



**Oncor Flat Iron – Barr Ranch – Pegasus
South 138-kV Line Project
ERCOT Independent Review**

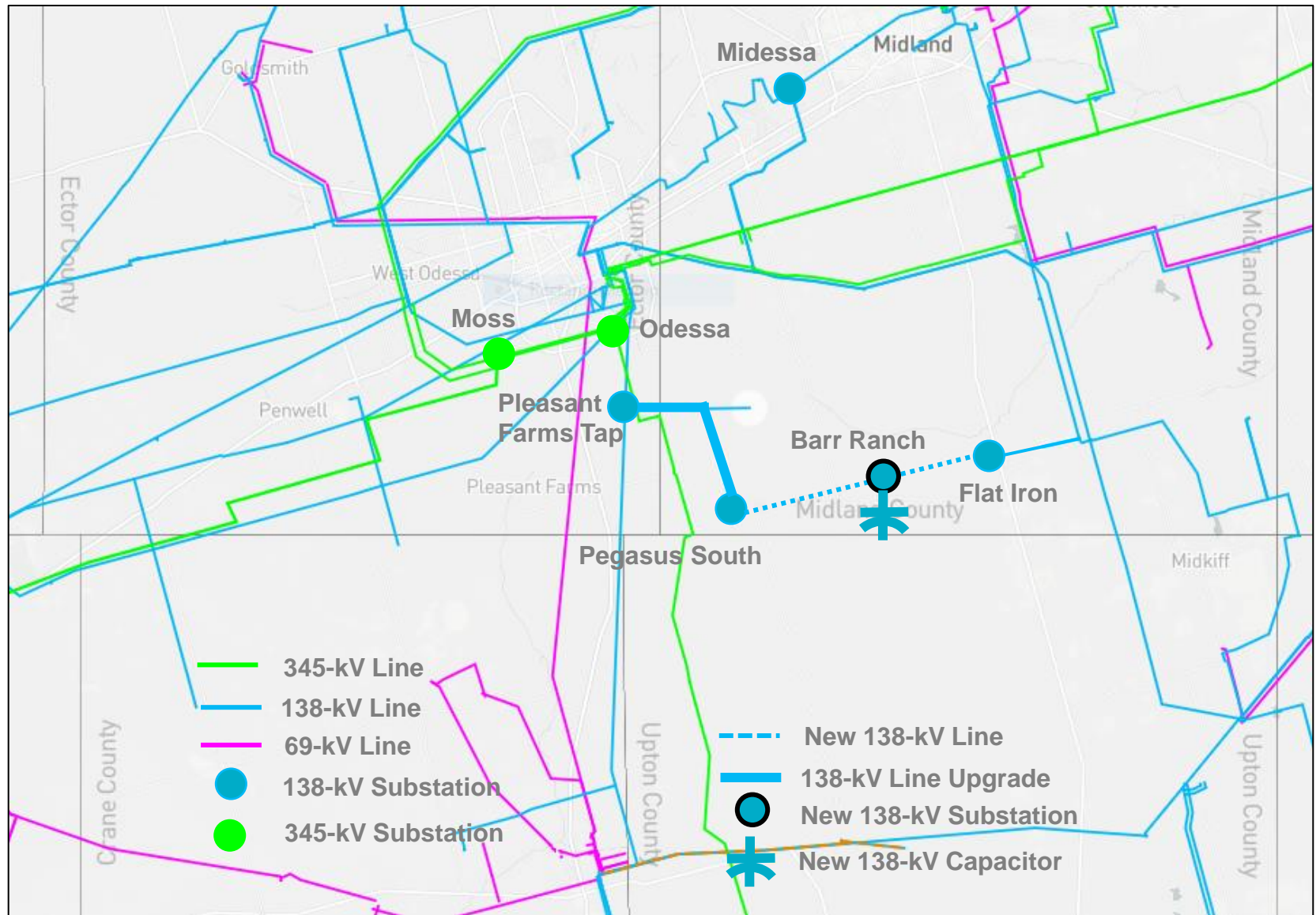
Md Moinul Islam

**RPG Meeting
August 17, 2021**

Introduction

- Oncor submitted the Flat Iron – Barr Ranch – Pegasus South 138-kV Line Project for Regional Planning Group (RPG) review in June 2021. This is a Tier 2 project that is estimated to cost \$50.7 Million
 - Expected in-service date is Summer 2024
 - The proposed RPG project requires a Certificate of Convenience and Necessity (CCN)
 - Address the reliability issues primarily driven by new confirmed load additions due to the expansion of oil and gas industry and generation in the area according to the RPG submittal
 - ✓ Overloads of Tall City – Pecan Grove – South Midland – Cottonfield – Pronghorn, and East Stiles – Rocky Road – Stiles 138-kV lines
 - ✓ Low voltages at various substations along the same 138-kV corridor
 - ✓ The reliability issues may appear before the project in service. If necessary, Oncor will develop and implement Constraint Management Plans (CMPs) such as line sectionalizing or mobile equipment/capacitor installation
- This project is currently under ERCOT Independent Review (EIR)

Map of the Study Area and Proposed Improvements



Study Assumptions

- **Study Area**

- Midland and the surrounding counties in the Far West Weather Zone

- **Steady-State Base Case**

- The 2025 study case developed for the Permian Basin Load Integration Study* will be used to construct the study base case for this independent review

http://www.ercot.com/content/wcm/key_documents_lists/213837/Permian_Basin_Load_Interconnection_Study_Scope_-_Jan2021RPG.pdf

Study Assumptions

- **Generation Update**

- Generation that met Planning Guide Section 6.9(1) requirements with Commercial Operation Date (COD) before the study year in the study region at the time of the study will be added to the study base case based on the Generator Interconnection Status (GIS) report published on the MIS in July 2021 (Appendix A)

<https://mis.ercot.com/public/data-products/grid/generation?id=PG7-200-ER>

- Battery units in the study region will be dispatched consistent with the 2021 RTP methodology
- Wind and solar units in the study region will be modeled consistent with the Permian Basin load integration study case
- All recent retired or indefinitely mothballed units will be turned off, if not already reflected in the study case

Study Assumptions

- **Transmission Update**

- The following project in the study area will be added based on the review of the Permian Basin load integration study case
 - ✓ Midland East Area Project (TPIT #57925 & 57934)
- The following placeholder projects in the study area will be backed out
 - ✓ Barr Ranch – ONC90025_TAP New 138-kV Line (4.4 mi)
 - ✓ Switched shunt at Barr Ranch
- Other transmission upgrades in the study area will remain same as the study case

Study Assumptions

- **Load Update**

- Load additions submitted by the relevant TSP will be reviewed and updated as needed, remaining load level will be consistent with the study case

- **Reserve**

- If necessary, load outside the study weather zone will be adjusted to make up for the reserve to be consistent with the 2021 RTP

Contingencies & Criteria

- **Contingencies for Study Region**

- NERC TPL-001-4 and ERCOT Planning Criteria

<http://www.ercot.com/mktrules/guides/planning/current>

- ✓ Normal system condition (P0)
- ✓ N-1 conditions (P1, P2-1, P7)
- ✓ P2, P4, and P5 (EHV only)
- ✓ X-1 + N-1 (Odessa 345/138-kV T2, Midessa 345/138-kV T1, Midland East 345/138-kV T1)
- ✓ G-1 + N-1 (Odessa-Ector CC2)

- **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

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: October 2021



Stakeholder Comments Also Welcomed Through:

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Appendix A – Generation with PG 6.9(1) Met

GINR	Project Name	Fuel	Projected COD	MW Capacity
18INR0079	Woodward I Repower	Wind	12/31/2021	No Change
18INR0080	Woodward 2 Repower	Wind	12/31/2021	No Change
20INR0280	High Lonesome BESS	Battery	6/1/2022	51.1
20INR0281	Queen BESS	Battery	5/31/2022	51.1
21INR0449	Panther Creek III Repower	Wind	7/1/2021	No Change
21INR0496	Flower Valley II Batt	Battery	10/21/2021	101
21INR0497	Swoose II	Battery	08/01/2021	101
21INR0510	Crossett Power Batt	Battery	08/01/2021	203