



**Far West Texas Dynamic Reactive  
Devices and Project 2 - ERCOT  
Independent Review**

Status Update

ERCOT Transmission Planning

Regional Planning Group  
April 24, 2018

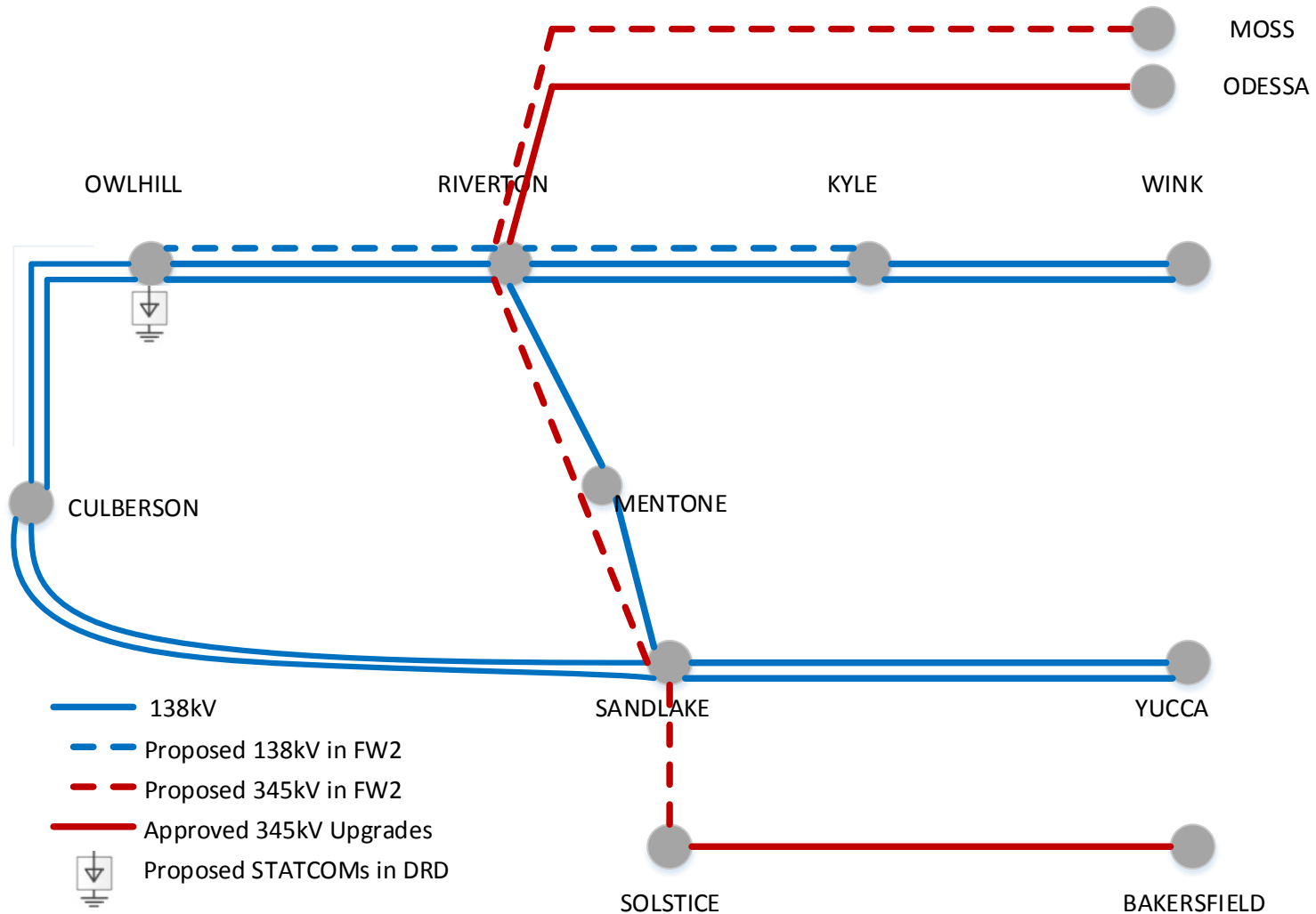
# Background

- December, 2017: Oncor submitted Far West Texas Dynamic Reactive Devices for Regional Planning Group review. This is a Tier 1 project that is estimated to cost \$86 million.
- February, 2018: Oncor submitted Far West Texas Project 2 for Regional Planning Group review. This is a Tier 1 project that is estimated to cost \$194 million.
- Both projects are submitted to address issues with rapid load growth in the Culberson Loop area.

# Rapid Culberson Loop Load Growth

- Confirmed Load Requests for **2019**
  - December, 2017: 647 MW
  - February, 2018: 775 MW
  - April, 2018: 880 MW
- Could be over 1,300 MW by 2022 with potential additions

# Culberson Load Growth Overview



2019 Confirmed: 880 MW, 2023 Confirmed: 1013 MW, 2023 with Potential: 1347 MW

# Steady State Voltage Stability Preliminary Results:

Scenario	Load (MW)	Upgrades	Culberson Load Serving Capability	
			P1(Brn), P7(B2B)	P6 (Brn+B2B)
19SP	880	No	Collapse in Base Case	
19SP	880	PH1 (RIV-ODE 345 kV, SOL-BAK 345 kV)	Voltage Violation Voltage Collapse	Voltage Violation Voltage Collapse
19SP	880	DRD (2*250MVAR at OwlHill 138 kV)	Voltage Violation Voltage Collapse	Voltage Violation Voltage Collapse
19SP	880	PH1 + DRD	Voltage Violation	Voltage Violation
23SP	1347	DRD+PH1+PH2 (Close Loop)	1407 MW	>= 1407 MW
23SP	1347	PH1+PH2	Voltage Violation Voltage Collapse	Voltage Violation Voltage Collapse

## Preliminary Observations

- Reactive support is needed to reliably serve the rapid Culberson Loop load growth
- The proposed dynamic reactive devices help but alone are not sufficient to reliably integrate the projected load by 2019 summer
  - Operational mitigation will be required until additional system upgrades are implemented

## Next Steps

- Evaluate upgrade options and operational mitigation to reliably serve near term and long term needs.
  - Steady State and Dynamic Stability
- Tentative Schedule
  - Final Update, May 22, RPG
  - May 24, TAC
  - June 12, BOD