



Lubbock Power & Light (LP&L) Remaining Load Integration Status Update

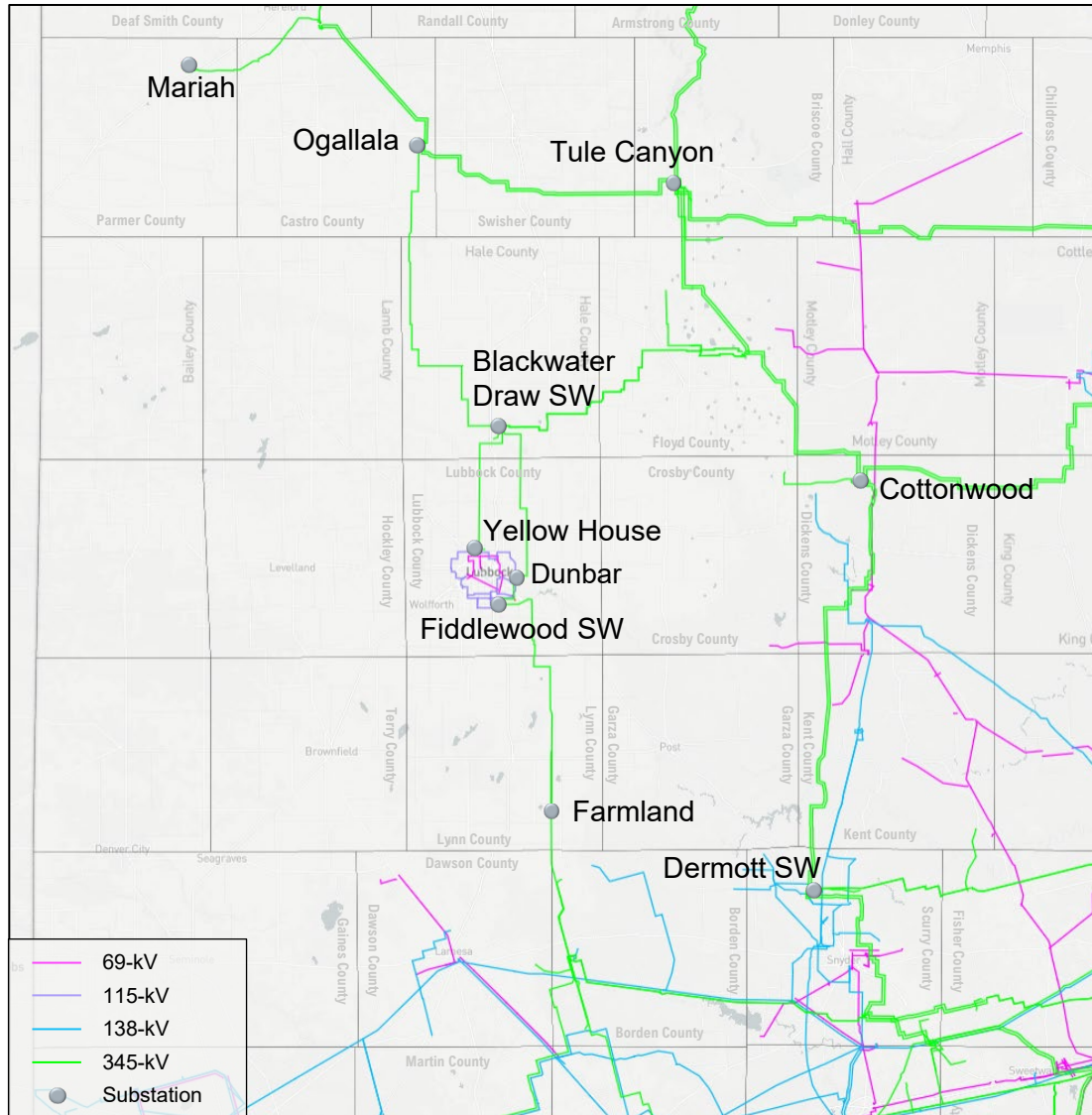
Tanzila Ahmed

RPG Meeting
April 12, 2022

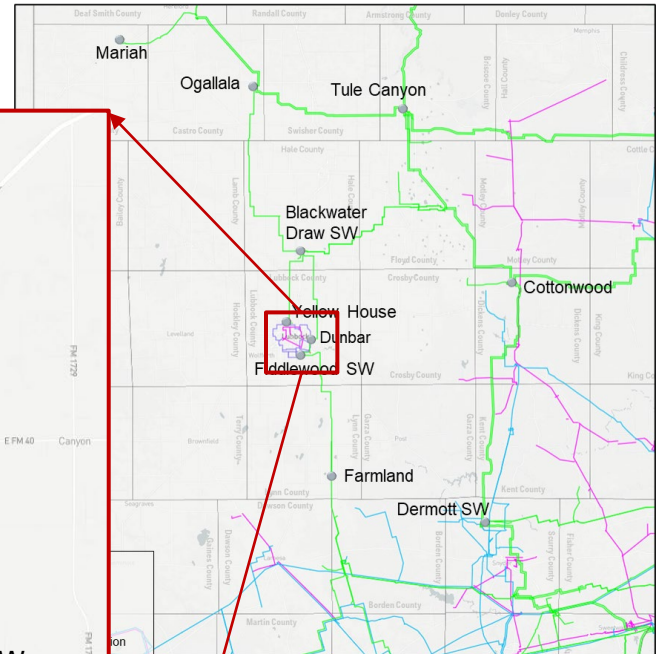
Recap

- LP&L integrated ~70% of its total loads into ERCOT System by May 31, 2021 and plans to fully integrate by May 2023
- ERCOT is currently conducting an independent study to identify any reliability issue and determine transmission upgrades to support the proposed integration, should upgrades be deemed necessary, based on the study assumptions detailed in study scope presented on March 15, 2022 RPG meeting
 - (https://www.ercot.com/files/docs/2022/03/10/LPL%20Remaining%20Load%20Interation%20Study_RPG_March%2015_Final.pdf)
- Since then, additional updates were made to develop the study case based on the inputs from LP&L
- ERCOT will present the preliminary results of the independent study

Study Area – County Map



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Study Assumptions - Base Case

- Study Area
 - North, Far West and West weather zones close to the LP&L area
- Steady-State Base Case
 - Final 2021 Regional Transmission Planning (RTP) 2027 summer peak case for West-Far West (WFW) weather zones was updated to construct the West-Far West-North (WFWN) study base case
 - 2021RTP_2027_SUM_WFW_12232021 case posted in Market Information System (MIS) in December 2021
(<https://www.ercot.com/misapp/GetReports.do?reportTypeId=15933>)

Additional Updates

- Since ERCOT presented the study assumptions (see Appendix) at the March RPG, the following additional updates have been made to develop the study case based on the inputs from LP&L
 - Existing generation in the LP&L system
 - Parameters and topology of certain LP&L transmission facilities
 - Load at certain substation in the LP&L system

Contingencies & Criteria

- Contingencies for Study Region
 - NERC TPL-001-4 and ERCOT Planning Criteria
(<http://www.ercot.com/mktrules/guides/planning/current>)
 - P0 (System Intact)
 - P1, P2-1, P7 (N-1 conditions)
 - P2-2, P2-3, P4, and P5 (EHV only)
 - P3-1: G-1 + N-1 (G-1: generator outage)
 - P6-2: X-1 + N-1 (X-1: 345/115-kV transformer outage)
- Criteria
 - Monitor all 60 kV and above busses, transmission lines, and transformers in the study region (excluding generator step-up transformers)
 - Thermal
 - Use Rate A for normal conditions
 - Use Rate B for emergency conditions
 - Voltage
 - Voltages exceeding their pre-contingency and post-contingency limits
 - Voltage deviations exceeding 8% on non-radial load buses

Study Scenarios

- LP&L Remaining Load Integration Scenario
 - Loads in the LP&L area were updated based on input from LP&L to reflect the remaining load integration into ERCOT
- X-1 Scenarios for EHV (345/115-kV) transformers

Transformer Name
Dunbar
Posey
Yellow House

- G-1 Scenarios

Generation Name	Capacity (MW)
Cooke	31
Brandon	20
Massengale	56

- Extreme Event related to the generators was studied

Preliminary Results of Reliability Analysis

- ERCOT completed the independent study using the 2027 case based on the study scope, and no reliability issues were observed in the study region

Deliverables

- Tentative Timelines
 - Final Report in Q2, 2022

Thank You!



Stakeholder comments also welcomed through:

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Appendix: Study Assumptions - Generation

- Generation Updates
 - Generation that met Planning Guide Section 6.9(1) requirements with Commercial Operation Date (COD) before the study year in the study area at the time of the study was added to the case based on Generator Interconnection Status (GIS) report published in MIS in January 2022. (<https://www.ercot.com/misapp/GetReports.do?reportTypeId=15933>)

GINR	Project Name	Fuel	Project COD	Capacity (MW)	County
21INR0479	Endurance Park Storage	OTH	May-22	52.25	Scurry
19INR0360	Jade Solar	SOL	Jun-23	374.4	Scurry

- New generation was dispatched consistent with the 2021RTP methodology
- All recent retired or indefinitely mothballed units was reviewed and turned off, if not already reflected in the 2021RTP Final cases
- Updates were made to existing generation based on the input from LP&L

Appendix: Study Assumptions - Transmission

- Transmission Updates
 - Based on the Transmission Project and Information Tracking (TPIT) published on MIS in October 2021, Tier 4 projects within the study area were added to the study base case if not already modeled in the case. See next slide for the list of these Tier 4 projects. (https://www.ercot.com/files/docs/2021/10/22/ERCOT_October_TPI_T_No_Cost_100121.xlsx)
 - All approved Tier 1, 2, and 3 projects are already included in the study case
 - Transmission projects not approved by Regional Planning Group (RPG) were removed from the base case. See next slide for the list of removed projects

Appendix: List of Project Added/Removed

- List of Tier 4 project added

TPIT No	Project Name	Project ISD	TSP	County
63772	Hyperion: Build 345 kV Station	Apr-22	AEP TNC	Dickens
59546	Lamesa 138/69 kV Autotransformer #1	May-22	ONCOR	Dawson
63900	Nebula: Build New 345 kV Station	Dec-22	ETT	Scurry
61552	Matador to Turkey: Rebuild 69 kV Line	Nov-22	AEP TNC	Motley

- List of transmission projects removed

RTP Project Index	Project Name	County
2021-FW20	Lamesa – Key Sub – Gail Sub – Willow Valley Switch 138-kV Line Upgrade	Dawson, Borden
2021-FW21	Lamesa – Jim Payne POI 138-kV Line Upgrade	Dawson
2021-W3	Scurry – Kndrsacrc – Oncor 90041 Tap 138-kV Line Upgrade	Scurry
2021-W4	Oncor 90041 Tap – Knapp – Bluff Creek Switch 138-kV Line Upgrade	Scurry
2021-W5	Sacroc – Deep Creek Sub 138-kV Line Upgrade	Scurry
2021-WFW2	Midland County Norhtwest to Midland East to Falcon Seaboard to Morgan Creek to Tonkawaw Switch 345-kV Existing Circuit Rebuild and Second Circuit Addition	Midland, Howard, Mitchell, Scurry

Appendix: Study Assumptions - Loads

- Load Updates for Study Base Case
 - Loads in the North weather zone were updated to develop the WFWN summer peak load case. The peak loads in the North weather zone were consistent with 2021RTP North-North Central (NNC) case
 - 2021RTP_2027_SUM_NNC_12232021 case posted in Market Information System (MIS) in December 2021 (<https://www.ercot.com/misapp/GetReports.do?reportTypeId=15933>)
 - Additional confirmed load in the study area were updated
- Reserve
 - Loads outside the study weather zones were adjusted to meet the minimum reserve requirements to be consistent with the 2021RTP