ERCOT Independent Review of BEC Salt Creek Area Transmission Project

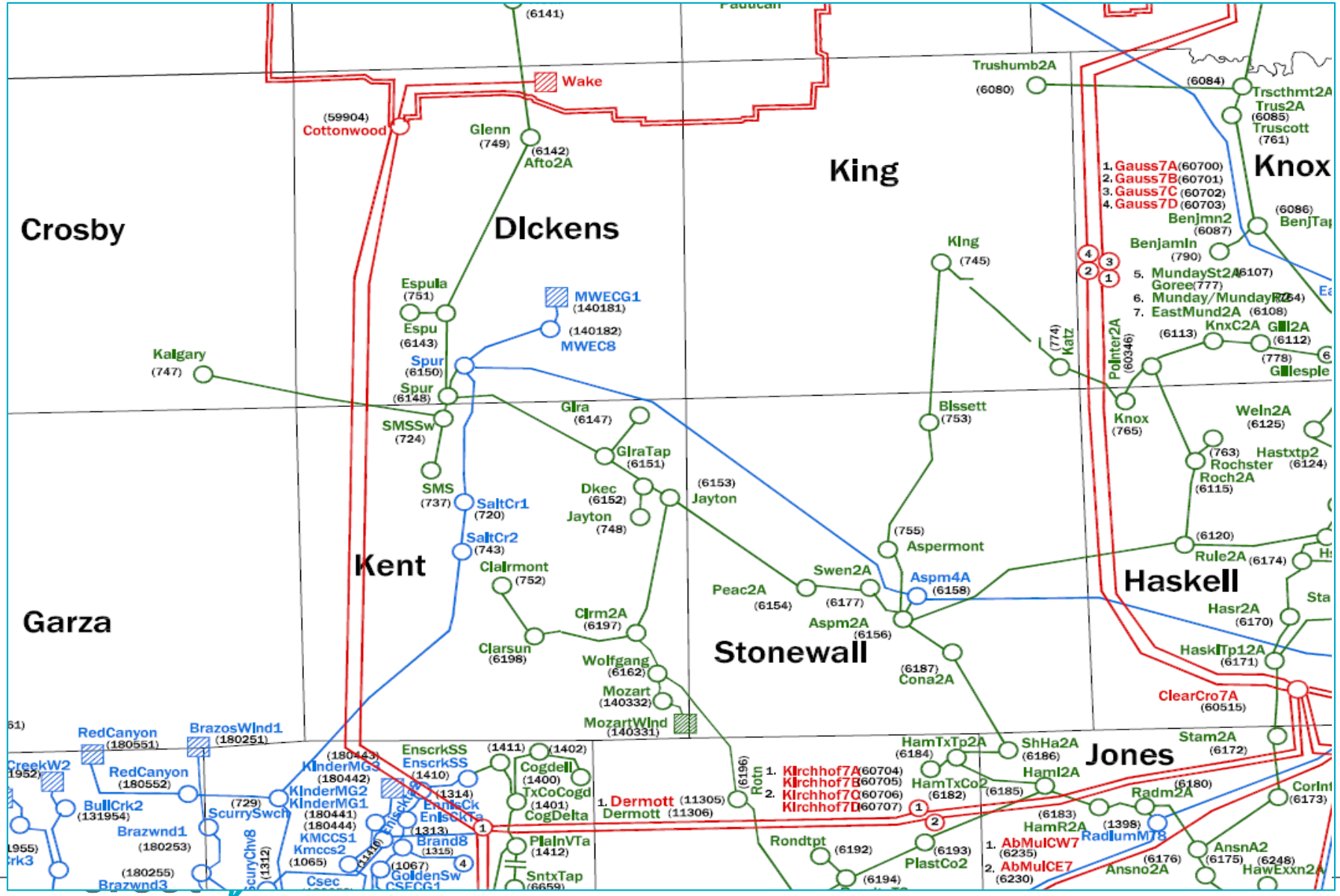
Regional Planning Group
September 20, 2016

Status of BEC Salt Creek Area Transmission Project RPG Review

- ERCOT presented the preliminary study in the June RPG
  http://www.ercot.com/content/wcm/key_documents_lists/77730/ERCOT_Independent_Review_of_BEC_SaltCreek_RPG_Project_June_2016.pdf

- ERCOT evaluated additional option and identified a solution to address the reliability need

Transmission System map of the study area



Project Options

- **Option 1**
  - Construct a new 345/138 kV switching station in the Cottonwood to Dermott 345 kV Circuit 2 and add a 345/138 kV autotransformer at the new station
  - Construct approximately 7 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 and add a 345/138 kV autotransformer at the 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

- **Option 3**
  - Rebuild and convert the existing Ennis Creek – Cogdell 69 kV radial line (~ 9 miles) to 138 kV operation
  - Convert the existing BEC 69 kV Clairemont station to 138 kV operation
  - Construct approximately 20 miles of new 138 kV line from Cogdell to Clairemont to Salt Creek*

  The total cost estimate for Option 3 is approximately $26.0 million

* This option may utilize portion of existing Right of Way of the 69 kV radial line to Clairemont station.

Option Comparison

- All three options provide another source to the study area and will facilitate future maintenance to be performed and improve transmission reliability to the area
- Since Options 1 & 2 tap into a 345 kV CREZ line, a power transfer analysis was conducted to evaluate and identify any potential limiting transmission facilities under high wind conditions
  - The study showed that the existing 138 kV transmission system in the study area is not strong enough to support a new 345 kV source from the Cottonwood – Dermott 345 kV line in Option 1 and Option 2
  - Under high wind conditions, the Spur – Salt Creek – Scurry Switch – Sun 138 kV lines together with some nearby 69 kV lines may limit the wind transfer in these two options under the new double circuit contingency of Cottonwood – Dermott & Feathers – Dermott 345 kV or Cottonwood – Dermott & West Salt Creek – Dermott 345 kV lines.
- Option 3 does not introduce any new limiting elements under high wind conditions
- The cost estimates for all three options are similar

ERCOT Recommendation

- ERCOT recommends Option 3 as the preferred option to meet the reliability need in the area
  - Rebuild and convert the existing Ennis Creek – Cogdell 69 kV radial line (~ 9 miles) to 138 kV operation
  - Convert the existing BEC 69 kV Clairemont station to 138 kV operation
  - Construct approximately 20 miles of new 138 kV line from Cogdell to Clairemont to Salt Creek station

The total cost estimate for Option 3 is approximately $26 million

Questions?