



Control Number: 39339



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Project No. 39339



**REPORT FOR ELECTRIC UTILITY
INFRASTRUCTURE STORM
HARDENING REQUIRED BY SUBST.
R. 25.95**

**BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS**

**WIND ENERGY TRANSMISSION TEXAS LLC'S STORM HARDENING PLAN
SUMMARY PURSUANT TO SUBST. R § 25.95**

NOW COMES Wind Energy Transmission Texas, LLC (“WETT” or “Company”) and files the attached Storm Hardening Plan Summary pursuant to P.U.C. SUBST. R. §25.95.

Dated: May 1, 2020

Respectfully submitted,

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**WIND ENERGY TRANSMISSION TEXAS LLC'S
STORM HARDENING PLAN SUMMARY
PURSUANT TO SUBST. R § 25.95**

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I. INTRODUCTION

WETT is a transmission-only utility that provides transmission service within the Electric Reliability Council of Texas (“ERCOT”) region. Pursuant to Public Utility Commission of Texas (“Commission” or “PUC”) Subst. Rule 25.95, every electric utility in Texas is required to file a summary of its Storm Hardening Plan (“Plan”). The summary is to describe in detail the utility’s current and future storm hardening plans over a five-year period beginning January 1, 2011. By May 1 of each subsequent year, each utility shall file a detailed summary of any material revisions to the Plan and a detailed summary of its progress in implementing the Plan.

WETT was not an operating utility on January 1, 2011, so its Plan is effective as of the date of energization of its first facilities. Furthermore, WETT does not own or operate any distribution facilities, and does not currently plan to do so. Consequently, WETT’s Plan and the summary below are limited to transmission facilities.

II. PLAN REVISIONS

WETT made no material revisions to its Plan in 2019.

III. PLAN IMPLEMENTATION

As new construction projects are approved, engineered, and built, WETT ensures that both design and construction conform to Plan requirements. Regarding existing facilities, WETT continuously implements all components of its Plan with vegetation management practices, visual inspections, and periodic evaluations of its operational procedures for improved storm preparedness.

IV. PLAN SUMMARY

- (1) Summarize construction standards, policies, procedures, and practices employed to enhance the reliability of utility systems, including overhead and underground transmission and distribution facilities.**

WETT does not own or operate any underground transmission or distribution facilities at this time. WETT does not plan to own or operate any underground facilities, or any distribution facilities in the next five years.

WETT's new overhead transmission facilities are designed to meet or exceed current National Electric Safety Code ("NESC") and American National Standard Institute ("ANSI") standards established for its particular geographic areas, North American Electric Reliability Corporation and ERCOT guidelines, and other applicable industry standards. A list of specific standards used to develop its design criteria include:

- ANSI/IEEE NESC-C2-2017, National Electric Safety Code 2017;
- AISC 316-89, Manual of Steel Construction: Allowable Stress Design;
- ANSI C37.32, Schedule of Preferred Ratings, Manufacturing Specifications and Application Guide for High Voltage Air Switches, Bus Supports and Switch Accessories;
- ANSI/IEEE C37.30, IEEE Standard Requirements for High Voltage Switches;
- ANSI IEEE C37.90, Standard for Relays and Relay Systems Associated with Electric Power Apparatus;
- ANSI C37.90a, Guide for Surge Withstand Capability Tests;
- ANSI/IEEE C37.91, IEEE Guide for Protecting Power Transformers'
- 15.3.7 ANSI/IEEE C95.6-2002, IEEE Standard for Safety Levels With Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz;
- ASCE Substation Structure Design Guide;

- ASCE 48-05, Design of Steel Transmission Pole Structures;
- ASCE 10-97, Design of Latticed Steel Transmission Structures;
- ASCE 74-2009, Guidelines for Electrical Transmission Line Structural Loading;
- ACSE/SEI 7-05, Minimum Design Loads for Buildings and Other Structures;
- OSHA 29 CFR Part 1926, OSHA standards for the Construction Industry;
- ACI 318-19, Building Code and Commentary for Structural Concrete;
- IEEE Std. 1313.1-1996, Standard for Insulation Coordination; and
- IEEE Std. 1313.2-1999, Standard for Insulation Coordination.
- Many other standards as listed in WETT's Basis of Design Document, January 2011.

WETT's design criterion for concurrent wind and ice loads are summarized in the table shown below:

Design Criteria	Ice (in)	Wind (lbs/ft)
NESC Heavy	0.50	4
High Wind	0	21
Ice Clearance	0.75	0

Furthermore, WETT's basis of design for lightning protection systems as documented in TSD-3002-R02 WETT Overhead Transmission Line Design Standard follows IEEE 1243: Guide for Improving the Lightning Performance of Transmission Lines.

- (2) Summarize any vegetation management plan for distribution facilities, including a tree pruning methodology and pruning cycle, hazard tree identification and mitigation plans, and customer education and notification practices related to vegetation management.**

This question is not applicable as WETT does not own or operate any distribution facilities and does not have any current plans to construct any distribution facilities.

- (3) Summarize any plans and procedures to consider infrastructure improvements for its distribution system based on smart grid concepts that provide enhanced outage resilience, faster outage restoration, and/or grid self-healing.**

This question is not applicable as WETT does not own or operate any distribution facilities and does not have any current plans to construct any distribution facilities.

- (4) Summarize any plans and procedures to enhance post storm damage assessment, including enhanced data collection methods for damaged poles and fallen trees.**

Post-storm damage assessment is typically driven by operational problems (e.g. outages). In addition to the automated reporting mentioned in response to item (7) below, which identifies problem areas, WETT will also deploy patrols to problem areas to perform a visual inspection. These patrols may be conducted on land by vehicle or on foot, or by air, via small aircraft, depending on the area to be inspected and the existing weather conditions. The observations of the patrol (e.g., damage identified as related to weather, equipment failure, or vegetation) are communicated back to the control center for recording and scheduling of needed repairs. WETT enforces NERC FAC-003-4 Transmission Vegetation Management by implementing WETT's own TOWP-9005_Transmission Vegetation Management Plan, to ensure fallen trees do not cause transmission system outages.

- (5) Summarize transmission and distribution pole construction standards, pole attachment policies, and pole testing schedule.**

As noted earlier, WETT does not presently have any distribution poles. WETT's transmission facilities are currently designed, built and maintained to meet current NESC and ANSI standards established for its particular geographic areas, as noted in (1) above.

WETT's policy regarding attachments to its structures is that attachments are not allowed except for unique requests for consideration that will be forwarded to its engineering department for review in a case by case basis.

Comprehensive inspections are done for each line in accordance with WETT's document: TMS-9000-R001 Transmission Line Maintenance Standard.

(6) Summarize distribution feeder inspection schedule.

This question is not applicable as WETT does not own or operate any distribution facilities and does not have any current plans to construct any distribution facilities.

(7) Summarize plans and procedures to enhance the reliability of overhead and underground transmission and distribution facilities through the use of transmission and distribution automation.

WETT does not own or operate any underground transmission or distribution facilities at this time.

WETT has incorporated enhanced automation features into its remote transmission switching facilities. These systems improve WETT's ability to identify and respond to problems on the transmission system. For example, WETT's overhead transmission system is currently designed for Supervisory Control and Data Acquisition ("SCADA"). SCADA allows display of real time status such as voltage and currents and allows remote control of operationally important transmission switches and transmission breakers by dispatchers. WETT's facilities include microprocessor relays which provide protection to the power system. These microprocessor relays also allow remote control, monitoring, fault location, and fault recording. Event data is available after the fact through these relays to help with event analysis to enhance reliability. WETT implemented TEAM software on the relay systems to ensure fault data is emailed shortly after an event to the responsible Engineering personnel so that they can start event investigations in a timely manner.

Field devices are connected to secure private networks using redundant hardware and redundant communication gateways. All planned transmission switching operations will be performed and verified remotely in real-time. Any automatic switching that occurs due to system faults will generate electronic event records that will be remotely accessible to WETT engineers for post-event analysis.

- (8) Summarize plans and procedures to comply with the most recent NESC wind loading standards in hurricane prone areas for new construction and rebuilds of the transmission and distribution system.**

This question is not applicable to WETT because WETT's facilities are not located in hurricane-prone areas.

- (9) Summarize the plans and procedures to review new construction and rebuilds to the distribution system to determine whether they should be built to NESC Grade B (or equivalent) standards.**

This question is not applicable as WETT does not own or operate any distribution facilities and does not have any current plans to construct any distribution facilities.

- (10) Summarize plans and procedures to develop a damage/outage prediction model for the transmission and distribution system.**

As noted earlier, WETT does not presently have a distribution system.

WETT's transmission system, given its location and size, is most at risk from weather events such as thunderstorms, tornadoes, wildfires, and ice storms. Accordingly, restoration plans are centered on ensuring availability of response personnel, including people from supply chains, service, line and engineering.

- (11) Summarize plans and procedures for use of structures owned by other entities in the provision of distribution service, such as poles owned by telecommunications utilities.**

This question is not applicable as WETT does not own or operate any distribution facilities and does not have any current plans to construct any distribution facilities.

- (12) **Summarize plans and procedures for restoration of service to priority loads and for consideration of targeted storm hardening of infrastructure used to serve priority loads.**

This question is not applicable as WETT does not serve any loads.