

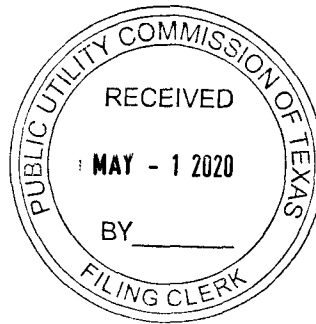


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Project No. 38068
In Compliance With 16 Tex. Admin Code §25.94

Entergy Texas, Inc.
Infrastructure Improvement and Maintenance Report
Calendar Year 2019

May 1, 2020

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In compliance with 16 Tex. Admin Code (“TAC”) §25.94, Entergy Texas, Inc. (“ETI” or “the Company”) files this report on “Infrastructure Improvement and Maintenance”. The report includes ETI’s 2019 activities and follows the outline of the rule.

- I. Service Territory Susceptible to Damage During Severe Weather and Hardening Transmission and Distribution Facilities in Those Areas.
- II. Vegetation Management
- III. Inspecting Distribution Poles
- IV. Summary of Activities Related to Preparing for Emergency Operations

I. Service Territory Susceptible to Damage During Severe Weather and Hardening Transmission and Distribution Facilities in Those Areas:

ETI is in southeast Texas and currently serves approximately 461,000 retail customers in 27 counties. ETI’s transmission and distribution systems serves customers spread out over approximately 15,000 square miles ranging from the coastline of the Gulf of Mexico (between Port Bolivar and the Texas-Louisiana state line) to the northern and western boundaries around Toledo Bend to the Kosse, Caldwell, Somerville, and Hempstead areas (north, west, and south of College Station and Navasota) located about 100 to 180 miles inland. ETI’s entire service territory is susceptible to damage during severe weather. The most extensive damage has occurred during ice storms and hurricanes.

The construction standards, policies, procedures, and practices utilized to enhance the reliability of ETI’s transmission and distribution facilities, including overhead and underground facilities, is governed by Entergy design specifications and construction standards. The use of Entergy specifications ensures that ETI’s facilities are designed and constructed in accordance with all applicable codes, ordinances, and standard industry practices. Such design shall meet or exceed the requirements in the latest revision of the Entergy and ANSI/IEEE specifications as well as NEMA, NESC, OSHA and other national codes pertaining to the design and construction of electrical substations and transmission and distribution facilities. The use of these Entergy standards and specifications for design, material purchase and fabrication, and construction ensures that the quality of the workmanship is consistent with industry practices thereby maintaining the reliability of the utility system facilities.

ETI recognizes that a strong storm hardening strategy for both ice storms and hurricanes in its service territory includes a robust vegetation management program. The vegetation management program is discussed in ETI’s Vegetation Management Report filed in Project No. 41381 in accordance with 16 TAC §25.96.

To harden infrastructure for hurricane and ice storms, ETI’s standards follow NESC Rules 250.B (Combined Ice and Wind District Loading) and 250.C (Extreme Wind Loading) requirements for all new construction and replacement of existing infrastructure. These standards follow stringent district loading maps that are based off of historical weather data for each area. To list the individual projects, designed by these criteria, would essentially require listing all construction activities across

the service territory and as such, individual projects will not be discussed in this report.

In 2007, Entergy Corporation performed a Hurricane Hardening Study of its transmission and distribution system which was filed with the Public Utility Commission of Texas ("Commission") in Project No. 32182 on December 18, 2007. The study includes recommended strategies for hardening the transmission and distribution systems that were employed in 2019.

- A. For ETI's transmission system, the following strategies were utilized:
- When necessary to replace existing wood poles, replacement shall be with concrete or steel poles, if material is readily available.
 - Use steel or concrete poles for construction of new facilities
 - Convert interstate crossings from wood pole construction to concrete or steel construction.

ETI reports the following work accomplished in 2019 in these categories, as well as some activities in substations, that resulted in hardening the transmission infrastructure:

1. Wood Pole Maintenance Replacement

As an ongoing effort to maintain and harden transmission lines, 525 wood poles were replaced with concrete or steel poles throughout the ETI Transmission System as part of the maintenance program and capital upgrades.

2. Highway Crossing Upgrades:

a. Highway 69:

(1) 69kV L97 – Replaced two wood structures with steel structures

b. Highway 73:

(1) 69kV L117 – Replaced one wood structure with a steel structure

c. Highway 90:

(1) 138kV L10 – Replaced two wood structures with steel structures

(2) 138kV L86 – Replaced two wood structures with steel structures

(3) 138kV L510 – Replaced two wood structures with steel structures.

d. Highway 105:

(1) 69kV L56 – Replaced two wood structures with steel structures

e. Highway 770:

(1) 69kV L56 – Replaced two wood structures with steel structures

(2) 69kV L56 – Replaced two wood structures with steel structures

3. Substations:

a. Alligator Bayou – Replaced relaying on one 69kV line in Jefferson County

b. Amelia – Replaced 230kV relay panels in Jefferson County.

c. Bentwater – Replaced one 138kV/34.5kV transformer in Montgomery County

d. Big Hill – Replaced relaying on 138kV line panel in Jefferson County

e. Carroll Street Park – Replaced one 138kV bus relaying in Jefferson County

f. China – Added new 230 kV line bay with two 230kV breakers in Jefferson County and replaced relay panels

g. Dayton Bulk – Replaced one 138kV breaker in Liberty County

h. Dupont Beaumont - Replaced one 69kV breaker and relaying on one 69kV line in Jefferson County

i. Dupont Dee – Replaced one 69kV line relaying in Jefferson County

j. Elizabeth – Replaced 69kV relay panels in Jefferson County

k. Evadale – Replaced one 69kV breaker in Jasper County

l. Forest – installed one 138kV transformer in Montgomery County

m. Georegtown – Replaced relaying on one 230kV bus in Jefferson County

n. Goslin – Replaced three 34.5kV breakers in Montgomery County

- o. Gulfway - Replaced and raised control house, replaced 230kV relaying in Orange County
- p. Hanks – Replaced one 13.8kV breaker in Jefferson County
- q. Hartburg – Replaced relay panels
- r. Hearne – Install one 69/34.5kV transformer and replaced relay panels in Robertson County
- s. Heights - Installed a four-breaker ring bus in Montgomery County
- t. Helbig - Replaced 230kV relay panels in Jefferson County
- u. Huntsville – Replaced one 138kV transformer circuit switcher and one 138kV breaker in Walker County
- v. Jacinto – replaced one 230kV capacitor bank in Harris County
- w. Kolbs – Replaced one Distance to Fault Recorder (DFR) and one 69kV bus relaying in Jefferson County
- x. Lacon – Replaced one Remote Terminal Unit (RTU) in Montgomery County
- y. Meeker – Replace one 69kV breaker in Jefferson County
- z. Metro – Replace one 138kV bus relaying in Montgomery County
- aa. Navasota – Replaced one 138kV breaker and one 138kV bus relaying in Grimes County
- bb. New Caney – Replaced one 138kV/13.8kV transformer in Montgomery County
- cc. Newton – Replaced one 13.8kV breaker in Newton County
- dd. North Silsbee – Replaced one 13.8kV breaker and one Remote Terminal Unit (RTU) in Hardin County
- ee. Oak Ridge – Replaced one 13.8kV breaker in Montgomery County
- ff. Pee Dee – Replaced two 34.5kV breakers in Madison County
- gg. Poly – Replaced one 69kV/4kV transformer and relay panels in Jefferson County
- hh. Port Acres Bulk – Replaced three 230kV breakers in Jefferson County
- ii. Port Arthur Water Works – Replaced one set of 4kV switchgear breakers in Jefferson County

- jj. Port Neches – Replaced one 13.8kV breaker in Jefferson County
- kk. Porter – Replaced relay panels
- ll. Sommersville – Replaced two 138kV breakers and line relaying on two 138kV lines in Burleson County
- mm. Sour Lake – Replaced 69kV relay panels in Hardin County
- nn. Spurlock – Replaced one 13.8kV breaker in Jefferson County
- oo. Stowell – Installed five 138kV breakers, one 230kV breaker, one 230kV auto transformer, and new control house with line and relay panels in Chambers County
- pp. Tamina – Replaced one Remote Terminal Unit (RTU) and one 138kV breaker in Montgomery County
- qq. Taylor Bayou – Replaced one 69kV line relay panel in Jefferson County
- rr. Vidor - Replaced 69kV relay panels in Orange County
- ss. Viway – Replaced and raised control house, replaced one 138kV and 13.8kV relay panels in Orange County
- tt. West End – Replaced three 69kV breakers and the relaying on one 69kV bus in Jefferson County

B. For ETI's distribution system, the following strategies were utilized:

- Install minimum class 3 or larger, 45ft. or taller poles on trunk feeders for new construction or replacements.
- Install minimum class 1 or larger poles for backbone feeders south of IH-10.
- Expand installation of storm guys, and
- Convert existing wood pole interstate crossings with steel poles.

ETI reports the following work accomplished in 2019 in these categories that resulted in hardening the distribution infrastructure:

1. 4,185 distribution class 3 or larger poles were installed in addition to the projects listed below.
2. In Jefferson County, off Hwy 90, Amelia feeder 180, 2-45 ft. Class 3 wood poles, 1-50 ft. Class 3 wood poles, and 33-55 ft. Class 1 wood poles were installed.
3. In Jefferson County, Crockett feeder 198, 8-45 ft. Class 3 wood poles, 1-50 ft. Class 3 wood poles, 7-55 ft. Class 1 wood poles, 4-60 ft. Class 1 wood poles, and 10-65 ft. Class 1 wood poles were installed.
4. In Chambers County, on Highway 65 and FM1410, Stowell Feeder 232, 168-45 ft. Class 3 wood poles, 58-50 ft. Class 3 wood poles, 99-

45 ft. Class 1 wood poles, 11-50 ft. Class 1 wood poles, and 2-55 ft. Class 1 wood poles were installed.

II. Vegetation Management:

ETI's compliance with 16 TAC §25.96 (filed in Project No. 41381) fully satisfies the vegetation management planning and reporting requirements of 16 TAC §25.94(c)(2).

III. Inspecting Distribution Poles:

Inspecting distribution poles is accomplished in four main activities:

- Pole Inspection Program
- FOCUS (Find, Observe, Collect, Understand & Succeed) Program
- Backbone/Infrared Inspection Program
- Daily Activities and Storm Restoration

A. In 2019, ETI performed 15,389 pole inspections.

Metric:

ETI completed 1,406 C-Truss pole restorations and a total of 77 OSMOSE identified pole replacements.

B. FOCUS: This program selects circuits that meet certain reliability thresholds. All circuits are analyzed on a quarterly basis. Specific devices with targeted performance improvement on the identified circuits are given a detailed inspection by qualified personnel with the primary focus aimed at improving performance by mitigating potential reliability related issues. Items are identified and analyzed and corrective actions are planned and implemented.

Metric: There were 74 FOCUS projects completed in 2019 that included the inspection and improvement of facilities.

C. Backbone/Infrared Inspection Program: This program is a cyclical proactive preventative maintenance inspection. The identified circuits portions of the feeders exiting the substations are given a detailed inspection, including infrared, by qualified personnel with the primary focus aimed at maintaining or improving performance by mitigating potential reliability related issues. Items are identified and analyzed and corrective actions are planned and implemented.

Metric: ETI completed 57 Backbone/Infrared Circuits in 2019.

D. Daily Activities and Storm Restoration: In addition to the specific programs mentioned above, field personnel, in the course of their normal daily activities and during storm restoration, look for abnormalities that could affect the reliability of the electric system. ETI also encourages its interconnected

wholesale customers, who, also, have trained field personnel, to report any abnormalities in ETI's electric facilities to ETI.

IV. Summary of Activities Related to Preparing for Emergency Operations:

- A. ETI reviews its Utility Incident Response Plan (the Plan) on an annual basis and updates as necessary. The Plan was last updated on June 12, 2019.
- B. ETI participated in an event readiness exercise on May 7, 2019. The functional areas that were involved in the exercise were Planning, Operations, Logistics, Resources, Administration, Corporate Communications, Supply Chain, Customer Experience, Governmental Liaison, and Safety. The tropical damage prediction model was verified to be working correctly prior to the beginning of the 2019 hurricane season.

Several emergency support functions also conducted departmental exercises to test their specific emergency processes in May 2019.

- C. Information on Entergy's evacuation process was updated and provided to the employees who live and work in the evacuation zones prior to June 2019.
- D. Entergy is an active member of several trade association groups. These include the Edison Electric Institute ("EEI"), Texas Mutual Assistance Group, Southeast Electric Exchange Mutual Assistance Group ("SEE"), and Midwest Mutual Assistance Group. Entergy participated in the 2019 mutual assistance conferences and conference calls with these organizations. Entergy operated under the EEI or SEE guidelines when dealing with other mutual assistance companies during 2019 restoration events.
- E. During 2019, Entergy took the following steps to ensure that the necessary restoration materials and supplies were available should an event occur. It maintains a year-round storm inventory that is designated and packaged solely for storm use. Also, certain material inventory levels were increased during the hurricane season to ensure availability. Entergy has strategic alliances with vendors to provide material and equipment during emergency conditions. Entergy was an active participant in the Mutual Emergency Material Support group.
- F. As requested by the PUCT, ETI included hurricane preparedness and evacuation related public awareness information in monthly billing statements during the months of May through November in 2019.