



## **Item 15: Critical for Reliability Designation Request – Far West Texas Regional Planning Group (RPG) Project**

*Jeff Billo*

Senior Manager, Transmission Planning

Board of Directors Meeting

ERCOT Public

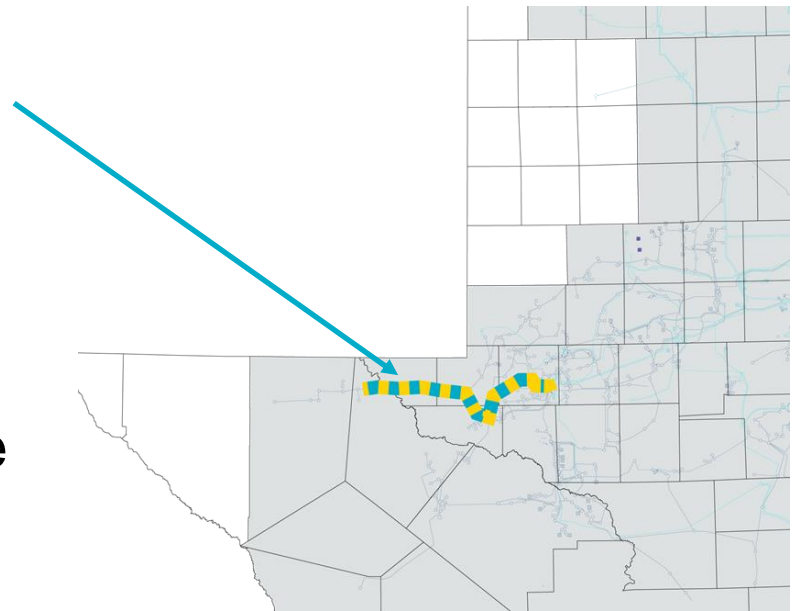
February 20, 2018

## Action

- At the conclusion of this presentation, the Board of Directors will be asked to designate the Odessa EHV-Riverton 345 kV line as critical to the reliability of the ERCOT System pursuant to PUCT Substantive Rule 25.101(b)(3)(D).

# Background

- At the June 2017 meeting the Board endorsed the reliability need for the Far West Texas Regional Planning Group Project following ERCOT's independent review
  - Part of the project included a new Odessa EHV-Riverton 345 kV transmission line to support oil and gas load growth in the Culberson Loop area (Delaware Basin area)
  - Oncor did not request that the line be designated as “critical to reliability” at the time



# What's Changed?

- Increase in Culberson Loop committed loads

Year	2021 as Studied in 2017	Latest 2019 Forecast	Latest 2020 Forecast	Latest 2021 Forecast
Committed Load	533 MW	775 MW	950 MW	964 MW

- Will result in reliability criteria violations due to voltage instability without the line
  - ERCOT's independent review of the project indicated the line was needed at a load level of 533 MW

## Current Status

- Oncor has recently submitted two Culberson Loop projects (both are currently going through Regional Planning Group review) to address reliability needs due to additional load growth
  - Far West Dynamic Reactive Devices Project
  - Far West Texas Project 2
- Oncor is investigating load shed schemes to maintain reliability prior to the improvements being in-service
- Oncor believes it can have the Odessa EHV-Riverton 345 kV line in-service in 2020 if it is designated critical to reliability

## PUCT Substantive Rule 25.101(b)(3)(D)

*Projects deemed critical to reliability.* Applications for transmission lines which have been formally designated by a PURA §39.151 organization as critical to the reliability of the system shall be considered by the commission on an expedited basis. The commission shall render a decision approving or denying an application for a certificate under this subparagraph within 180 days of the date of filing a complete application for such a certificate unless good cause is shown for extending that period.

## Request for Board Vote

**ERCOT staff requests and recommends that the Board of Directors vote to designate the Odessa EHV-Riverton 345 kV line as critical to the reliability of the ERCOT System pursuant to PUCT Substantive Rule 25.101(b)(3)(D)**



**Date:** February 13, 2018  
**To:** Board of Directors  
**From:** Jeff Billo, Sr. Manager, Transmission Planning  
**Subject:** Critical for Reliability Designation Request – Far West Texas Regional Planning Group (RPG) Project

**Issue for the ERCOT Board of Directors**

**ERCOT Board of Directors Meeting Date:** February 20, 2018

**Item No.:** 15

**Issue:**

Whether the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) should accept the recommendation of ERCOT staff to designate the Odessa EHV-Riverton 345 kV line as critical to the reliability of the ERCOT System pursuant to Public Utility Commission of Texas (PUCT) Substantive Rule 25.101(b)(3)(D).

**Background/History:**

Following ERCOT's independent review of the Far West Texas RPG Project (Project), which was jointly submitted to the RPG by American Electric Power Service Corporation and Oncor Electric Delivery Company (Oncor), the Board endorsed the need for the Project based on North American Electric Reliability Corporation (NERC) and ERCOT planning reliability criteria at its meeting on June 13, 2017. Part of the endorsed Project included a new Odessa EHV-Riverton 345 kV line. This line was found to be needed to prevent reliability criteria violations that would otherwise exist due to oil and gas-related load growth on the existing Oncor Wink-Culberson Switch 138 kV line and the Oncor Yucca Drive Switch-Culberson Switch 138 kV line (referred to as the Culberson Loop). At the time of the Board endorsement, Oncor did not request that the new line be designated as critical to the reliability of the ERCOT System.

Since ERCOT completed the independent review, Oncor has had a significant number of customers commit to adding new loads in the area. Based on these load additions, the latest load forecast for the Culberson Loop is 775 MW and 950 MW in 2019 and 2020, respectively. ERCOT's independent review of the Project found that the line was needed at a load level of 533 MW. In addition, in a letter to ERCOT dated February 9, 2018, a copy of which is attached hereto as **Attachment A**, Oncor indicated that its studies show that by 2020 and possibly earlier, there are numerous single contingencies that result in unacceptable voltage conditions along the Culberson Loop.

In its February 9, 2018 letter, Oncor formally requested that ERCOT designate the Odessa EHV-Riverton 345 kV line as critical to the reliability of the ERCOT System. This designation will allow for an expedited review of the Certificate of Convenience and Necessity (CCN) application for the line at the PUCT pursuant to Substantive Rule 25.101(b)(3)(D), which provides, in pertinent part: "Applications for transmission lines

which have been formally designated by a PURA §39.151 organization as critical to the reliability of the system shall be considered by the commission on an expedited basis.” Oncor has indicated that the expedited review will accelerate the possible in-service date by six months, allowing the line to be in-service in 2020. Oncor has recently submitted two Culberson Loop projects, both of which are currently going through RPG review, to address reliability needs due to additional load growth. Oncor is also investigating load shed schemes to maintain reliability prior to the new line being put in-service.

**Key Factors Influencing Issue:**

1. On June 13, 2017, the Board endorsed the need for the Project, which included the Odessa EHV-Riverton 345 kV line, based on NERC and ERCOT planning reliability criteria.
2. Since ERCOT’s independent review and the Board endorsement of the Project, Oncor has had additional oil and gas customers commit to adding new load such that the Odessa EHV-Riverton 345 kV line is needed for the reliability of the ERCOT System earlier than previously thought.
3. If the Odessa EHV-Riverton 345 kV line is designated as critical to the reliability of the ERCOT System, it will expedite the review process at the PUCT per Substantive Rule 25.101(b)(3)(D).

**Conclusion/Recommendation:**

ERCOT staff recommends that the Board designate the Odessa EHV-Riverton 345 kV line as critical to the reliability of the ERCOT System pursuant to PUCT Substantive Rule 25.101(b)(3)(D).



**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**  
**BOARD OF DIRECTORS RESOLUTION**

WHEREAS, on June 13, 2017, the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) endorsed the need for the Far West Texas Regional Planning Group (RPG) Project, which included a new Odessa EHV-Riverton 345 kV line (Line), based on North American Electric Reliability Corporation (NERC) and ERCOT planning reliability criteria; and

WHEREAS, after due consideration of the alternatives, the Board deems it desirable and in the best interest of ERCOT to accept ERCOT staff's recommendation to designate the Line as critical to the reliability of the ERCOT System pursuant to Public Utility Commission of Texas (PUCT) Substantive Rule 25.101(b)(3)(D);

THEREFORE, BE IT RESOLVED, that ERCOT Board hereby designates the Line as critical to the reliability of the ERCOT System pursuant to PUCT Substantive Rule 25.101(b)(3)(D).

**CORPORATE SECRETARY'S CERTIFICATE**

I, Vickie G. Leady, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its February 20, 2018 meeting, the ERCOT Board passed a motion approving the above Resolution by \_\_\_\_\_.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_ day of February, 2018.

\_\_\_\_\_  
Vickie G. Leady  
Assistant Corporate Secretary



**Oncor Electric Delivery**  
2233B Mountain Creek Pkwy  
Dallas, TX 75211

Tel 214.743.6679  
Fax 972.263.6710  
Eithar.Nashawati@oncor.com

February 09, 2018

Chad V. Seely  
Vice President, General Counsel and Corporate Secretary  
Electric Reliability Council of Texas, Inc.  
7620 Metro Center Drive  
Austin, TX 78744

Dear Mr. Seely,

This letter is a formal request for the Electric Reliability Council of Texas (ERCOT) to grant critical designation status for the Odessa EHV – Riverton 345 kV Line. The Odessa EHV – Riverton 345 kV Line and associated station work was reviewed by stakeholders and endorsed by ERCOT through the ERCOT Regional Planning Group (RPG) Project Review Process, as part of The Far West Texas Project. This new 345 kV transmission line has also received approval by both the ERCOT Technical Advisory Committee (TAC) and the ERCOT Board of Directors in June 2017. Since approval, Oncor has been diligently engaged in preparing a Certificate of Convenience and Necessity (CCN) application to file with the Public Utility Commission of Texas (PUCT). This application is substantially complete and expected to be filed in March 2018.

Oncor submitted this project to the RPG on April 20, 2016 in a joint submittal with AEP with a proposed in-service date in 2021. At the conclusion of the ERCOT independent review on May 23, 2017, the committed load on the existing Oncor Wink – Culberson Switch 138 kV Line and the Oncor Yucca Drive Switch – Culberson Switch 138 kV Line (referred to as The Culberson Loop) was expected to be approximately 600 MW by 2022. Load growth in the project area did not cease at the time of project approval. As of February 1, 2018, Oncor has confirmed load requests that will cause the total peak load served in The Culberson loop to exceed 1000 MW in 2022. Oncor continues to experience significant load growth in West Texas due to oil and natural gas production, mid-stream processing, and associated economic expansion in the area referred to as the Delaware Basin.

Since the ERCOT approval of the new 345 kV line in June 2017, load growth in the area has outpaced the original study projections for the project. The total load forecast for The Culberson Loop already exceeds ERCOT's expected load serving capability for the project of 717 MW. The speed at which many of these customers are coming online makes it difficult to plan, design, construct and operate facilities to adequately serve the load in a timely fashion. The high rate of growth in this area of the ERCOT system makes accurate planning and on-time service to customers challenging, and results in plans that are potentially insufficient shortly after they are created.

Oncor studies show that as early as 2019 and as late as 2020, there are numerous single contingencies that result in unacceptable voltage conditions along The Culberson Loop. Studies showed that multiple single branch outages will result in unsolved contingencies during load flow analysis, an indication of potential voltage collapse along these transmission lines. Such scenarios could cause all load on these lines to be dropped, which is approximately 775 MW in 2019 and 950 MW in 2020.<sup>1</sup> Future studies for when The Culberson Loop reaches over 1000 MW in 2022 show that the loss of this radial Odessa EHV – Riverton 345 kV Line will result in a similar service interruption to all customers. These results indicate that the new 345 kV service is critical to the reliability of the area.

Accordingly, Oncor will be implementing remedial operational schemes to mitigate post-contingency voltage violations in the Culberson Loop area until additional facilities can be built to reliably serve the increasing load. This will include various low voltage load shed schemes, transfer trip schemes, and load restoration procedures. In some instances, these measures will prohibit eventual restoration of customers' electricity service, putting potentially hundreds of megawatts of customer loads at risk depending on the outage scenario. As a result, this area of the ERCOT system will present multiple operational challenges until the future 345 kV infrastructure is built.<sup>2</sup>

The CCN Application will be filed with the PUCT in March 2018 with a one-year administrative review timeline, with approval expected by March 2019. With the critical designation and six month administrative review at the PUCT, the in-service date could be accelerated by six months which would allow Oncor to serve the committed load and minimize the timeframe the system would be subject to the operational risks described above. With this timeline, the expected in-service date is in 2020. With the rapid increases of load in the area described above, it is crucial that the new 345 kV line be placed in-service as soon as possible.

It is for these multiple operational and reliability needs that Oncor is requesting critical designation status for the Odessa EHV – Riverton 345 kV Line. This 345kV line is crucial to the ability to reliably serve loads already interconnected and the expected load growth in this area of the ERCOT system.

Best regards,



Eithar Nashawati  
Director – Assets Planning

CC: Warren Lasher  
Woody Rickerson  
Jeff Billo  
Cheryl Mele

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<sup>1</sup> Updated data for these studies are available to ERCOT by request. Base models and data have already been transmitted through the ERCOT RPG process.

<sup>2</sup> The necessary additional infrastructure referenced here is the focus of Oncor's current Far West Texas Dynamic Reactive Devices and Far West Texas 2 projects that are currently in the ERCOT RPG process.