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Filing Date - 2025-03-03 09:08:14 AM

Control Number - 55999

Item Number - 106

PROJECT NO. 55999

REPORTS OF THE ELECTRIC§PUBLIC UTILITY COMMISSIONRELABILITY COUNCIL OF TEXAS§OF TEXAS

ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.'S NOTICE OF ACCEPTANCE OF ONE TIER 3 TRANSMISSION PROJECT

Pursuant to ERCOT Protocol Section 3.11.4.9(1), Electric Reliability Council of Texas, Inc. (ERCOT) files this Notice of the ERCOT Regional Planning Group (RPG)'s acceptance of one Tier 3 transmission project.

The project is submitted by Wind Energy Transmission Texas, LLC (WETT) as reflected in Attachments A-B. WETT is the ERCOT-registered Transmission Service Provider (TSP).

ERCOT is prepared to provide the Commission with any additional information it may request regarding these matters.

Dated: March 3, 2025

Respectfully Submitted,

<u>/s/ Katherine Gross</u>

Chad V. Seely SVP Regulatory Policy, General Counsel, and Chief Compliance Officer Texas Bar No. 24037466 (512) 225-7035 (Phone) chad.seely@ercot.com

Brandon Gleason Vice President, Legal and Compliance Texas Bar No. 24038679 (512) 275-7442 (Phone) brandon.gleason@ercot.com

Katherine Gross Senior Corporate Counsel Texas Bar No. 24065610 (512) 225-7184 (Phone) Katherine.Gross@ercot.com

ERCOT 8000 Metropolis Drive, Bldg. E, Suite 100 Austin, Texas 78744 (512) 225-7079 (Fax) ATTORNEYS FOR ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.





Taylat 2705 West Lake Disw Yoylar, YX 26574 7 512:248 3000 1 512:225,2079 Austin 2000 Metropolis, Prive (Borlding U), Suite 100 Austin, 7X 78744 7 5 (2):25/2000 4 51:572/57079

ercot.com

February 12, 2025

Mr. Yang Zhang Sr. Manager, Transmission Planning Wind Energy Transmission Texas, LLC 1901 Capital Parkway, Suite 200 Austin, TX 78746

RE: WETT Buck Canyon and Binturong 345-kV Synchronous Condenser Stations Project

Dear Mr. Zhang:

The Electric Reliability Council of Texas (ERCOT) Regional Planning Group (RPG) has reviewed and accepted the following Tier 3 transmission project in accordance with ERCOT Protocol Section 3.11.4:

WETT Buck Canyon and Binturong 345-kV Synchronous Condenser Stations Project:

- Construct a new Buck Canyon 345-kV station adjacent to the existing Long Draw 345-kV station. The new Buck Canyon station will initially be configured with a 7-breaker, 345-kV, breaker-anda-half bus arrangement.
- Construct two 0.27-mile 345-kV tie lines from Long Draw to Buck Canyon station and install two 345-breakers at Long Draw to accommodate the tie lines. Each tie line will have a normal rating of at least 2896 MVA and an emergency rating of at least 3080 MVA.
- Construct a new Binturong 345-kV station adjacent to the existing Bearkat 345-kV station. The new Binturong station will initially be configured with a 7-breaker, 345-kV, breaker-and-a-half bus arrangement.
- Construct two 0.31-mile 345-kV tie lines from the existing Bearkat station to the new Binturong station and install two 345-kV breakers at Bearkat to accommodate the tie lines. Each tie line will have a normal rating of at least 2896 MVA and an emergency rating of at least 3080 MVA.

Should you have any questions please contact me at any time.

Sincerely,

Hobby

Kristi Hobbs Vice President, System Planning and Weatherization Electric Reliability Council of Texas

cc:

Pablo Vegas, ERCOT Woody Rickerson, ERCOT Prabhu Gnanam, ERCOT Robert Golen, ERCOT Brandon Gleason, ERCOT

Buck Canyon and Binturong 345 kV Station Additions

ERCOT Regional Planning Group Submittal

December 31, 2024

Wind Energy Transmission Texas (WETT)

WIND ENERGY TRANSMISSION TEXAS, LLC



1 Executive Summary

Wind Energy Transmission Texas, LLC ("WETT") is submitting the proposed Binturong and Buck Canyon synchronous condenser station addition project to the Regional Planning Group for review and comment. Pursuant to ERCOT Protocol 3.11.4.3 this project will be categorized as a Tier 3 Project.

Odessa low voltage disturbances in 2021 and 2022 caused by single line to ground events led to substantial reduction in output from inverter-based resources (IBRs) located far away from the fault locations. In response to these disturbances, ERCOT performed a study to evaluate the benefits of synchronous condensers to strengthen the system in the West Texas (WTX) region and address the operational challenges caused by high IBRs penetrations in weak systems. The study concluded that new synchronous condensers at the six locations with a total of 2,100 MVA will improve the reliability and resilience of the West Texas system. The 345 kV substations at Cottonwood, Bearkat, Tonkawa, Long Draw, Reiter, and Bakersfield were identified as effective locations for the installation of synchronous condensers. Three out of six 345 kV substations, i.e. Cottonwood, Bearkat, and Long Draw, are WETT's facilities.

Space at existing Long Draw and Bearkat stations are reaching their limit and new stations are needed to accommodate for the synchronous condensers, as well as future transmission upgrades, generation, and large load interconnections. WETT recommends establishing two new 345 kV substations, Buck Canyon near Long Draw and Binturong near Bearkat, to interconnect synchronous condensers no later than May 2027 and October 2027, respectively. The scope of the proposed Buck Canyon and Binturong 345 kV stations project includes:

- Establish new 345 kV Buck Canyon station adjacent to existing Long Draw 345 kV station. The Buck Canyon station will initially be installed with a 7-breaker, 345 kV, breaker-and-a-half bus arrangement.
- Construct two 0.27-mile 345 kV tie lines from Long Draw to Buck Canyon station and install two 345 kV breakers at Long Draw to accommodate the tie lines. Each tie line will have a normal rating of 2896 MVA and an emergency rating of 3080 MVA.
- Establish new 345 kV Binturong station adjacent to existing Bearkat 345 kV station. The Binturong station will initially be installed with a 7-breaker, 345 kV, breaker-and-a-half bus arrangement.
- Construct two 0.31-mile 345 kV tie lines from Bearkat to Binturong station and install two 345 kV breakers at Bearkat to accommodate the tie lines. Each tie line will have a normal rating of 2896 MVA and an emergency rating of 3080 MVA.

The cost estimates for the Buck Canyon and Binturong 345 kV stations are \$48.45M and \$50.16M, respectively. The total cost of the project is \$98.61M. Cost estimates provided within this submittal are subject to revision as additional information is revealed. This Proposed RPG Project is a Tier 3 project and does not require a Certificate of Convenience and Necessity (CCN).

2 Introduction

In 2023, ERCOT performed a study to evaluate the benefits of synchronous condensers to strengthen the system in the West Texas region and address the operational challenges caused by high IBRs penetrations

in weak systems. The Study concluded that new synchronous condensers at the six locations with a total of 2,100 MVA will improve the reliability and resilience of the West Texas system. The 345 kV substations at Cottonwood, Bearkat, Tonkawa, Long Draw, Reiter, and Bakersfield were identified as effective locations for the installation of synchronous condensers. Three out of six 345 kV substations, i.e. Cottonwood, Bearkat, and Long Draw, are WETT's facilities. Space at existing Long Draw and Bearkat stations are reaching their limit and new stations are needed to accommodate for the synchronous condensers as well as future transmission upgrades, generation, and large load interconnections.



Figure 1: Binturong Project Location at Bearkat



Figure 2: Buck Canyon Project Location at Long Draw

3 Project Scope

The Buck Canyon station project is estimated to be in-service by May 2027 and has an estimated cost of \$48.45 million. The Binturong station project is estimated to be in-service by October 2027 and has an estimated cost of \$50.16 million. The total cost of the project is \$98.61M. This Proposed RPG Project is a Tier 3 project and does not require a CCN.

The scope of the proposed Buck Canyon and Binturong 345 kV stations project includes:

- Establish new 345 kV Buck Canyon station adjacent to existing Long Draw 345 kV station. The Buck Canyon station will initially be installed with a 7-breaker, 345 kV, breaker-and-a-half bus arrangement.
- Construct two 0.27-mile 345 kV tie lines from Long Draw to Buck Canyon station and install two 345 kV breakers at Long Draw to accommodate the tie lines. Each tie line will have a normal rating of 2896 MVA and an emergency rating of 3080 MVA.
- Establish new 345 kV Binturong station adjacent to existing Bearkat 345 kV station. The Binturong station will initially be installed with a 7-breaker, 345 kV, breaker-and-a-half bus arrangement.
- Construct two 0.31-mile 345 kV tie lines from Bearkat to Binturong station and install two 345 kV breakers at Bearkat to accommodate the tie lines. Each tie line will have a normal rating of 2896 MVA and an emergency rating of 3080 MVA.







Figure 4: Binturong 345 kV Station Project Schematic

4 Project Assessment

WETT deems it unnecessary to perform power flow, short circuit, or dynamic stability studies for the proposed project. The electrical networks before and after the addition of the proposed project are fundamentally equivalent, with the sole exception being the minimal impedance introduced by the short tie-lines connecting the condenser stations to the network. This impedance has a negligible effect on system performance and analysis outcomes.

4.1 Subsynchronous Resonance (SSR) Analysis

Since Buck Canyon and Binturong are radially connected to Long Draw and Bearkat, the addition of these two substations does not create any new or shorter paths leading to generation resources and synchronous condensers becoming radial to series capacitors in the event of fewer than 14 concurrent transmission outages. Therefore, no further SSR analysis is required for the proposed project.

Regarding the synchronous condensers to be installed at Buck Canyon and Binturong, WETT will coordinate with ERCOT to perform and complete a detailed SSR assessment and provide any mitigation plan, if required, prior to the energization of the synchronous condensers.

5 Recommendation

WETT recommends that the addition of the proposed Binturong and Buck Canyon 345 kV stations near Bearkat and Long Draw to accommodate for the synchronous condensers, as well as future transmission upgrades, generation, and large load interconnections.