# Lubbock Power & Light (LP&L) Remaining Load Integration Study Scope

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RPG Meeting
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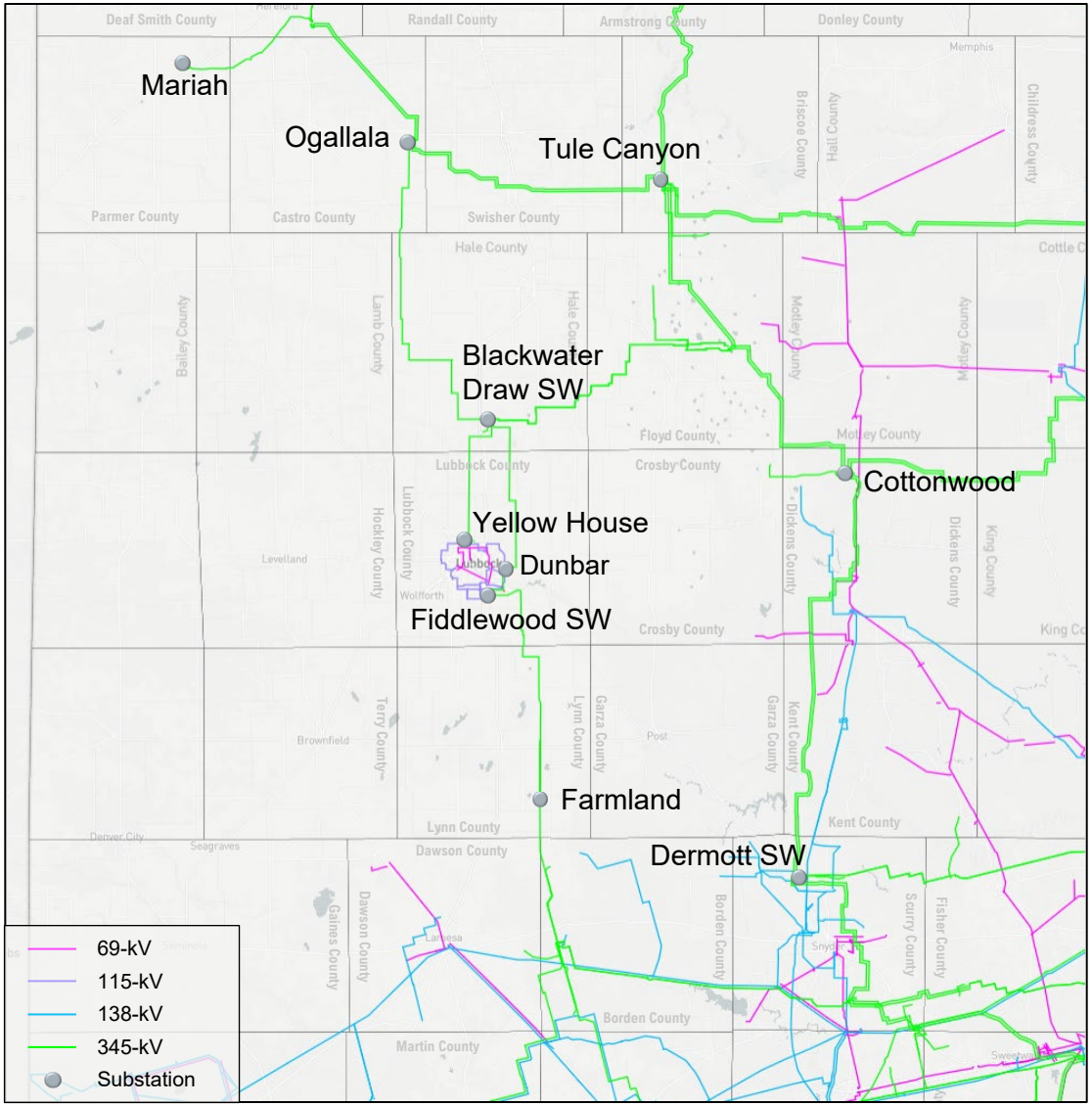
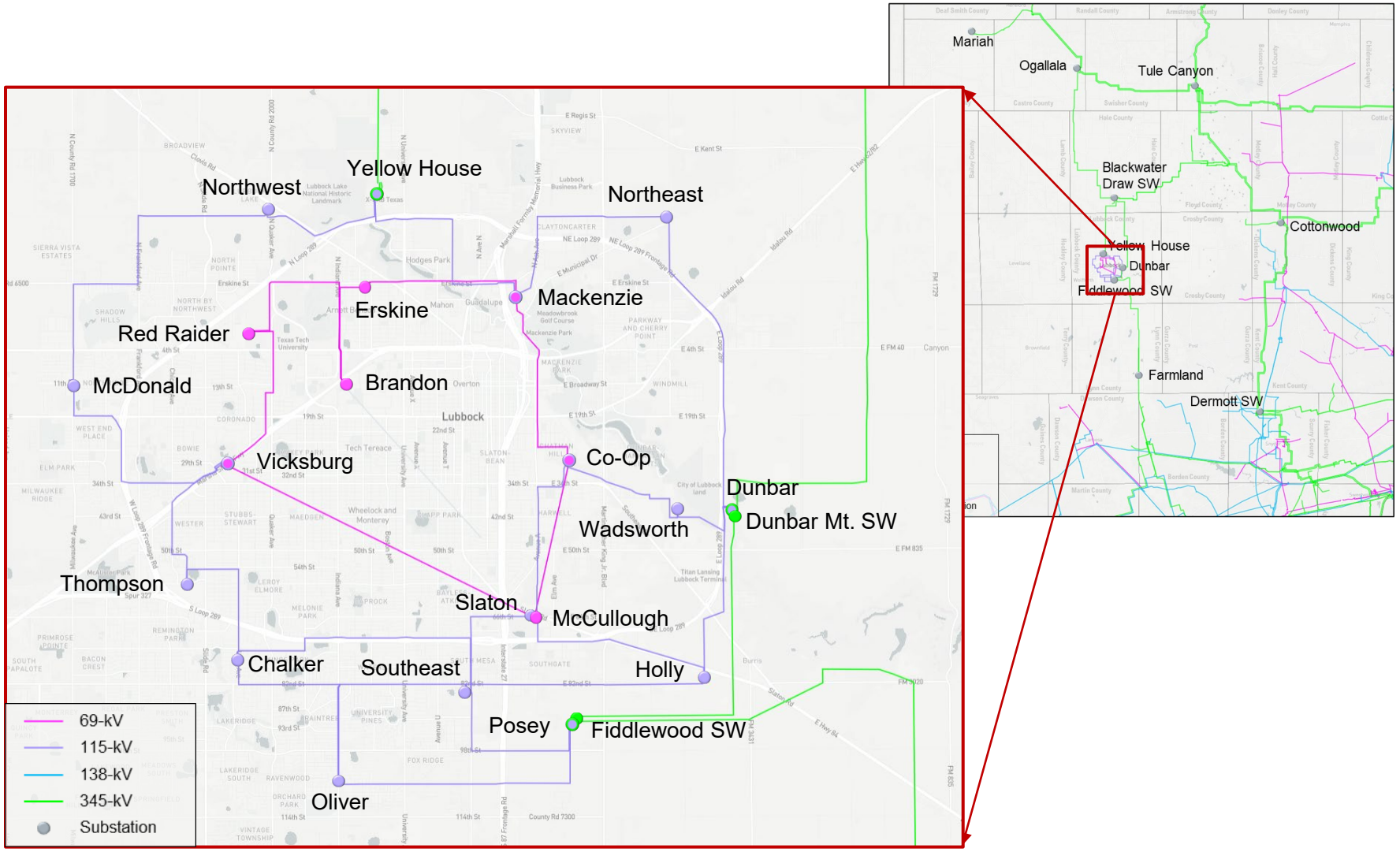
# Introduction

- LP&L has integrated ~70% of its total Load to the ERCOT system by May 30, 2021
- LP&L plans to fully integrate into the ERCOT system by transferring the remaining ~30% of its load from Southwest Power Pool (SPP) to ERCOT by May 2023
- ERCOT is currently conducting an independent study to identify any reliability issue and determine transmission upgrades to support the proposed integration of the remainder of LP&L's Load, should upgrades be deemed necessary

# Study Area – County Map



# Study Area – Lubbock Area Map



# 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 will be 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)

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

# 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 will be added to the study base case if not already modeled in the case. See Appendix for the list of the Tier 4 projects (https://www.ercot.com/files/docs/2021/10/22/ERCOT_October_TPIT_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) will be removed from the base case. See Appendix for the list of removed projects

# Study Assumptions - Loads

- Load Updates for Study Base Case
  - Loads in the North weather zone will be 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 load confirmed in the study area will be updated
- Reserve
  - Load outside the study weather zones will be adjusted to meet the minimum reserve requirements to be consistent with the 2021RTP

# 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 will be updated based on input from LP&L to reflect the remaining load integration into ERCOT
  - Loads outside the study area may be adjusted to meet the minimum reserve requirements consistent with 2021RTP
- 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 may be studied

# Congestion Analysis

- Congestion analysis may be performed based on the recommended transmission upgrades to ensure that the identified transmission upgrades do not result in new congestion within the study area

# Deliverables

- Tentative Timelines
  - Status updates at the future RPG meetings
  - Final Recommendation: Q2 2022

# Thank You!


Stakeholder comments also welcomed through:

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# Appendix: Tier 4 Projects 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 |

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# Appendix: 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 |

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