



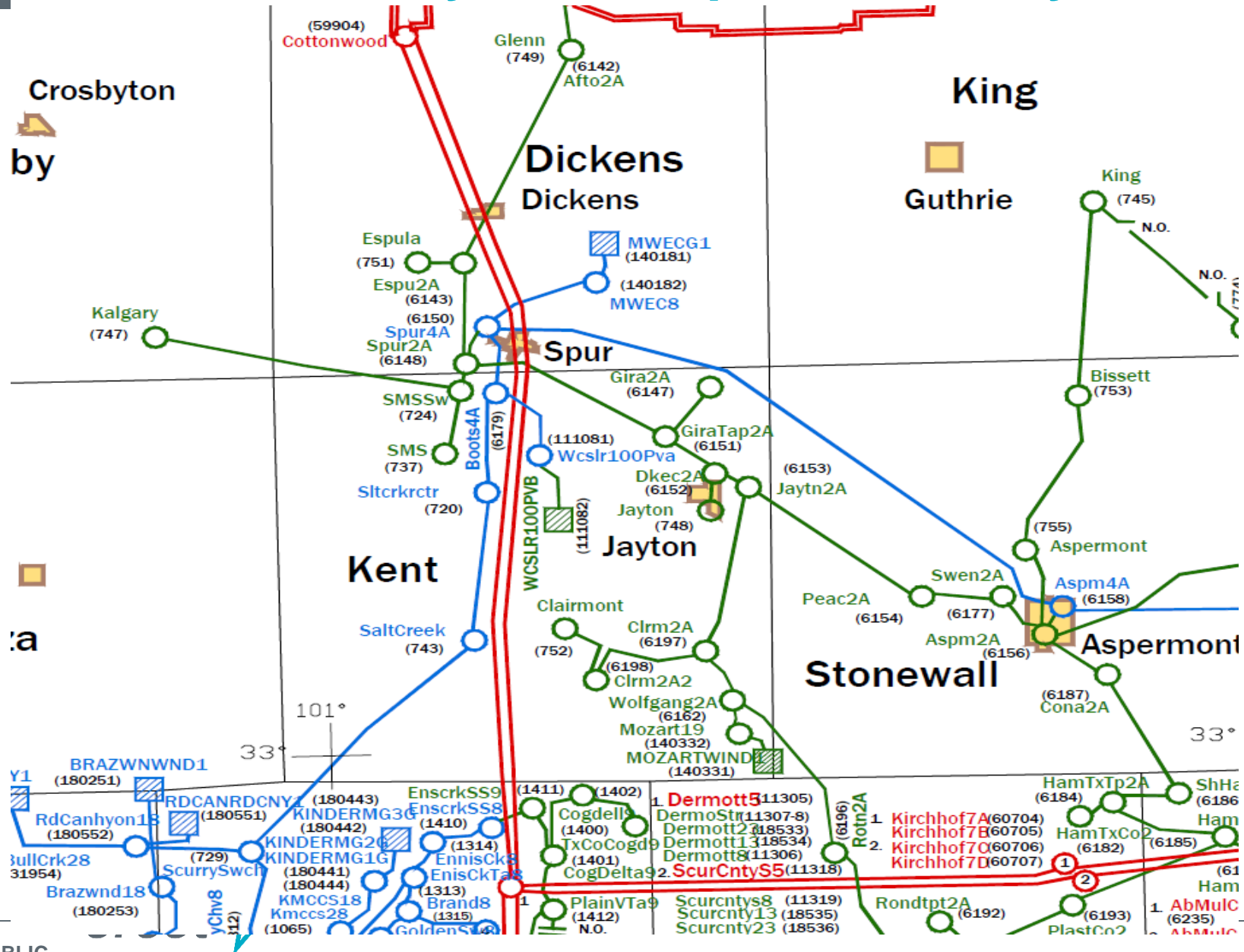
# **ERCOT Independent Review of BEC Salt Creek Area Transmission Project - Update**

**Regional Planning Group**  
June 21, 2016

# Introduction

- The Brazos Electric 138 kV Salt Creek station is located in Kent County south of the City Spur
- The station serves approximately 60 MW of oil field load
- The two sources to Salt Creek are the Sun switching station via the Sun to Scurry Switch 138 kV line and the Paint Creek switching station via the Paint Creek to Aspermont to Spur line
- With the present transmission system, it is difficult to schedule the maintenance
- BEC submitted a project for Regional Planning Group review in December 2015

# Transmission System map of the study area



# Study Case

- **Base Case**

- The 2020 North/North Central (NNC) summer peak case from the 2015 Regional Transmission Plan (RTP) was used to create the base case for this study
- To study the maintenance outage conditions, 2020 spring peak case was created based on the summer peak case by scaling down the load in North, West, and Far West weather zones to the spring peak level
- BEC and AEP Katz to Tardis project was added to the study case

- **Criteria**

- The reliability criteria used in this independent review is consistent with the RTP study
- N-1-1 analysis was performed to study the maintenance outage conditions

# Reliability Analysis of the Base Case

- No reliability issues under N-1 contingency
- N-1-1 contingency analysis (2020 spring peak case)
  - Unsolved contingencies with maintenance on either Sun – Scurry Switch – Salt Creek 138 kV line or Spur – Aspermont 138 kV line followed by an outage of the other line section
  - Additional thermal overloads in 2020 spring peak case under N-1-1 of Spur – Aspermont and Sun – Scurry Switch 138 kV lines

Monitored Branch	2020 Loading
Spur 138/69 kV autotransformer	168.3%
Matador - Roaring Springs 69 kV	130.4%
Espuela AEP - Spur 69 kV	113.6%
Spur - Girard Tap 69 kV	174.5%
Girard Tap - Jayton 69 kV	175.1%

- Low voltage in 2020 spring peak case under N-1-1

# Project Options

- **Option 1**

- Construct a new 345/138 kV switching station in the Cottonwood to Dermott 345 kV Circuit 2
- Add a 345/138 kV autotransformer at this new station
- Construct approximately 4 miles of 138 kV line from this new 138 kV station to the existing Spur station

The total cost estimate for Option 1 is approximately \$25.6 million

- **Option 2**

- Construct a new 345/138 kV switching station in the Cottonwood to Dermott 345 kV Circuit 1
- Add a 345/138 kV autotransformer at this new station
- Construct approximately 7 miles of 138 kV line from this new 138 kV station to the Salt Creek station

The total cost estimate for Option 2 is approximately \$25.5 million

# Project Options Evaluation

- Both Option 1 and Option 2 provide another source to the study area and will facilitate future maintenance to be performed and improve transmission reliability to the area
- Both options resolves all the N-1-1 reliability issues identified in 2020 spring peak case

## On-going Work

- ERCOT is working on the light load case
- ERCOT is working on the economic studies
- ERCOT plans to finalize the option evaluation, make the final recommendation, and finish the report by the end of June 2016





# Questions?