



Control Number: 50595



Item Number: 5

Addendum StartPage: 0



Public Utility Commission of Texas

**Employee Training Report
Required by 16 Texas Admin. Code § 25.97(d)**

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PUBLIC UTILITY COMMISSION
FILING CLERK

PROJECT NO. 50595

AFFECTED ENTITY: HILCO Electric Cooperative, Inc.

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

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Affected Entity: HILCO Electric Cooperative PROJECT NO. 50595

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

Attached is the hazard recognition training material that was covered for HILCO Electric Cooperative by TEC Loss Control Department (Texas Electric Cooperatives)



TEC 2020

C•O•R•E TRAINING

TEC's Co-Operative Regional Education program brings instructor-led workshops to Co-op Country!

C•O•R•E classes are both convenient and relevant, with training and educational opportunities for both co-op leaders and employees. The program provides inclusive training at specific co-op locations or regional training hosted by co-ops willing to provide their facility—it's your choice! For more information or to schedule C•O•R•E training, contact Monica Beavers at mbeavers@texas-ec.org.

Training in response to William Thomas Heath Power Line Safety Act—HB 4150

Based on the mandates in HB 4150, utilities must provide a report with a summary description of the hazard recognition training documents and training programs related to the NESC for the construction of electric transmission and distribution lines provided to employees. Based on these requirements, Hi-Line and TEC offer the following training options:

Hazard Recognition

This four-hour course focuses on equipping electric utility employees with the knowledge to recognize clearance hazards of overhead power lines. HB 4150 Section 38.102(a)(1) requires utilities to provide hazard recognition training for overhead transmission and distribution lines. The training is different than the site hazard recognition training required by OSHA.

Course outline:

- 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
 - › Preparing and executing an Action plan
- Report documentation and record maintenance

NESC Clearance Requirements

This four-hour course was created to educate all utility personnel whose positions require a working knowledge of the NESC rules, which can include engineers, line workers and staking technicians.

Course outline:

- Defining sag requirements—Rule 230 2
- Ground clearances—Table 232-1 and 232-2
- Clearances to building and signs—Table 234-1
- Clearances to pools and grain bins—Rule 234E and 234F
- Joint use clearances—Rule 235, 238, and 239

Designing Transmission and Distribution Lines Crossing Lakes

This one-day program was created based on the mandates in HB 4150 outlining that utilities may wish to review all lake crossings for adequate clearances as defined by Rule 232 of the NESC and for compliance with the U.S. Army Corps of Engineers easement requirements.

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

Course outline:

- Requirements of the HB 4150
- Lake crossing issues
- NESC requirements for lake crossings
 - › Rule 232 clearances
 - › Rule 241 required grade of construction of crossing lakes
 - › Rule 250D application of extreme ice
 - › Rule 250C extreme wind
 - › Rule 235Cb design considerations for wire slap and sag to lower conductors
- Corps of Engineers easement requirements
 - › Vertical clearance requirements
 - › Additional clearance requirements for areas designated for rigging or launching sailboats
- Determining lake crossing clearances
 - › High water
 - › Sag and tension for long crossings
 - › Worst case sag
- Additional considerations
 - › Transmission adders
 - › Marker balls
- Example problems



C•O•R•E TRAINING

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HB 4150 TRAINING CONTINUED

NESC Clearance Review of Existing Transmission Lines

This one-day course is designed for operations personnel and staking technicians. It relates to the section of the mandate requesting that utilities submit a report on training related to the NESC for the "construction of transmission and distribution facilities."

This training will concentrate on NESC Section 232—Vertical Clearances. Further, the training will provide the skillsets necessary to inspect transmission lines without creating a model of the line using LiDAR.

Course outline:

- Rule 232B sag and tension definition
- Rule 232 vertical clearance above ground and water surfaces
- Rule 233 vertical clearance from other utilities
- Identification of activity below the utility line
- Example problems using Sag10
 - › 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

INTRODUCTION

In accordance with the William Thomas Heath Power Line Safety Act, HB 4150, and PUCT Substantive Rule 25.97, **HILCO Electric Cooperative** is providing a summary description of training programs provided to employees related to overhead transmission and distribution lines. Among other things, this training includes hazard recognition, adherence to NESC guidelines for construction, operation and maintenance of transmission and distribution lines. Training also includes NESC Rule 232, clearance requirements over any of the 178 lakes listed in the Act. Included herein are summaries of the current training modules **Texas Electric Cooperative** provides to employees.

TRAINING SUMMARIES

Summary of TEC Hotline School I-IV (four-day course)

Line Construction I—Rubber Gloving from Bucket this course is designed for employees at the apprentice level who have performed some rubber gloving from an aerial device on energized conductors. these students should have safely performed limited live line work from an aerial device with full supervision. through this course, students gain extensive hands-on training and experience during training exercises with experienced craftsmen, who provide one-on-one training. after completing this course, students should be able to perform basic rubber-gloving techniques safely.

Line Construction II—this course is designed for employees in an advanced stage of apprenticeship training who have at least a year of experience safely performing rubber gloving from an aerial device with full supervision. students should also have experience performing live line work from an aerial device with full supervision, and should be able to perform live line work safely. Through this course, students gain extensive hands-on training and experience during training exercises with experienced craftsmen, who provide one-on-one training on three-phase construction. After completing this course, the students should be able to perform rubber-gloving techniques safely and plan hot work in a safe and proper work order.

Line Construction III—this course is designed for experienced line technicians in all phases of overhead construction and work performance who deal with multiple hazards associated with overhead line work. students gain extensive hands-on training and experience during the training exercises.

Line Construction IV—this course is designed for experienced line technicians in all phases of overhead construction and work performance, work procedures, and dealing with sCaDa, grounding and multi-task job performances. the students will get extensive hands-on training and experience during the training exercises.

Summary of TEC Troubleshooting School (four-day course)

This course provides instruction on basic electricity, identifying and correcting line service complaints, identifying errors associated with customer equipment and services, identifying and using all personal protective equipment and cover-up when working on energized equipment, and identifying and understanding all systematic switching procedures to isolate faulted energized equipment and services on overhead and underground systems.

Summary of TEC Safety Meeting HB4150 Training (two- to four-hour course)

The training will include an overview of HB 4150 with an explanation of requirements for the utilities operating in Texas. It will also include hazard recognition training as it applies to the requirements of compliance with the National Electric Safety Code (NESC). This will include clearance requirements for lands, roadways, and waterways. The employee training will define to whom, when and how the bill applies. As well as explanation of guidelines, requirements, and deadlines for filing reports. A portion of the course will include hazard recognition and an explanation of clearance guideline requirements preparing employees to proactively recognize and report hazards and clearance related issues on their utilities' system.

Course Outline:

1. HB 4150 Review

2. Hazard Recognition
3. NESC Clearance Guideline Requirements

Course Materials:

1. Power Point Presentation
2. Presentation Material Handouts
3. NESC Clearance Handouts
4. HB 4150 Law

Summary of Transmission Webinar for PURA §38.102 (one-hour course to accompany TEC Safety Meeting)

PURA §38.102 requires electric utilities including electric cooperatives and municipally owned utilities to provide training to employees related to the National Electric Safety Code (NESC) for construction of electric transmission and distribution lines. This webinar discusses the requirements for transmission facilities which are defined as facilities operating above 60 kV. The webinar will not include discussions regarding distribution lines. This training will focus on transmission clearances, strength issues, and access of overhead transmission lines.

Course Outline:

1. Maximum Operating Temperature and Sag Requirements for Transmission Conductors
2. Additional Ground Clearance Requirements for Transmission Lines
 - a. Maximum Operating Voltage
 - b. Elevation above Sea Level
 - c. Electrostatic Effects to Vehicles below the Line.
3. Additional Clearances from Building/Signs
 - a. Deflection of Insulators
 - b. Deflection of Structures
 - c. Clearance Based on Maximum Operating Voltage
 - d. Limited Electrostatic Effects to Buildings and Signs below the Line
4. Mid-span Conductor Clearances
5. Power Lines and Phone Lines Crossing below Transmission Lines
6. Grade of Construction for Voltages Over 22kV
 - a. Guying Strength Requirements
 - b. Under-build Strength Requirements
7. Identification of Climable Supporting Structures

Objectives:

1. Determine appropriate clearances for transmission lines.
2. Define maximum sag for determined clearances.
3. Identify strength requirements for transmission facilities

Summary of Hazardous Recognition Training for Transmission Facilities (one-hour course to accompany TEC Safety Meeting)

PURA §38.102 requires electric utilities including electric cooperatives and municipally owned utilities to provide hazard recognition training related to overhead transmission and distribution facilities. For the purposes of this training, transmission facilities include those electric facilities operating above 60 kV. One of the challenges to recognizing hazards inherent to transmission facilities is the significant changes in conductor sag for transmission lines. The goal for this training is to educate employees to observe, recognize and report hazardous situations.

Course Outline:

1. Definition of a Hazard
2. Hazards to Report
 - a. Non-compliance with NESC

- b. Failed System Components
 - c. Failure of Warning Lights/Marker Balls
- 3. Summary of Clearances for Transmission Facilities
- 4. Recognition of Changes in Conductor Sag for Long Spans
- 5. Activities near the Line
 - a. Grading
 - b. Crane Operation OSHA 1926.1408(a)
 - c. Scaffold Clearances OSHA 1926.451(f)
 - d. Construction of Adjacent Buildings/Signs
- 6. Right-of-way Issues
 - a. Danger Trees
 - b. Dead Trees
 - c. Erosion of the Right-of-Way
- 7. Priorities of Reported Issues
- 8. Record Keeping Requirements

Objectives:

- 1. Define hazards associated with transmission lines.
- 2. Identify appropriate distance for cranes from power lines.
- 3. Identify required clearances for transmission line related to roads and buildings.
- 4. Define a danger tree.

Summary of Hazard Recognition (four-hour C•O•R•E course)

HB 4150 Section 38.102(a)(1) requires utilities to provide a summary of hazard recognition training documents for overhead transmission and distribution lines. Hazard recognition training focuses on equipping electric utility employees with the knowledge to recognize clearance hazards of overhead power lines.

Course Outline:

- 1. Importance of Hazard Recognition for Overhead Power Lines
- 2. Vertical and horizontal clearance requirements
- 3. Importance of an intact system grounding system
- 4. Isolation or/and grounding of anchor guys
- 5. Hazard Assessment Management
- 6. Defining Criteria for Hazard Assessment and Data Collection
- 7. Analyzing Data and Determining Appropriate Actions
- 8. Preparing and Executing an Action Plan
- 9. Report Documentation and Record Maintenance

Summary of NESC Clearance Requirements (four-hour C•O•R•E course)

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.

Course outline:

- 1. Defining sag requirements—Rule 230 2
- 2. Ground clearances—Table 232-1 and 232-2
- 3. Clearances to building and signs—Table 234-1
- 4. Clearances to pools and grain bins—Rule 234E and 234F
- 5. Joint use clearances—Rule 235, 238, and 239

Summary of Designing Transmission and Distribution Lines Crossing Lake (one-day C•O•R•E course)

This training reviews clearances as defined by Rule 232 of the NESC and compliance with the U.S. Army Corps of Engineers easement requirements. This training class will review the applicable sections of

the NESC as it relates to designing long spans over lakes and the easement terms and specifications commonly found in easements with the Corps of Engineers. The training provides a demonstration of designing a lake crossing using software such as Pole Foreman and Sag 10.

Course Outline:

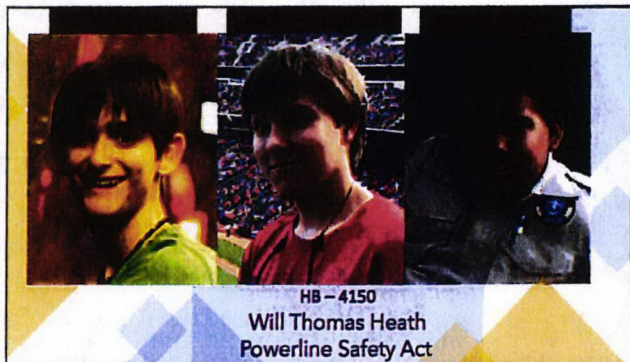
1. Requirements of the HB 4150
2. Lake Crossing Issues
3. NESC Requirements for Lake Crossings
 - a. Rule 232 Clearances
 - b. Rule 241 Required Grade of Construction of crossing lakes
 - c. Rule 250D Application of Extreme Ice
 - d. Rule 250C Extreme Wind
 - e. Rule 235Cb Design Considerations for Wire Slap and Sag to Lower Conductors
4. Corps of Engineers Easement Requirements
 - a. Vertical Clearance Requirements
 - b. Additional Clearance Requirements for Areas Designated for Rigging or Launching Sail Boats
5. Determining Lake Crossing Clearances
 - a. High Water
 - b. Sag and Tension for Long Crossings
 - c. Worst Case Sag
6. Additional Consideration
 - a. Transmission Adders
 - b. Marker Balls
7. Example problems

NESC Clearance Review of Existing Transmission Lines (one-day C•O•R•E course)

HB 4150 Section 38.102(2) requires utilities to submit a report on training related to the NESC for the "construction of transmission and distribution facilities." This training will concentrate on NESC Section 232-Vertical Clearances. Further, the training will provide the skill sets necessary to inspect transmission lines without creating a model of the line using LiDAR. The target audience for the class will be operations personnel and staking technicians.

Course Outline:

1. Rule 232B Sag and Tension Definition
2. Rule 232 Vertical Clearance above Ground and Water Surfaces
3. Rule 233 Vertical Clearance from Other Utilities
4. Identification of Activity below the Utility Line
5. Example Problems Using Sag10
 - a. Effect of Long and Short Spans
 - b. Effect of Grade along the Line
6. Determining the Tension of an Existing Line
 - a. Sag Measurements
 - b. Calculation of Tension Based on Sag
7. Use of Software to Determine Ground Elevations
8. Example problems



• Texas Governor Greg Abbott signed the William Thomas Heath Power Line Safety Act, HB 4150 into law on June 14, 2019, with the Act becoming effective September 1, 2019.



• The Act requires utilities to submit various reports on training, inspections, compliance, and incidents. The first report is due by May 1, 2020.

Utilities Required to Train & Report

There are three categories of electric utilities required to submit various reports to the Texas Public Utilities Commission.

1. Electric utilities with distribution facilities only.
2. Electric utilities with transmission facilities only.
3. Electric utilities with both distribution and transmission facilities.

Some of these reports will be annual and some on a 5 year reporting schedule. Again, the first of these reports are due May 1, 2020.

Requirements – Training Sec. 38.102. REPORTS ON SAFETY PROCESSES AND INSPECTIONS.

What does It Say?

1. Submit Summary of Hazard Recognition Training for Employees
2. Submit Summary of NESC Training for Employees
3. Submit within 30 days any Changes to Report or Program

Requirements – Training Sec. 38.102. REPORTS ON SAFETY PROCESSES AND INSPECTIONS.

What does It Say?

1. For Utilities Owning or Operating Transmission above 60 KV Every 5 years a Report Must be Submitted to the Commission. No later than May 1st.
2. Report must Include the Percent of the Transmission System Inspected in the Period Relating to NESC Vertical Clearances
3. The Percent Anticipated to be Inspected in the Period Relating to NESC Vertical Clearance

Requirements – Training Sec. 38.102. REPORTS ON SAFETY PROCESSES AND INSPECTIONS.

For Utilities Owning or Operating Transmission above 60 KV

1. Every year by May 1st a Report Including the Number of Noncompliance Occurrences Identified and Whether They Have Actual Knowledge of Any Portions Which are Noncompliant with NESC Vertical Clearances.
2. Whether They Have Actual Knowledge of Any Violations of Easement Agreements with U.S. Corp of Engineers.

Note: U S Army Corps of Engineers have jurisdiction over all navigable water in the United States. Their clearance requirements and easement agreements are usually more stringent than the NESC but the more stringent regulation of the two shall be conformed to.

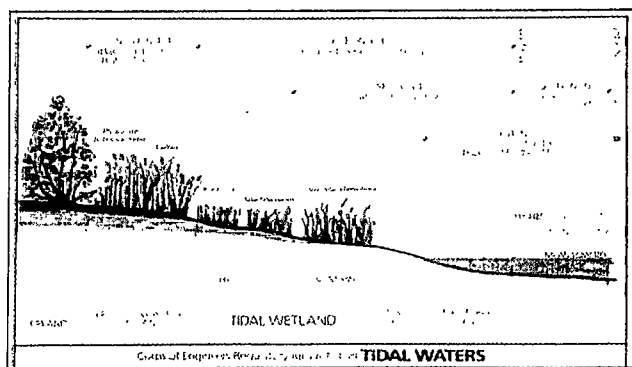


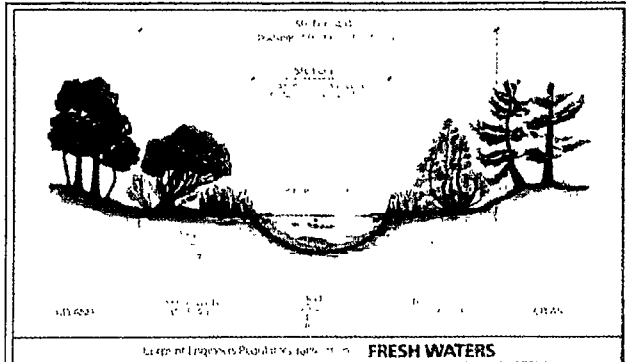
US Army Corps
of Engineers.

Recognition of Army Corps of Engineers Authority is in

What are the Limits of the Corps Jurisdiction?

- The Corps regulations broadly define two important terms, "waters of the United States" for the purpose of Section 404 of the Clean Water Act; and "navigable waters of the United States" for Section 10 of the Rivers and Harbors Act.
- Section 404 of the Clean Water Act defines the landward limit of jurisdiction as the high tide line in tidal waters and the ordinary high water mark as the limit in non-tidal waters.





Requirements – Reporting Sec. 38.102. REPORTS ON SAFETY PROCESSES AND INSPECTIONS.

What Does It Say?

Every System Operating Above 60KV Transmission and Above 1KV Distribution Must Submit a Report Each Year No Later than May 1st

Including the Number of Fatalities or Injuries to Nonqualified Persons Involving Noncompliant Portions of the System

And a Description of Corrective Actions Taken or Planned to Prevent the Reoccurrence of Fatalities or Injuries.

Requirements – Reporting Sec. 38.102. REPORTS ON SAFETY PROCESSES AND INSPECTIONS.

Violations and Incidents Resulting from a Natural Disaster, Weather Event, or Force Outside of a Utility's Control are not Required to be Included in the Reports

By September 1, Each Year the Commission Shall Make the Reports Publicly Available on the Commission's Internet Website.

The Report, is not Admissible in a Civil or Criminal Proceeding Against the Electric Utility or the Utility's Employees, Directors, or Officers.

The Commission May Otherwise Take Enforcement Actions Under The Commission's Authority.

Understanding Chapter 38 Section 38.004 of the Texas Utilities Code: Minimum Clearance Standard

Sec. 38.004. MINIMUM CLEARANCE STANDARD.

(a) **Notwithstanding Any Other Law**, A Transmission Or Distribution Line Owned by An Electric Utility Must Be Constructed, Operated, and Maintained, as to Clearances, in the Manner Described by the National Electrical Safety Code Standard ANSI (C)2), as Adopted by the American National Safety Institute and in Effect at the Time of Construction.

Means that even if something is written that is opposite in meaning to the provision; the provision will still apply. It is a formal way of saying, that the provision will ALWAYS apply. In this case, even if the act or any other law says something opposed to that provision, it doesn't matter.

**Understanding Chapter 38 Section 38.004 of the
Texas Utilities Code: Minimum Clearance Standard**

Sec. 38.004. MINIMUM CLEARANCE STANDARD.

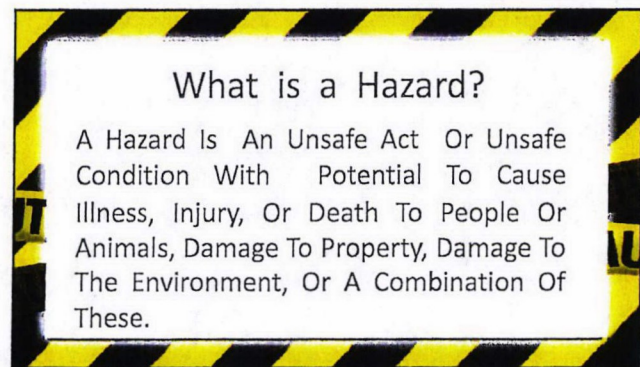
(b) Electric Utilities, Shall Meet The Minimum Clearance Requirements Specified In Rule 232 of the National Electrical Safety Code Standard ANSI (c)(2) in the Construction of any Transmission or Distribution Line Over All of The 178 Lakes Listed in This Section. (Hand-Out)

**CHAPTER 38. REGULATION OF ELECTRIC SERVICES
SUBCHAPTER A. STANDARDS**

Sec. 38.001. GENERAL STANDARD.

An Electric Utility Shall Furnish Service, Instrumentalities, and Facilities that are Safe, Adequate, Efficient, and Reasonable.

Meeting This Standard Means That Utilities Must Maintain Their System's Infrastructure in a Safe, Reliable Condition for the Public, as Well as for Employees.



Hazard Recognition

Designed to Identify, Report, Repair, Eliminate and Document any Potential Hazard on the Utilities' Infrastructure.

Reporting Hazardous Conditions

When A Hazardous Condition Is Observed, Regardless Of The Department In Which The Condition Exists, The Employee Shall Report It Promptly To A Proper Authority And When Necessary Guard The Area.

Some Reasons Why....

- Your Safety
- Your Crew's Safety
- The Public's Safety
- Company Policy
- Safety Manual

Reporting Hazardous Conditions Continued

An Employee Who Receives A Report Of Any Hazardous Emergency Condition Shall Try To Obtain The Name Of The Informant, The Exact Location, And The Nature Of The Trouble/Hazard. The Employee Shall Immediately Refer This Information To The Person Having Responsibility For Such Matters.

Hazard Types

1. Obvious Hazards
2. Concealed Hazards
3. Developing Hazards
4. Transient Hazards

No program means...

- Service Disruption
- Strained Public Relations
- Possible Litigation



Some people never realize that they are in danger from their actions.



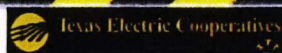
Hazards can be created in many ways.

- Be Vigilant In Recognizing Hazards
- Don't Be Afraid To Turn In Suspicious Looking Problems.
- Use Common Sense
- If Any Question About Safety, Take Care Of The Problem ASAP.

Clearance Requirements 2017 NESC Table 232-1



Know Your Required Power Line Clearances

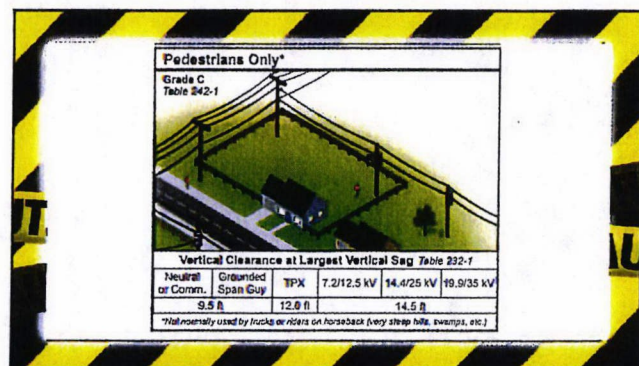
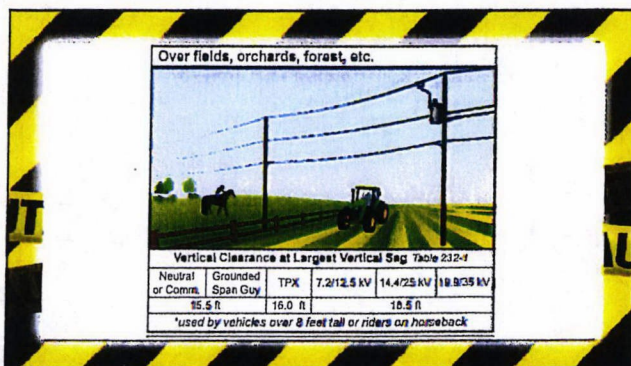
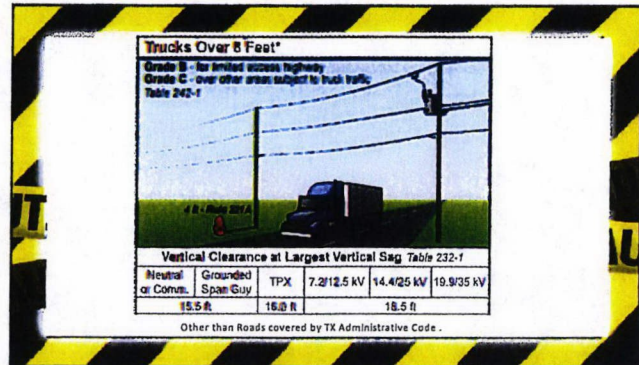
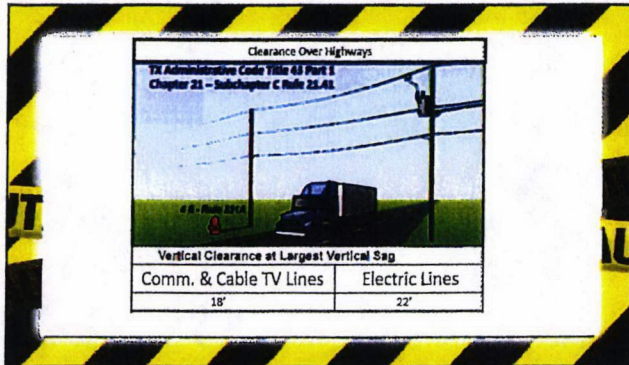


Railroads*
Grade B
Table 242-1

Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm. Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
23.5 ft	24.0 ft	26.5 ft		

**Railroad company may require greater clearance*



The NESC Clearance Requirements Are Different Depending On Whether Or Not The Waterway Is Suitable For Sail-boating.

Additionally, the NESC Publishes Separate Clearance Requirements For Areas That Are Posted For Rigging Or Launching Sailboats.

Where The Body Of The Water Is Not Suitable For Sailing Or Where Sailing Is Prohibited, The Minimum Clearance For Electrical Lines Is Always 17 Feet.

Water - No Sailboats

Always 17' unless a crossing permit is required
Table 232-1



Vertical Clearance at Largest Vertical Sag Rate 232-1

Neutral or Conductor	Span Guy	WPK	7.2/12.5 kV	14.4/25 kV	18.9/35 kV
14.0 ft	14.5 ft		17.0 ft		

*see NESC for sailboat clearances

In Waterways Suitable For Sailing, The NESC Clearance Requirement Changes Depending On The Surface Area Of The Body Of Water. The Larger The Body Of Water, The Higher The Required Clearance. Below Are The NESC Clearances For Waterways Suitable For Sailing:

- If The Surface Area Is Less Than 20 Acres, The Minimum Clearance Is 20.5 Feet;

Sailing

- If The Surface Area Is Between 20 And 200 Acres, The Minimum Clearance Is 28 Feet;
- If The Surface Area Is Between 200 And 2,000 Acres, The Minimum Clearance Is 34 Feet;
- If The Surface Area Is Over 2,000 Acres, The Minimum Clearance Is 40 Feet.

As With The Waterways Suitable For Sailing, NESC Clearances For Electrical Lines In Areas Posted For Rigging Or Launching Sailboats Change Depending On Surface Area Of The Body Of Water. Below Are The NESC Clearance Requirements For Land Or Water Areas That Are Posted For Rigging Or Launching Sailboats:

- If The Surface Area Is Less Than 20 Acres, The Minimum Clearance Is 25.5 Feet;

Rigging Or Launching Sailboats

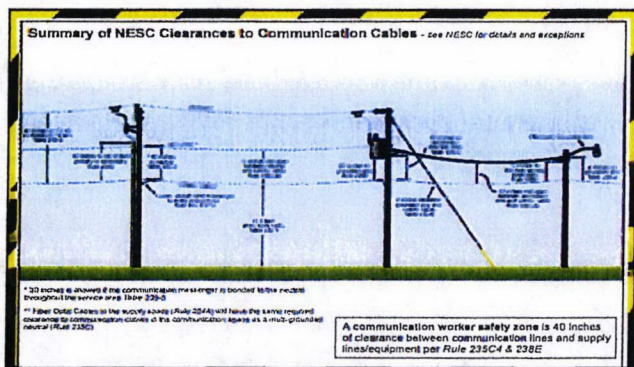
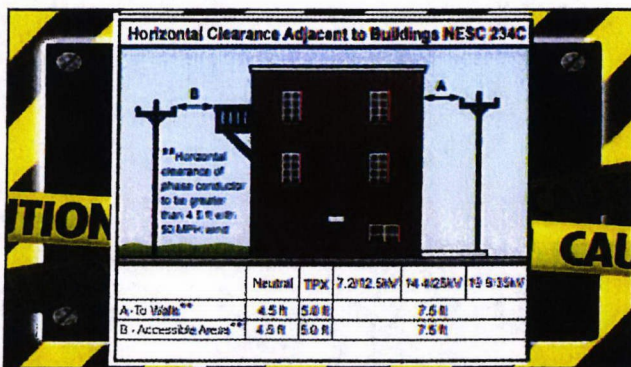
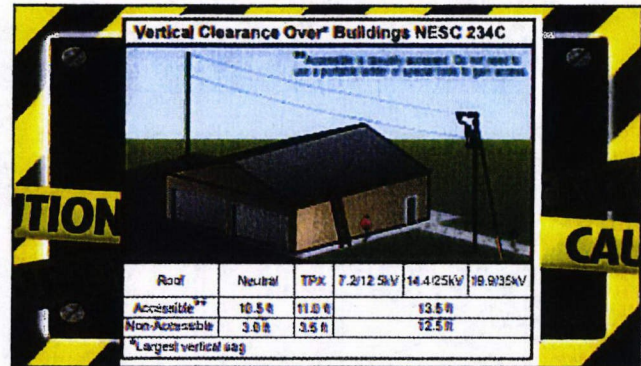
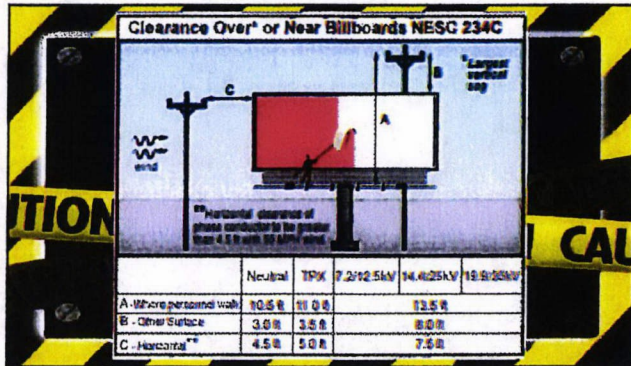
- If The Surface Area Is Between 20 And 200 Acres, The Minimum Clearance Is 33.5 Feet;
- If The Surface Area Is Between 200 And 2000 Acres, The Minimum Clearance Is 39.5 Feet;
- If The Surface Area Is Over 2000 Acres, The Minimum Clearance Is 45.5 Feet.

NESC

Clearances are Measured Based Upon The Highest Water Level.

If The Body Of Water Is Uncontrolled, The Clearance Is Measured Based Upon The Normal Flood Level.

The NESC Provides That, If Available, The Ten-year Flood Level May Be Assumed As The Normal Flood Level.



Affected Entity: HILCO Electric Cooperative PROJECT NO. 50595

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.

Attached is NESC for construction of electric transmission and distribution training material that was covered for HILCO Electric Cooperative by TEC Loss Control Department.
(Texas Electric Cooperatives)

2017 NESC Vertical Clearances

Railways

Neutral	23.5 ft
TPX	24 ft
Dist. Primary	26.5 ft

Fields, Orchards, Forest, Etc.

Neutral and Span Guy	15.5 ft
TPX	16 ft
Dist. Primary	18.5 ft

Highways – TX Administrative Code

Communications and Cable TV	18 ft
Electrical Lines	22 ft

Pedestrians Only

Neutral and Span Guy	9.5 ft
TPX	12 ft
Dist. Primary	14.5 ft

Trucks Over 8 ft.

Neutral and Span Guys	15.5 ft
TPX	16 ft
Dist. Primary	18.5 ft

Water – No Sailboat

Neutral and Span Guy	14 ft
TPX	14.5 ft
Dist. Primary	17 ft

Waterways Suitable for Sailing		Rigging or Launching Areas
Less Than 20 Acres		
Neutral and Span Guy	17.5 ft	22.5 ft
TPX	18 ft	23 ft
Dist. Primary	20.5 ft	25.5 ft
20 to 200 Acres		
Neutral and Span Guy	25.5 ft	30.5 ft
TPX	26 ft	31 ft
Dist. Primary	28.5 ft	33.5 ft
200 to 2,000 Acres		
Neutral and Span Guy	31.5 ft	36.5 ft
TPX	32 ft	37 ft
Dist. Primary	34.5 ft	39.5 ft
Over 2,000 Acres		
Neutral and Span Guy	37.5 ft	42.5 ft
TPX	38 ft	43 ft
Dist. Primary	40.5 ft	45.5 ft

Requirements – Training Sec. 38.102. REPORTS ON SAFETY PROCESSES AND INSPECTIONS.

(a) Each electric utility, municipally owned utility, and electric cooperative that owns or operates overhead transmission or distribution assets shall submit to the commission a report that includes:

(1) a summary description of hazard recognition training documents provided by the utility or electric cooperative to its employees related to overhead transmission and distribution facilities; and

(2) a summary description of training programs provided to employees by the utility or electric cooperative related to the National Electrical Safety Code for the construction of electric transmission and distribution lines.

(b) An electric utility, municipally owned utility, or electric cooperative shall submit an updated report not later than the 30th day after the date the utility or electric cooperative finalizes a material change to a document or program included in a report submitted under Subsection (a).

(c) Not later than May 1 every five years, each electric utility, municipally owned utility, and electric cooperative that owns or operates overhead transmission facilities greater than 60 kilovolts shall submit to the commission a report for the preceding five-year period ending on December 31 of the preceding calendar year that includes:

(1) the percentage of overhead transmission facilities greater than 60 kilovolts inspected for compliance with the National Electrical Safety Code relating to vertical clearance in the reporting period; and

(2) the percentage of the overhead transmission facilities greater than 60 kilovolts anticipated to be inspected for compliance with the National Electrical Safety Code relating to vertical clearance during the five-year period beginning on January 1 of the year in which the report is submitted.

(d) Subject to Subsection (f), not later than May 1 of each year, each electric utility, municipally owned utility, or electric cooperative that owns or operates overhead transmission facilities greater than 60 kilovolts shall submit to the commission a report on the overhead transmission facilities for the preceding calendar year that includes information regarding:

(1) the number of identified occurrences of noncompliance with Section 38.004 regarding the vertical clearance requirements of the National Electrical Safety Code for overhead transmission facilities;

(2) whether the utility or electric cooperative has actual knowledge that any portion of the utility's or electric cooperative's transmission system is not in compliance with Section 38.004 regarding the vertical clearance requirements of the National Electrical Safety Code; and

(3) whether the utility or electric cooperative has actual knowledge of any violations of easement agreements with the **United States Army Corps of Engineers** relating to Section 38.004 regarding the vertical clearance requirements of the National Electrical Safety Code for overhead transmission facilities.

Note: U S Army Corps of Engineers have jurisdiction over all navigable water in the United States. Their clearance requirements and easement agreements are usually more strict than the NESC but the more stringent regulation of the two shall be conformed to.

(e) Subject to Subsection (f), not later than May 1 of each year, each electric utility, municipally owned utility, or electric cooperative that owns or operates overhead transmission facilities greater than 60 kilovolts or distribution facilities greater than 1 kilovolt shall submit to the commission a report for the preceding calendar year that includes:

(1) the number of fatalities or injuries of individuals other than employees, contractors, or other persons qualified to work in proximity to overhead high voltage lines involving transmission or distribution assets related to noncompliance with the requirements of Section 38.004; and

(2) a description of corrective actions taken or planned to prevent the reoccurrence of fatalities or injuries described by Subdivision (1).

(f) Violations resulting from, and incidents, fatalities, or injuries attributable to a violation resulting from, a natural disaster, weather event, or man-made act or force outside of a utility's or electric cooperative's control are not required to be included in

the portions of the reports required under Subsections (d) and (e).

(g) Not later than September 1, each year the commission shall make the reports publicly available on the commission's Internet website.

(h) A report, and any required information contained in a report, made on an incident or violation under this section is not admissible in a civil or criminal proceeding against the electric utility, municipally owned utility, or electric cooperative, or the utility's or electric cooperative's employees, directors, or officers. The commission may otherwise take enforcement actions under the commission's authority.

Sec. 38.004. MINIMUM CLEARANCE STANDARD.

(a) **Notwithstanding any other law**, a transmission or distribution line owned by an electric utility or an electric cooperative must be constructed, operated, and maintained, as to clearances, in the manner described by the National Electrical Safety Code Standard ANSI (c)(2), as adopted by the American National Safety Institute and in effect at the time of construction.

Means that even if something is written that is opposite in meaning to the provision; the provision will still apply. It is a formal way of saying, that the provision will ALWAYS apply. In this case, even if the act or any other law says something opposed to that provision, it doesn't matter.

(b) An electric utility, municipally owned utility, or electric cooperative shall meet the minimum clearance requirements specified in Rule 232 of the National Electrical Safety Code Standard ANSI (c)(2) in the construction of any transmission or distribution line over all of the 178 lakes listed in this section.

Lakes Listed IN Section 38.004

(1) Abilene; (2) Alan Henry; (3) Alvarado Park;
(4) Amistad; (5) Amon G. Carter; (6) Aquilla;
(7) Arlington; (8) Arrowhead; (9) Athens;
(10) Austin; (11) Averhoff; (12) B. A. Steinhagen;
(13) Bachman; (14) Balmorhea; (15) Bardwell;
(16) Bastrop; (17) Baylor Creek; (18) Belton;
(19) Benbrook; (20) Big Creek; (21) Bob Sandlin;
(22) Bonham; (23) Bonham State Park; (24) Brady Creek;
(25) Brandy Branch; (26) Braunig; (27) Brazos;
(28) Bridgeport; (29) Brownwood; (30) Bryan;
(31) Bryson; (32) Buchanan; (33) Buffalo Creek;
(34) Buffalo Springs; (35) Caddo; (36) Calaveras;
(37) Canyon; (38) Casa Blanca; (39) Cedar Creek;
(40) Champion Creek; (41) Choke Canyon; (42) Cisco;
(43) Cleburne State Park; (44) Clyde; (45) Coffee Mill;
(46) Coleman; (47) Coletto Creek; (48) Colorado City;
(49) Conroe; (50) Cooper; (51) Corpus Christi;
(52) Crook; (53) Cypress Springs; (54) Daniel;
(55) Davy Crockett; (56) Diversion; (57) Dunlap;
(58) Eagle Mountain; (59) E. V. Spence; (60) Fairfield;
(61) Falcon; (62) Fayette County; (63) Findley;
(64) Fork; (65) Ft Parker State Park; (66) Ft Phantom Hill;
(67) Fryer; (68) Georgetown; (69) Gibbons Creek;
(70) Gilmer; (71) Gladewater; (72) Gonzales;
(73) Graham; (74) Granbury; (75) Granger;
(76) Grapevine; (77) Greenbelt; (78) Halbert;

(79) Hawkins; (80) Holbrook; (81) Hords Creek;
(82) Houston; (83) Houston County;(84) Hubbard Creek;
(85) Inks; (86) Jacksboro; (87) Jacksonville;
(88) J. B. Thomas; (89) Joe Pool; (90) Kemp;
(91) Kickapoo; (92) Kirby; (93) Kurth;
(94) Lady Bird; (95) Lake O' The Pines; (96) Lavon;
(97) Leon; (98) Lewisville; (99) Limestone;
(100) Livingston; (101) Lone Star; (102) Lost Creek;
(103) Lyndon B. Johnson; (104) Mackenzie;(105) Marble
Falls;
(106) Marine Creek; (107) Martin Creek;
(108) McClellan; (109) Medina; (110) Meredith;
(111) Meridian State Park; (112) Mexia; (113) Mill Creek;
(114) Millers Creek; (115) Mineral Wells;
(116) Monticello; (117) Moss; (118) Mountain Creek;
(119) Muenster; (120) Murvaul; (121) Nacogdoches;
(122) Naconiche; (123) Nasworthy; (124) Navarro Mills;
(125) New Ballinger; (126) Nocona; (127) Oak Creek;
(128) O. C. Fisher; (129) O. H. Ivie; (130) Palestine;
(131) Palo Duro; (132) Palo Pinto; (133) Pat Cleburne;
(134) Pat Mayse; (135) Pinkston; (136) Placid;
(137) Possum Kingdom;(138) Proctor;(139) Purtis Creek;
(140) Quitman; (141) Raven; (142) Ray Hubbard;
(143) Ray Roberts (144) Red Bluff; (145) Richland-
Chambers;
(146) Sam Rayburn;(147) Sheldon;(148) Somerville;
(149) Squaw Creek; (150) Stamford; (151) Stillhouse
Hollow;

(152) Striker; (153) Sulphur Springs; (154) Sweetwater;
(155) Tawakoni; (156) Texana; (157) Texoma;
(158) Timpson; (159) Toledo Bend; (160) Tradinghouse
Creek;
(161) Travis; (162) Twin Buttes; (163) Tyler;
(164) Waco; (165) Walter E. Long; (166) Waxahachie;
(167) Weatherford; (168) Welsh; (169) Wheeler Branch;
(170) White River; (171) White Rock; (172) Whitney;
(173) Wichita; (174) Winnsboro; (175) Winters-Elm
Creek;
(176) Wood; (177) Worth; (178) Wright Patman;

Affected Entity: HILCO Electric Cooperative PROJECT NO. 50595

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.

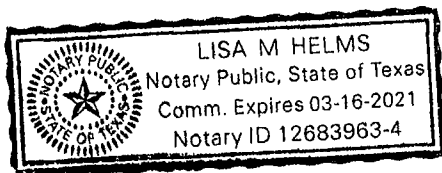
[Signature]
Signature

Thomas Cheek
Printed Name

CEO / GM
Job Title

HILCO Electric Cooperative, Inc.
Name of Affected Entity

Sworn and subscribed before me this 31 day of March, 2020
Month Year



Lisa M Helms
Notary Public in and For the State of Texas
My commission expires on 3-16-21