



Permian Basin Area Improvement Updates

ERCOT Transmission Planning

Regional Planning Group
December 15, 2020

Outlines

- Introduction
- Status Update: Completed and Ongoing
- Next Steps

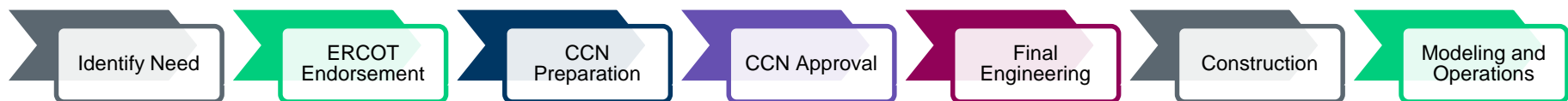
Introduction

New Load Notification (1-2 years)



Commitment for New Load

Time to Construct New Transmission (4-6 years)

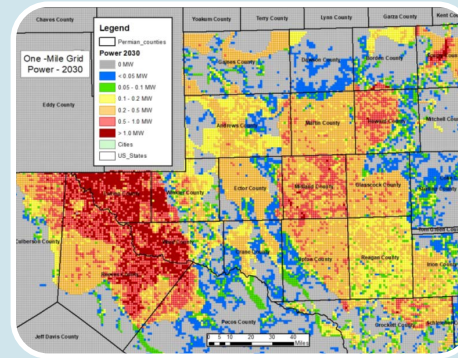
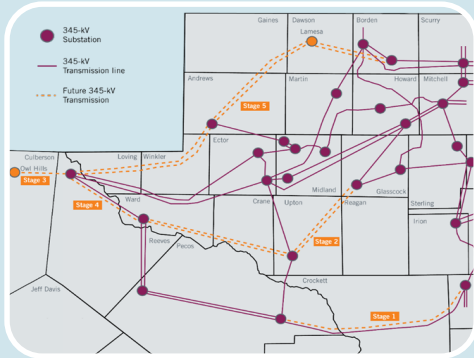


- ERCOT and TSPs in the area have been making continued efforts to address the challenges and accommodate significant and rapid load growth in the area.
- Purpose of this presentation is to provide a status update on the ongoing efforts to better meet the needs of the Permian Basin region.

Load Forecast

- How will transmission plans be affected by potential load forecast changes due to slowing growth?
 - Planners should consider long-term trends.
 - Growth is still occurring, so the question seems to be more about timing than need.
 - Studies should move forward; plans can be adjusted as needed.

Permian Basin Transmission Expansion Strategy



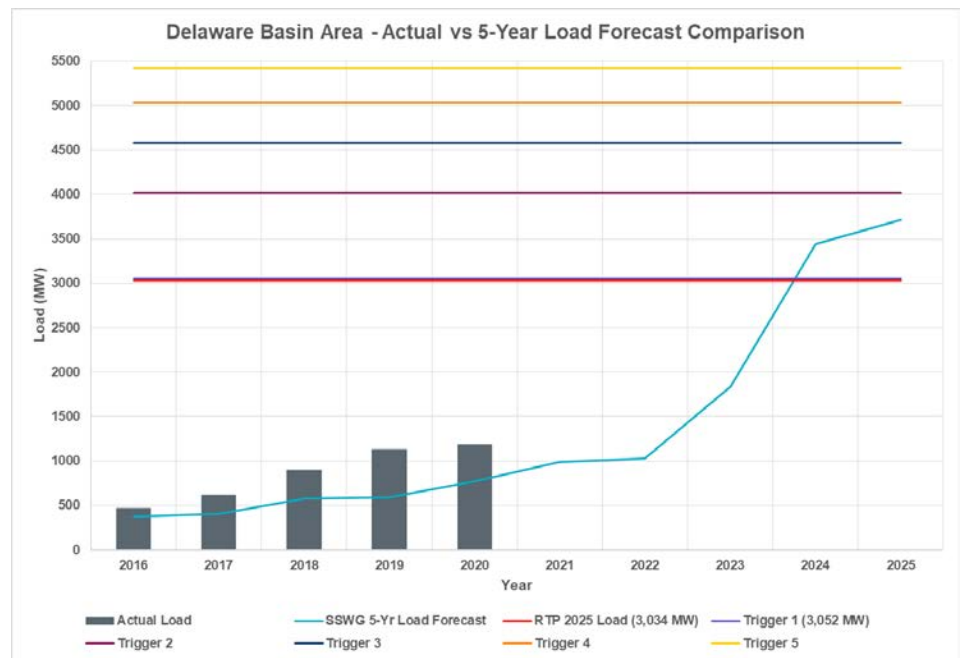
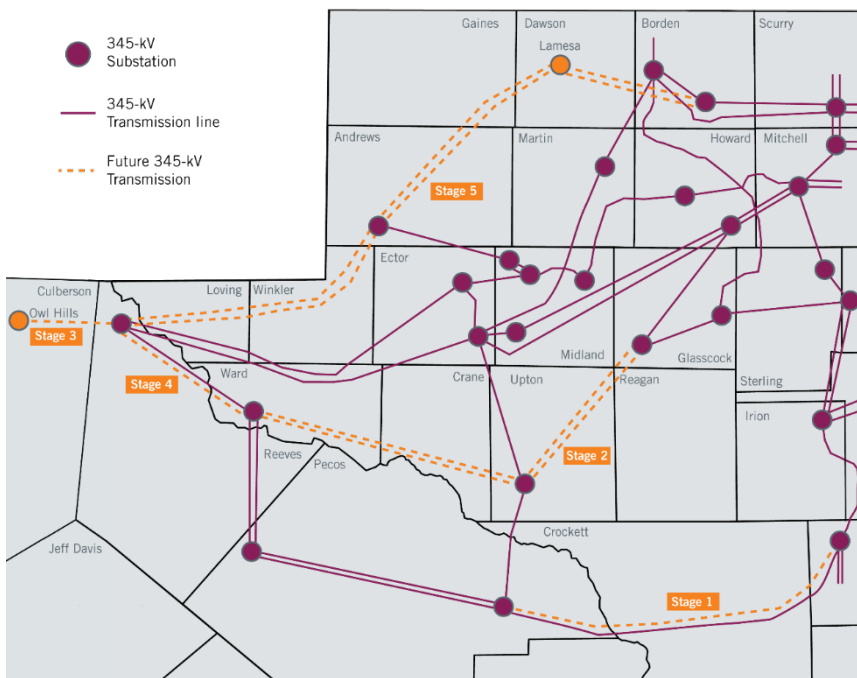
Improve capability to import power into the area:
Delaware Basin Area Study

Create transmission circuits to connect loads:
IHS Markit Study

Long lead time

Tasks Completed

- Delaware Basin Area Study (<http://www.ercot.com/news/presentations>) was complete in Dec 2019.
- As identified through the 2020 Regional Transmission Plan, the Delaware Basin load for 2026 summer peak exceeds the trigger point of Stage 1 (adding a second circuit on the existing Big Hill – Bakersfield 345-kV line) upgrade.
- A number of RPG projects are planned, under constructions, or complete. Recent RPG projects in the Permian Basin can be found in Appendix.



Task Completed – Oncor IHS Markit Study

- IHS Markit Study: Oncor will provide more details after this presentation.
- The relevant TSPs in the region and ERCOT reviewed the forecast from the IHS Markit Study and agreed that the IHS load forecast is reasonable and can be used for the local transmission/load interconnection study.

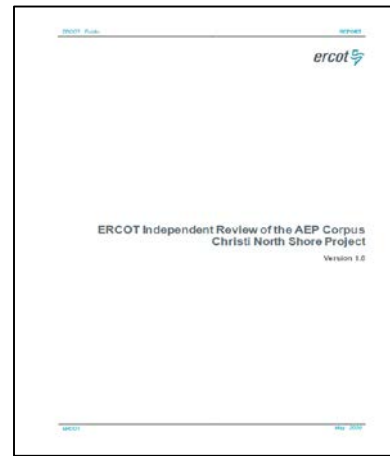
	<i>IHS Load Forecast (MW)</i>		<i>2020 RTP (MW)</i>
	<i>2025 Load</i>	<i>2030 Load</i>	<i>2025 Load</i>
<i>Permian Basin Grand Total (Counties considered in IHS Study*)</i>	<i>8,450</i>	<i>9,970</i>	<i>8,262</i>

* Link: <http://www.ercot.com/gridinfo/planning>

>> Status Update on Permian Basin Improvement Ideas for the Transmission Planning Process

Tasks in Progress

- ERCOT and relevant TSPs are making collaborative efforts to review the IHS load forecasts and identify potential local transmission improvement to connect load.
- IHS Markit performed an independent study and came up with more granular and detailed load forecast associated with oil and gas within the Permian Basin area.

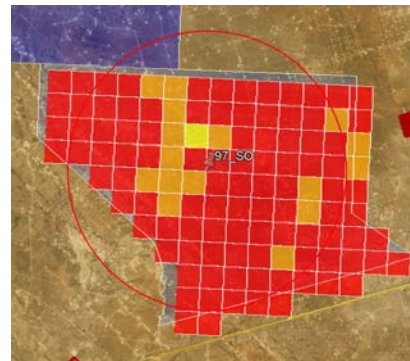


Possible
RPG Projects

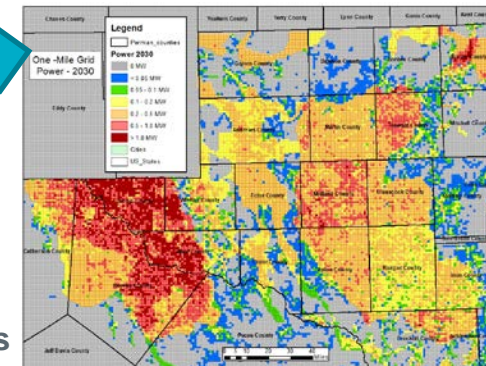
Load
Interconnection
Transmission Plan



Potential
Substation Locations



IHS Markit
Study Results



BEG-ERCOT Partnership

- ERCOT has joined the Bureau of Economic Geology (BEG) Tight Oil Resource Assessment (TORA) program and is engaging with BEG to develop tools that may allow ERCOT to use TORA data to produce an electric load forecast for the Permian Basin.
 - Timeline: 2021

Next Steps and Tentative Schedules

- TSPs are evaluating the need of Stage 1 upgrades identified in the Delaware Basin Load Integration Study.
- Based on the IHS load forecast and load review/updates by TSPs, ERCOT plans to conduct potential load interconnection study: 2nd Quarter 2021
- Status updates at the future RPG meetings

Questions?



Stakeholder Comments Also Welcomed to Sun Wook Kang:
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Appendix: Recent RPG Projects in the Permian Basin

Transmission Improvement Project	Endorsement or Acceptance Date	RPG Project Tier	RPG Project Cost	Anticipated Service Date
Riverton-Sand Lake 138-kV line (new)	November 2016	Tier 2	\$40.2M	In-service in December 2019
Far West Texas Project 1.0 (New Odessa-Riverton and Bakersfield-Solstice 345-kV lines)	June 2017	Tier 1	\$336M	December 2020
Far West Dynamic Reactive Devices	June 2018	Tier 1	\$327.5M	In-service in May 2019 and December 2019
Far West Texas Project 2.0 (1) Riverton-Sand Lake 345-kV (2) Sand Lake-Solstice 345-kV (3) Kyle Ranch-Riverton 138-kV (4) Horseshoe Springs-Riverton 138-kV	June 2018			November 2020 ⁽¹⁾
				December 2020 ⁽²⁾
				Fall 2020 ⁽³⁾
				December 2020 ⁽⁴⁾
Wolf to Moss 138-kV Line High Temperature Upgrade	September 2019	Tier 3	\$39.8M	In-service in March 2020
Permian Basin Area Upgrades	September 2019			In-service in May 2020
Ward and Winkler County Transmission Improvement Project	October 2019	Tier 2	\$63.3M	December 2021
Quarry Field 345-kV Switch Project	June 2020	Tier 3	\$29M	May 2021
Big Spring - Buzzard Draw 69-kV Line Conversion to 138-kV	July 2020	Tier 3	\$32M	November 2021
Horseshoe Springs Switch – Riverton Switch 138-kV Second Circuit Project	August 2020	Tier 3	\$52.3M	December 2021
Tall City – Telephone Road 138-kV Line Rebuild Project	October 2020	Tier 3	\$23.5M	Fall 2021