

STRUCTURES WEEK

Part I: Loadings & Strengths;
Wood Pole Design

Part II: O-Calc Pole Loading Software Tutorial

Part III: H-Frames for Long Spans Design

NEW!

(5-day) \$1945

Dates

July 19-23, 2010 | Myrtle Beach, SC

Attendees must bring a scientific calculator to Parts I & III.

Students **must** bring a laptop computer to use the software in class for Part II.

Instructors

Allen L. Clapp, PE, John B. Dagenhart, PE, & Jeff Giffen, PE

About the seminar

This special Tutorial Week on Physical Design of Wood Pole Utility Lines addresses the increasing problem of accommodating larger numbers and sizes of cables and conductors on wood pole utility lines. Unfortunately, line failures have increased in recent years due to overloading poles.

Attendees will be divided into teams to work exercises in each part. This course is particularly designed for engineers and technicians who want to add or increase expertise in facility placement and structural design of wood pole lines. Written answers are given for each question of the practical exercises worked in class, including rule references. Additional exercises and answers are provided for later use by attendees.

Highlights

Featuring new discussions/handouts.

Part I: Monday and Tuesday

Using sag and tension calculations

- Effects of tension on sags; long spans next to short spans
- Calculating strengths of poles and crossarms
- Guying for deadends and angles, buckling calculations
- Maximum span calculations based on strength
- Adding cables and conductors to existing structures
- Limitations of sidewalk guys and push brace poles

Part II: Wednesday

- How to run the software
- Exercises

Part III: Thursday and Friday

- Basic H-frame design and analysis
- Effects of contraflexure in poles
- Pole strength at various attachment points
- X-brace strength calculations
- Crossarm vee-brace strength calculations
- Effect of soil conditions on uplift and bearing
- Optimizing H-frame designs

Who should attend?

- designers and staking technicians
- engineering technicians
- make-ready and final inspectors
- electrical engineers
- standards developers
- contractors

You also receive...

	I	II	III
2007 National Electrical Safety Code and NESC Handbook, 6th Edition	✓	✓	✓
Demo copy of O-Calc Pole Loading Software	✓	✓	✓
Bound Student Workbook	✓	✓	✓
Bound Appendix Book of helpful charts, tables and technical discussions	✓	✓	✓
Excerpts from Practical Utility Safety	✓	✓	✓
Exercise/Answer Sheets	✓	✓	✓
CEUs or NC PDHs	✓	✓	✓
Continental breakfasts, complete lunches & refreshments	✓	✓	✓

Investigating & Documenting Accidental Public Contacts with Power & Communication Utility Facilities

Revised for 2010

(3.5-day) \$1545

Dates

May 17-20, 2010 | Myrtle Beach, SC

The premier seminar on utility public contact accidents for over 20 years.

Instructors

Allen L. Clapp, PE, & John B. Dagenhart, PE

About the seminar

When there is an accident, you need to gather and analyze the appropriate data yesterday—before it goes away. You need to quickly

- determine whether you met the appropriate requirements and
- secure information concerning the actions, qualifications, tools and equipment of involved parties.

It is vital that you understand what data is required, how to use it, and how to make it effective in litigation. Discussions by engineers who have investigated well over 1000 utility accidents, and are U.S. Department of Labor authorized OSHA instructors, will help you understand effective ways to investigate and document accidents in a manner that will aid and promote effective litigation decisions.

Highlights

Monday

- How to use the NESC and OSHA
- Public vehicle/equipment accident case studies
- Electric shock effects

Tuesday

- Operation of fuses/breakers; electrical work accidents
- Accident reference information
- Accident site investigation & analysis tools

Wednesday

- Documenting and preserving evidence
- Photography, effective exhibits, control of evidence
- Additional case studies

Thursday

- Attendees split into groups to determine data needed and then analyze a real public accident

Who should attend?

- investigators
- attorneys
- paralegals
- engineers
- risk managers
- claims managers
- claims agents

You also receive...

- 2007 National Electrical Safety Code
- NESC Handbook, 6th Edition
- Bound Student Workbook
- Excerpts from Practical Utility Safety
- Exercise/Answer sets
- CEUs or NC PDHs
- Continental breakfasts, complete lunches, & refreshments

Investigating & Documenting Utility Employee Accidents

NEW!

(3.5-day) \$1545

Dates

August 9-12, 2010 | Myrtle Beach, SC

The premier seminar on utility employee accidents.

Instructors

Allen L. Clapp, PE, & John B. Dagenhart, PE

About the seminar

When there is an accident, you need to gather and analyze the appropriate data yesterday—before it goes away. You need to quickly

- determine whether you met the appropriate requirements and
- secure information concerning the actions, qualifications, tools and equipment of involved parties.
- prepare for an OSHA investigation.

In addition, you must be prepared in the event of an OSHA inspection or investigation. It is vital that you understand what data is required, how to use it, and how to make it effective in civil or OSHA litigation. Discussions by engineers who have investigated well over 1000 utility accidents and are U.S. Department of Labor authorized OSHA instructors will help you understand effective ways to investigate and document accidents in a manner that will aid and promote effective civil or OSHA litigation decisions.

Highlights

Monday

- How to use the NESC and OSHA
- Utility vehicle/equipment accident case studies
- Electric shock effects
- Employee misconduct defense

Tuesday

- OSHA/ANSI stds applicable to multi-employer work sites
- Operation of fuses/breakers; electrical work accidents
- Using electrical injury information to analyze accident
- Safety sign requirements
- Documenting and preserving evidence

Wednesday

- Documenting and preserving evidence continued
- Recreating accident conditions & clearances
- OSHA investigations: rights & responsibilities
- Analysis of communication worker accident

Thursday

- Attendees split into groups to determine data needed and then analyze a real electric employee accident

Who should attend?

- investigators
- attorneys
- paralegals
- engineers
- risk managers
- claims managers
- claims agents

You also receive...

- 2007 National Electrical Safety Code
- NESC Handbook, 6th Edition
- Bound Student Workbook
- Excerpts from Practical Utility Safety
- Exercise/Answer sets
- CEUs or NC PDHs
- Continental breakfasts, complete lunches, & refreshments

2010 Public Seminars

NESC Clearances & Grounding for Power & Communication Utilities
 [DA1] April 12-15, 2010 and November 8-11, 2010, Myrtle Beach, SC
 (3.5-day) — \$1495

Investigating & Documenting Accidental Public Contacts with Power & Communication Utility Facilities
 [UPA1] May 17-20, 2010, Myrtle Beach, SC (3.5-day) — \$1545

Arc Flash Energy Analysis
 [AF1] June 22-24, 2010, Myrtle Beach, SC (2.5 day) — \$1595
 Day 3 only — \$350

Structures Week
 [SW1] July 19-23, 2010, Myrtle Beach, SC (5-day) — \$1945
 Part I: Loading & Strength Calculations
 Part II: O-Calc Pole Loading Software Tutorial
 Part III: Wood Pole H-Frames for Long Spans

Investigating & Documenting Utility Employee Accidents
 [UEA1] August 9-12, 2010, Myrtle Beach, SC (3.5-day) — \$1545

For seminar registration and detailed seminar schedules, please visit www.PCUTraining.com or call (877)502-8900.

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NEW!

(Days 1-3) \$1595
 (Day 3 only) \$350

ARC Flash Energy Analysis & Selection of Clothing Systems

to Protect Electric Power & Communication Utility Employees

Dates

June 22-24, 2010 | Myrtle Beach, SC

Instructors

Stephen Cress, P. Eng, Hugh Hoagland, and Allen L. Clapp, PE, or John B. Dagenhart, PE

About the Seminar

The NESC® and OSHA regulations require consideration of available arc energy when choosing appropriate apparel to protect workers from arc flash energy. This seminar concentrates on requirements you must meet, data you need to gather, the calculations required to determine potential arc energy exposure, and choices of appropriate PPE.

Highlights

- Tuesday**
- Responsibility utilities —NESC Rules —OSHA Regulations
 - PPE Types, Tests & Categories
 - Arc Hazard Definitions of Terminology
 - Arc Hazard Standards
 - Models and Equations

Wednesday

- Arc Hazard Analysis Applications
- T&D Arc Hazard Assessment
- Case Study Steps and Examples
- Arc Hazard Mitigation

Thursday

- How to Select the Right PPE
- Customizing and Optimizing your Clothing Program

Who should attend?

- line design engineers
- industrial engineers
- work method inspectors
- standards developers
- line worker managers
- contractors
- training personnel & safety officers

You also receive...

- Bound Student Workbooks
- CEUs or NC PDHs
- Continental breakfasts, lunches, & refreshments

Revised for 2010

(3.5-day) \$1495

NESC Clearances & Grounding for Power & Communications Utilities

Dates

April 12-15 & November 8-11, 2010 | Myrtle Beach, SC

Instructors

Allen L. Clapp, PE, & John B. Dagenhart, PE

About the seminar

The NESC® is the basis for your power and communication line construction standards and work procedures. Safe installations improve community relations and system reliability, while decreasing long-term costs. Your personnel need to understand how to correctly apply the National Electrical Safety Code in both usual and unusual situations, particularly on joint-use pole lines.

Highlights

Featuring new discussions, new handouts & new joint-use clearance exercises

Monday

- How to use the NESC
- NESC “grandfather clause”
- Inspections
- How to develop clearances for non-standard situations
- Clearances above water and land areas

Tuesday

- Conductor/cable crossing clearances
- Clearances to buildings & other installations

Wednesday

- Joint-use pole line clearances
- Safety sign requirements
- Supply station clearances
- Underground clearances

Thursday

- Redesigning pole top clearances for efficiency
- Grounding

Who should attend?

- design engineers
- staking technicians
- make-ready technicians
- inspectors
- standards developers
- line workers
- contractors
- claims investigators
- training personnel
- attorneys

You also receive...

- 2007 National Electrical Safety Code
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- Exercise/Answer sets
- CEUs or NC PDHs
- Continental breakfasts, lunches, & refreshments

Attendees must bring a scientific calculator to this class.

Visit www.PCUTraining.com for detailed schedules and downloadable course information sheets.