



Control Number: 50595



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Public Utility Commission of Texas

Employee Training Report

Required by 16 Texas Admin. Code § 25.97(d)

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PUBLIC UTILITY COMMISSION
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PROJECTNO . 50595

AFFECTED ENTITY: Bryan Texas Utilities

General Information

Pursuant to 16 Texas Admin. Code § 25.97(d)(2), not later than the 30th day after the date an affected entity finalizes a material change to a document or training program, the affected entity must submit an updated report. The first report must be submitted not later than May 1, 2020.

Instructions

Answer all questions, fill-in all blanks, and have the report notarized in the Affidavit.

Affidavit

A representative of the affected entity must swear to and affirm the truthfulness, correctness, and completeness of the information provided by attaching a signed and notarized copy of the Affidavit provided with this form.

Filing Instructions

Submit four copies (an original and three copies) of the completed form and signed and notarized Affidavit to:

Central Records Filing Clerk
Public Utility Commission of Texas
1701 N. Congress Avenue
P.O. Box 13326
Austin, Texas 78711-3326
Telephone: (512) 936-7180

1. Provide a summary description of hazard recognition training documents you provide your employees related to overhead transmission and distribution facilities.

BTU requires all Transmission and Distribution personnel to attend annual NESC training directly related to the recognition of hazards and clearance violations. In accordance with the William Thomas Heath Power Line Safety Act, HB4150, and PUCT Substantive Rule 25.97, BTU has developed the following summaries of the relevant training modules and documents that BTU provides to employees.

A. Hi-Line/TEC HB 4150 Hazard Recognition course (4 hours)

Course Overview

This course focuses on equipping electric utility employees with the knowledge to recognize clearance hazards of overhead power lines. Course handout/documentation to be provided to participants.

Summary of relevant topics:

- Importance of hazard recognition for overhead power lines
- Vertical and horizontal clearance requirements
- Importance of an intact system grounding system
- Isolation or/and grounding of anchor guys
- Hazard assessment management
 - Defining criteria for hazard assessment and data collection
 - Analyzing data and determining appropriate actions lower conductors
 - Preparing and executing an action plan
- Report documentation and record maintenance

Documents provided to participants:

- Power Point Presentation
- Presentation Material Handouts

B. BTU - NESC Hazard Recognition Training (1 hour)

Course Overview

Each year, NESC hazard recognition training is provided to all Transmission and Distribution employees to insure employees are aware of potential violations. NESC clearance rules and examples of common hazards/violations are reviewed as part of the training. A handout reviewing NESC clearance rules along with pictures of various violations is provided to all employees to be used as a reference. This handout also specifies the process for identifying potential hazards and reporting these to the proper departments within BTU.

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Summary of relevant topics:

- Review of required NESC Clearances for distribution and transmission lines
- Common hazards and violations
- Process for reporting violations

Documents provided to participants:

- Presentation Material Handouts
- HB 4150 Law

2. Provide a summary description of training programs you provide your employees related to the National Electrical Safety Code for construction of electric transmission and distribution lines.

BTU requires all Transmission and Distribution design personnel to attend annual NESC training directly related to the design and construction of electric transmission and distribution lines. BTU makes several courses available for staff to attend throughout the year. The required training can be obtained by attending any combination of the listed courses as available. In accordance with the William Thomas Heath Power Line Safety Act, HB4150, and PUCT Substantive Rule 25.97, BTU has developed the following summaries of the relevant training modules that BTU provides to employees.

A. Hi-Line Engineering Comprehensive Staking Technician Certification Program
All Line Design personnel are required to attend all three phases of this program and obtain their staking certification. Course II includes NESC related topics.

Course Overview

This course provides the staking technician with a working knowledge of the NESC and how to apply the applicable rules. The focus of this course will be on those rules that specifically apply to distribution line design such as grounding, overhead line clearances, overload factors, strength reduction factors, ice loadings, and underground line construction

Summary of relevant topics:

- Purpose of the NESC
- Structure of the NESC rules
- NESC versus NEC
- Grounding requirements
- Overhead lines strength of materials
 - Grades of construction strength (B & C)
 - Ice and wind loading on conductors including extreme wind
 - Overload factors and strength reduction factors (Methods A & B)
- Clearances

- Vertical clearance over roads, agricultural land, driveways, and water
 - Horizontal and vertical clearance adjacent to poles, buildings, and signs
 - Vertical clearance of conductors crossing over lines on different supporting structures
 - Vertical and horizontal clearance of conductors on the same supporting structure
 - Vertical and horizontal clearance of communication cables from power
- NESC Line Inspection requirements
 - Frequency of inspections
 - Code violations and reporting
 - Methods of inspection
 - Foot patrol detailed inspection
- Detailed visual inspection
 - Clearances and other NESC requirements
 - Condition of conductors, structures, and equipment
 - Vegetation and environmental interference with the lines
- Pole strength or integrity

B. APPA - Overview and Practical Applications of the NESC (1-day)

Course Overview

The National Electrical Safety Code (NESC), published by the Institute of Electrical and Electronics Engineers (IEEE), is the national standard for safety in the design, construction, operation, and maintenance of electric and communication systems. This course will address the origins of the NESC and its fundamental applications to electric utility transmission and distribution systems. It will highlight the important changes that are effective with the latest edition.

Summary of relevant topics:

- NESC purpose, organization and application
- Significant revisions contained in the latest edition of the NESC
- NESC compliance, legal liability and risk management
- Rule interpretations and sources of help for compliance
- Recognition and correction of code violations
- Code interpretation questions and compliance issues contributed by course participants

C. APPA – Overhead Distribution Systems (3-days)

Course Overview

Learn about the planning, design, installation, and maintenance principles that drive today's overhead distribution practices. Learn how to update your utility's overhead line design and construction standards, make better design decisions, reduce construction costs, and enhance safety and service reliability.

Summary of relevant topics:

- NESC general requirements for overhead lines
- Overhead line clearances and structure loading (with NESC requirements)
- Overhead line grounding

D. Hi-Line/TEC - NESC Clearance Requirements (4 hours)

Course Overview

This course will educate all utility personnel whose positions require a working knowledge of the NESC rules, which can include engineers, line workers and staking technicians.

Summary of relevant topics:

- Defining sag requirements
- Ground Clearances
- Clearances to buildings and signs
- Clearances to pools and grain bins
- Joint use clearances

E. Hi-Line/TEC – Designing Transmission and Distribution Lines Crossing Lakes (1-day)

Course Overview

This course will review the applicable sections of the NESC as it relates to designing long overhead spans over lakes and the easement terms and specifications commonly found in easements with the Corps of Engineers. The course will provide a demonstration of designing a lake crossing using software such as Pole Foreman and Sag 10.

Summary of relevant topics:

- Requirements of HB 4150
- Lake crossing issues
- NESC requirements for lake crossings
- Corps of Engineers easement requirements
- Determining lake crossing clearances
 - High water
 - Sag/Tension for long crossings
 - Worst case sag
- Example problems

F. Hi-Line/TEC – NESC Clearance Review of Existing Transmission Lines (1-day)

Course Overview

This course is designed for operations personnel and staking technicians. It specifically relates to construction of transmission and distribution facilities. This training will provide the skill sets necessary to inspect transmission lines without using LiDAR.

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Summary of relevant topics:

- Sag and Tension definition
- Vertical clearance above ground and water surfaces
- Vertical clearance from other utilities
- Identification of activity below the utility line
- Example problems using Sag 10
 - Effect of long and short spans
 - Effect of grade along the line
- Determining the tension of an existing line
 - Sag measurements
 - Calculation of tension based on sag
- Use of software to determine ground elevations
- Example problems

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AFFIDAVIT

I swear or affirm that I have personal knowledge of the facts stated in this report or am relying on people with personal knowledge, that I am competent to testify to them, and that I have the authority to submit this report on behalf of the affected entity. I further swear or affirm that all statements made in this report are true, correct, and complete.

Mary Downs
Signature

Mary Downs
Printed Name

Regulatory Compliance Officer
Job Title

Bryan Texas Utilities
Name of Affected Entity

Sworn and subscribed before me this 30th day of April, 2020.
Month Year



Cyndi Massey
Notary Public in and For the State of Texas.
My commission expires on 3/31/2022.