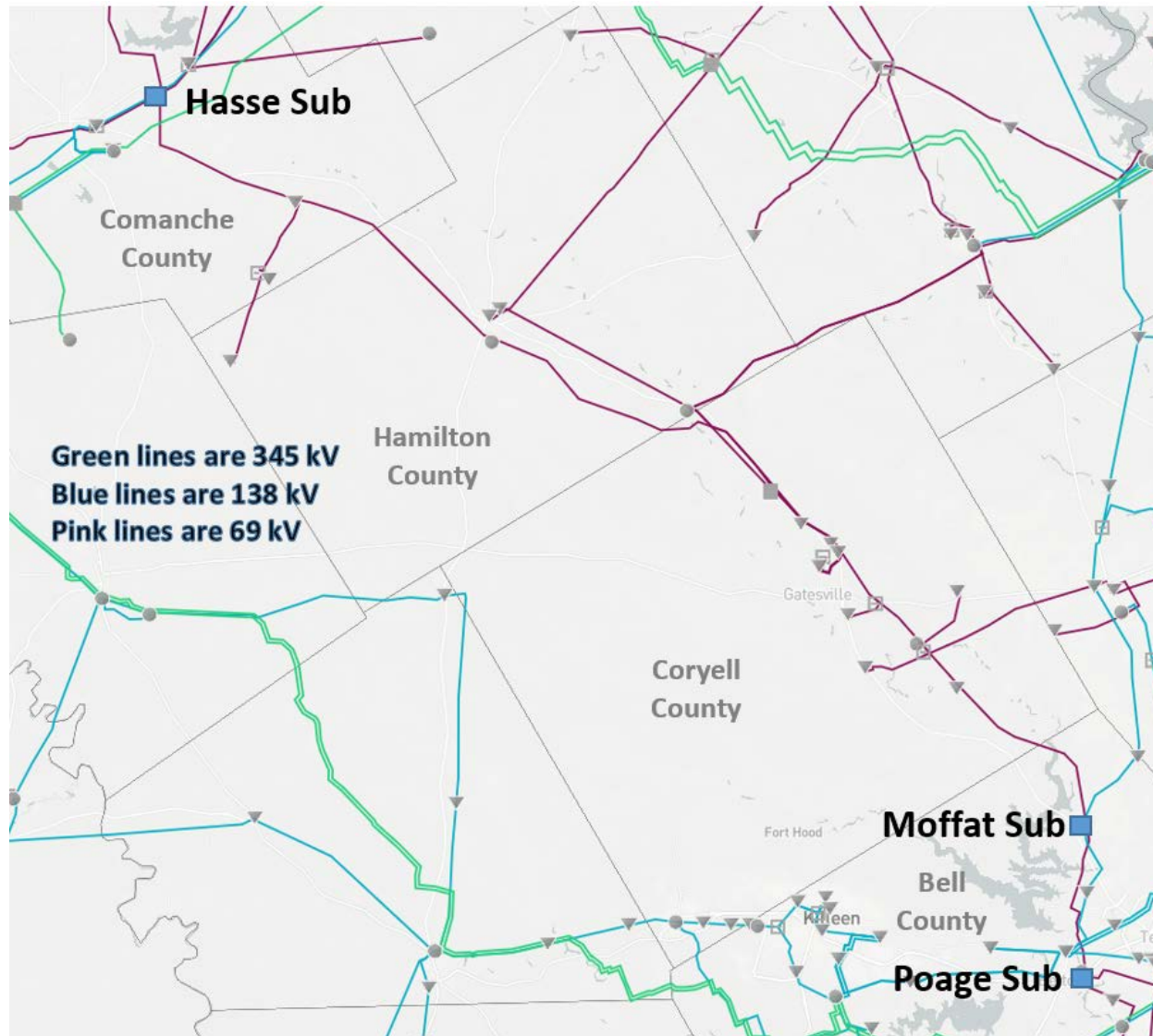
July 21, 2020

# Introduction

**Brazos Electric Cooperative (BEC) submitted the Moffat to Hasse Voltage Conversion Project for Regional Planning Group review in May 2020. This is a Tier 2 project that is estimated at \$55.23 million.**

- Proposed in-service date is before winter peak 2024/2025
- Addresses NERC, ERCOT and BEC Planning criteria violations
  - BEC criteria: Avoid long-term load shed under loss of 138/69-kV transformers in conjunction with N-1
- BEC Proposed Project
  - Convert existing 69-kV transmission corridor spanning from Comanche County to Bell County, the Hasse to Poage transmission corridor to 138-kV
- This project is currently under ERCOT independent review

# Study Area



# Study Assumptions

- **Study Base Cases**

- Final 2019 Regional Transmission Plan (RTP) case posted on the MIS on Dec 23, 2019
  - 2019RTP\_2025\_SUM\_NNC\_12232019
- Study Region: ERCOT North Central Weather Zone

- **Transmission Updates**

- Transmission Projects expected to be in-service within the study area by 2025 were added to the base case
  - Rising Star Area Improvement Project (Approved TPIT Tier 3 47929)
  - Rising Star Area Conversions (TPIT Tier 4 52175, 52179)

- **Generation Updates**

- Generator additions electrically close to the study area that met Planning Guide Section 6.9(1) conditions with commercial online date before the study year in the study area at the time of study (GIS report posted in June 2020) were added to the study base case

Name	Fuel Type	COD	MW Capacity
Baird North Wind	Wind	6/15/2021	331

# Contingencies

- **Contingencies for Study Region**

- NERC TPL-001-4 and ERCOT Planning Criteria

- ([http://www.ercot.com/content/wcm/current\\_guides/53526/04\\_050115.doc](http://www.ercot.com/content/wcm/current_guides/53526/04_050115.doc)):

- P0 (Normal system condition)
    - P1, P2.1, and P7 (N-1 conditions)
    - P3.1: G-1 + (N-1) {G-1: Panda Temple Power II CC and Bosques CC }
    - P2, P4, and P5 (EHV only)
    - P6.2: (EHV X-1) + (N-1) {345/138-kV X-1: Comanche, Whitney, Elm Mott, Lake Creek, Temple }
    - P7

- P6.2 based on BEC submittal:

- P6.2: (HV X-1) + (N-1) {138/69-kV X-1: Hasse, Olsen, Lake Whitney, Walnut Springs, Bell County, Seaton }

- **Criteria**

- Thermal

- Monitor all transmission lines and transformers in the study region
- Use Rate A for pre-contingency conditions
- Use Rate B for post-contingency conditions

- Voltages

- Monitor all busses 60 kV and above in the study region
- Voltages exceeding their pre-contingency and post-contingency limits
- Voltage deviations exceeding 8% on non-radial load busses

- BEC's Planning Criteria

- Avoid long-term load shed under loss of 138/69-kV transformers in conjunction with N-1

# Study Procedure

- **Need Analysis**

- The reliability analysis is being performed to identify any reliability needs in the area including the BEC project need (138/69-kV as X-1 + (N-1)) using the study base case
- Project need based on TSP's criteria (**Protocol Section 3.11.4.9(4)**)
  - ERCOT's independent review shall consider whether a reliability need exists under the TSP's criteria
  - ERCOT shall recommend a project that would address the need under TSP's criteria as well as any reliability need identified under NERC or ERCOT criteria
  - ERCOT or the ERCOT board will endorse such a project if ERCOT determines that it is justified in part under ERCOT or NERC criteria
  - Neither ERCOT nor the ERCOT Board shall endorse a project that is determined to be needed solely to meet a TSP's criteria

- **Project Evaluation**

- Project alternatives will be developed and tested to address the BEC Planning criteria and any reliability issues

## Next Step and Tentative Timeline

- **ERCOT will review the results of the reliability analysis and develop options**
- **Status update at RPG meetings**
- **Final recommendation – October 2020**





Stakeholder Comments Also Welcomed to Sun Wook Kang:  
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