



North American Wood Pole Council

CWPA – October 17, 2007

Quebec City

Paul Dandy

Arch Wood Protection Canada

NAWPC

A United Voice for the Wood Pole and Crossarm Industry in North America.

- Southern Pressure Treaters Association**
- Wood Preservation Canada**
- Western Wood Preservers Institute**

Why Do We Have NAWPC.

- **Platform For A United Voice.**
- **Cost Sharing.**
- **Address National Issues.**
- **Effective Pro Active Efforts.**

NAWPC Leadership

Board Members and Officers



- **Henry Walthert – WPC- Secretary**
- **Craig Frohlich – WPC - Treasurer**
- **Paul Dandy – WPC**
- **Todd Brown – WWPI – President**
- **Des Fitzgerald - WWPI**
- **Ted LaDoux – WWPI-Administrative V. P.**
- **Jim Healey – SPTA – Vice President**
- **Carl Johnson – SPTA – Executive V.P.**
- **Glynn Pittman - SPTA**

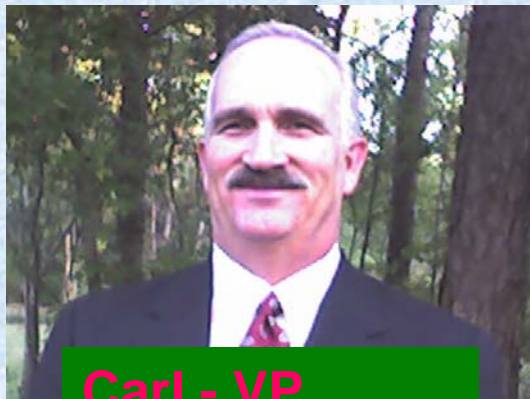
NAWPC Staff



Ted – Administrative VP



Martin – Technical Consultant



Carl - VP



Jenny - Office



Jerry - Marketing

NAWPC Management

WWPI Contract:

- **Financial Control.**
- **Maintain Books and Banking.**
- **Legal and Income Tax requirement.**
- **Liability Insurance.**
- **Board Meetings.**
- **Technical Issue Coordination.**
- **Trade Show Management.**
- **Publication Development.**
- **Program Development and Management.**

NAWPC

Major Activities

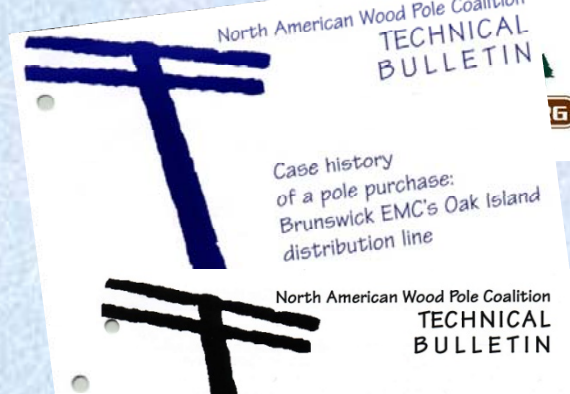
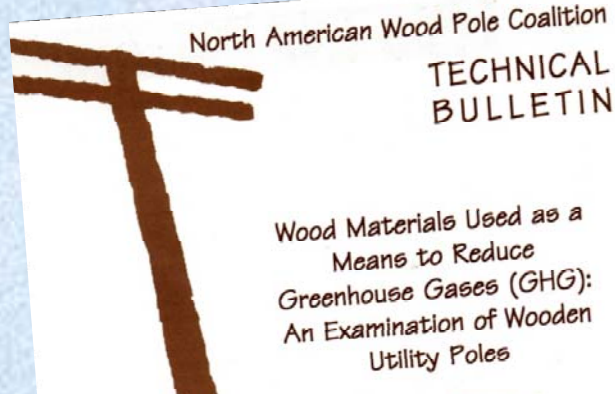
- ❑ **Defending Standards in Florida and Texas.**
- ❑ **Development of Seminar Program.**
- ❑ **Defense of ANSI Strengths.**
- ❑ **Pole Size Study.**
- ❑ **Continued Outreach to Markets.**

Developing Our Message

Issues under Discussion

- ❑ **System Hardening Standards.**
- ❑ **Underground vs. Overhead Economics.**
- ❑ **Threat from Tropical Species.**

Ten Features Often Overlooked About the Extraordinary Wood Pole



Market Outreach

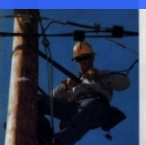


Pole wars: Wood or steel—the argument continues

Kathleen Davis, Associate Editor

The major battles in the electric industry of late seem to center on ISO vs. FERC or consumer vs. utility (after the crisis in California and the blackout of the downtown Chicago area last month). In doing so, they lose sight of another real tussle—one of the fundamental arguments of the industry: What material works best for utility poles?

It's not a trivial argument, a lot rests on these poles—every ounce of power in the American grid to be exact. *For what good is it if you have the power but no way to move it?* So, finding the most economical, most reliable form of utility pole is—on a



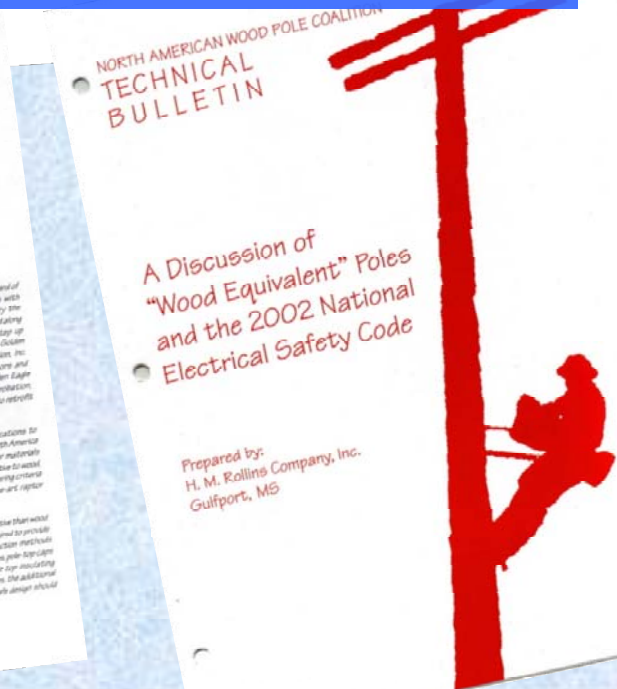
mate about wood's longevity is biased and low; "misstated" is a common phrase. They shoot the numbers up four decades or more for the life span of a cultivated (kept up, kept an eye on) wood utility pole. In fact, they claim that some poles in the U.S. and Canada have been in service for nearly a

"Recent surveys show that many more years of service are being obtained than utilities had previously assumed," said Dean Matthews, publisher of *Cedar Pole News* and an official representative of the Western Red Cedar Pole Association. "A properly maintained wood pole has an actual service of at

And, beyond the price factor and longevity issues of the utility's viewpoint, there's the preference of the linemen who must scale those poles. Their choice is an obvious one, really: They'd rather climb wood. With linemen, the traditional choice still reigns.

Even those in the steel camp admit to this hurdle. Citing a study conducted by Wirthline Worldwide, the American Iron and Steel Institute believes that crewman preference for wood poles is a large factor in the continuing use of wood in the North American grid.

Duane Oliver of Arizona Public Service dealt with this bias toward the traditional wooden pole by involving his crew from the



Trade Shows



NRECA TechAdvantage 2006



Orlando

2006 IEEE/PES T&D EXPO



2006 Lineman's Rodeo



Northeast Pole Conference
Fall, 2006
Binghamton, NY

2007 POLE TRADE SHOWS

- Southeastern Pole Conference.
- NRECA TechAdvantage
- Lineman's Rodeo
- International Construction & Utility Equipment Expo
- Western Pole Conference



Web Site

- **Promotion of our Web Site.**
- ***The Source* For Information On Sources Of Supply And Technical Information On Wood Poles.**





North American Wood Pole Council

[HOME](#)[LINKS](#)[CONTACT](#)

- General Information
- Sources of Supply for Quality Wood Poles and Crossarms
- Pole Supply
- Engineering and Design Information
- Case History
- Environment
- Product Disposal
- Pole Life and Life Cycle
- Economics
- Wood Poles Advantages and Alternative Materials
- Wood Preservative Systems

Welcome

The North American Wood Pole Council is an independent council representing the producers and

WOODPOLES.ORG

implied. The user is urged to review the [Disclaimer](#) and is cautioned to make his or her own independent evaluation of the information. If inaccuracies are noted, users are urged to contact the Council as well as the source of the specific documents with their views.

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Welcome

The North American Wood Pole Council provides information to the design community and provides the interested parties with a variety of sources. While the Council does not post materials or products, the user is responsible for independent evaluation of the Council as well as the source of the information.

NEWS RELEASE !! - Wood Pole Council

News Items of Interest:

- **NEW ITEM:** In Search of the Perfect Utility Pole - Article by Executive VP Dennis H. WPPA Bulletin (April 2006)
- **Cost of Underground vs. Overhead Systems**
- **Report on Industry Response to Hurricanes**
- **NAWPC Executive VP Presentation to the Reno Pole Conference (October 2006)**
- **Word Format Update - The Latest on Wood Pole Strengths and Related Issues**
- **ANSI O5, Principal - NESC**
- **Utility Industry Position on importance of wood poles - 2005**

Web Site Is Updated Continually With New Information!

> 10,000 Hits Per Month

NORTH AMERICAN WOOD POLE COUNCIL TECHNICAL BULLETIN

The Wood Pole
Design Considerations
Service Benefits
and Economic

Prepared by:
Hi-Line Engineering, LLC
W. Richard Lovelace

Northwest Public Power Association BULLETIN APRIL 2006

Students from All over the Nation
Converge at VOLTA – the First
Center of Its Kind, pg. 24



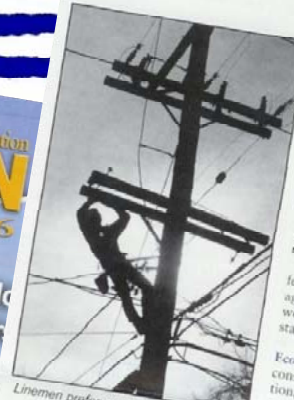
Linemen prefer working on wood poles
for safety and maneuverability.



For over a century utility managers have searched for and dreamed about the perfect utility pole: a pole that is economical, always in good supply, environmentally friendly, easy to install, strong enough to handle every challenge, and able to last forever with no care or maintenance. The search and dream goes on, but truth be told, there is no perfect pole. However, different materials offer different advantages in different applications and one material, wood, has withstood the test of time and the challenge of alternative materials.

The utility industry estimates that there are over 130 million treated wood poles currently in service in the United States and several million new ones enter into service each year. Alternative materials represent less than one percent of the distribution poles and wood remains a major player in the transmission market.

Engineering & Operations In Search of the Perfect Utility Pole by Dennis Hayward



While treated wood may not have the high tech image promoted for newer materials, sometimes it is just plain hard to improve on Mother Nature and time-proven performance. A recent utility association analysis identified wood poles as "The Electric Utility's Material of Choice" and concluded that "the bottom line is that efficient, functional, cost-effective, and practical material for use by electric utilities in providing electrical service to the public."

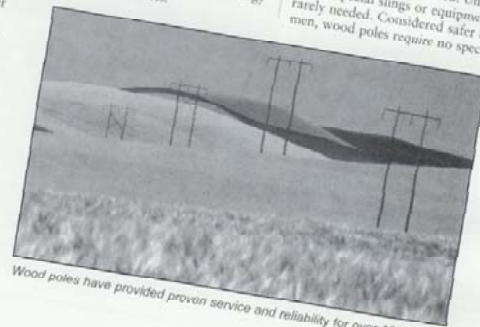
As the search goes on for the perfect pole, challenges are measured against the following characteristics of standards:

Economics. Whether decision criteria consider initial materials and installation, or the full life cycle costs, the economics of wood poles are unsurpassed. The 1996 Competitive Products Research Study evaluated the relative life cycle costs of various products. It showed that wood systems were generally 15 to 25 percent more cost effective than alternatives on a total life cycle basis, a position which has been enhanced by the accelerated cost increases in steel and other high energy consumption products.

Service life. Where poles are not removed prematurely for right of way or capacity change outs, the independent experts have established that it is reasonable to expect a wood pole line to have a life of 75 years or more and that there is an increasing body of evidence that average service lives may extend to 80 to 150 years where poles are properly specified and maintained."

Strength. The recently completed review and refinement of the ANSI Wood Pole Standard has affirmed that wood poles are as strong as ever. The preliminary findings of a soon-to-be released study of over 22,000 individual wood poles of all major species across a full spectrum of sizes clearly demonstrates that today's wood poles are meeting and/or exceeding the dimension, ring count, and strength requirements of the standard.

Installation and maintenance. The strength and resilience of wood, along with the deep penetration of the protective treatment, enable wood poles to withstand considerable abuse when being handled and installed. Unloading is fast; special slings or equipment are rarely needed. Considered safer by linemen, wood poles require no special



Wood poles have provided proven service and reliability for over 100 years.

NWPPA BULLETIN April 2006

On the Inside:

- NWPPA Wants Your Excellent Entries, pg. 5
- People Power Grassroots Respond, pg. 6
- Rate Setting Principles, pg. 13
- APPA's RP3 Program, pg. 15
- OMB's Yearly Attack on BPA, pg. 17

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206 120

Delivering Our Message to the Market

Wood Pole Design Seminars

Wood Pole Design Seminars

- **ISSUE:** Decreasing Understanding In Utility Industry as to the Basics of Designing With Wood Poles.
 - Lack Of Education In Engineering Schools.
 - Increasing Baby Boomer Retirements.
- **PROGRAM GOAL:** To Provide the Training to the Utility Industry To Support Continued Use Of Wood Poles and Crossarms.

Wood Pole Design Seminars

- NAWPC Sponsorship with HiLine Engineering Conducting the Seminars.
- Three Day Training Program.

Wood Pole Structure Design Seminar

Conducted by:



Sponsored by:

North American Wood Pole Council



The **North American Wood Pole Council** is an independent council representing the producers and suppliers of wood poles and crossarms in North America. A primary focus of the council is to provide information to the designers, specifiers, and users of the products. Therefore, we are proud to partner with Hi-Line Engineering to bring you this seminar.

Wood Pole Design Seminars

Target Audience

Who should attend the **Wood Pole Structure Design Seminar**?

- **Design Engineers**
- **System Managers**
- **Foremen**
- **Staking Technicians**
- **Linemen**
- **Purchasing Agents**

The seminar will be beneficial to personnel at all levels who deal with design, purchase, installation, and management of the electrical distribution system. Engineers will gain knowledge that will aid them in preparing design guides for their individual utility's standard conductors, poles, and assemblies. Managers and purchasing authorities will gain understanding of the variables that impact performance and reliability. The training will be beneficial to the novice as well as the experienced staking technician. Novices will obtain a working knowledge of correct staking methods and procedures. Experienced personnel will learn the reasoning behind many industry "*rules of thumb*." Construction personnel such as linemen and supervisors will learn the reasons why lines are built and designed to specifications.

Wood Pole Industry Personnel Are Also Encouraged To Attend And Become Better Informed About The Use Of Their Products! (But Not To Sell Product!)

Wood Pole Design Seminars



Staffing

C. Wood Preservation Systems

About Hi-Line Engineering & The Instructor

Hi-Line Engineering specializes in providing engineering consulting services as well as training seminars to the electric utility sector. Their mission is to impart the knowledge to allow their students to design **safe, reliable, and efficient** distribution lines. The instructor, Richard Lovelace, has over thirty years of experience in the operation, construction, maintenance, and engineering of electric distribution systems. He has provided instruction to more than 4,000 utility industry students and co-authored NRECA's *"Simplified Staking Manual for Overhead Distribution Lines."* A representative of the Pole Council will also participate in addressing non-design considerations.

Wood Pole Design Seminars

Program Content.



Wood Pole Structure Design: The student will learn to design wood electrical distribution structures. This will include calculating strength and maximum allowable spans for wind and ice loading, guy loading due to tension and wind, and non-design aspects of wood structures. Course includes an extensive design and reference guide. Students completing this seminar will earn **18 Professional Development Hours**.

I. Conductors

- A. Ruling span theory and calculation
- B. Sag and tension calculations and tables
- C. Galloping and Aeolian vibration
- D. Maximum span based on vertical and horizontal conductor separation
- E. Conductor stringing and sag measurement

II. Poles

- A. Ultimate resisting and bending moments of wood poles
- B. Transverse conductor wind load and calculations
- C. Calculation of maximum wind span for tangent poles
- D. Designing un-guyed small line angle poles and embedment
- E. Selection of pole class based on transformer weight and vertical loading

III. Pole-top Assemblies

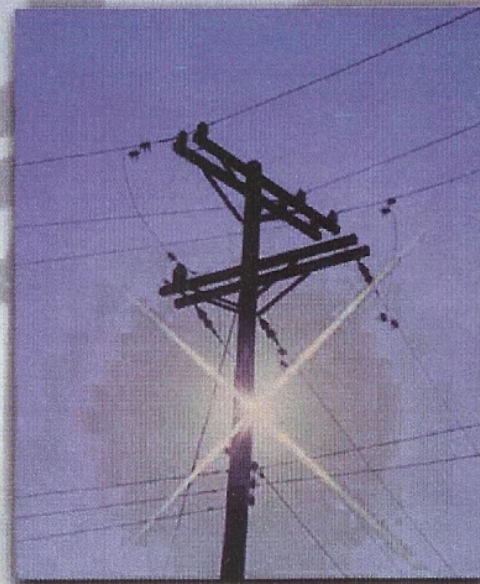
- A. Types of horizontal and vertical pole-top assemblies
- B. Crossarm loading and maximum weight spans
- C. Characteristics and selection of pin and post type insulator assemblies
- D. Pole-top assembly strength calculations

IV. Guying and Anchoring

- A. Determination of horizontal pull based on transverse and longitudinal loads
- B. Calculation of total guy load as a resultant of guy lead to height ratio
- C. Soil classification and anchor selection
- D. Designing a deadend anchor/guy assembly
- E. Designing a line angle anchor/guy assembly

V. Beyond Design

- A. Wood Pole and Crossarm Characteristics
- B. Purchasing and Supply
- C. Wood Preservation Systems
- D. Pole Manufacturing
- E. Environmental Considerations



**NAWPC
REPRESENTATIVE**

Wood Pole Design Seminars

- **Seminars Will Be Self Funded By Attendees Or Sponsorship.**
- **Focus is on Distribution, But Principals Apply to Transmission.**
- **NAWPC Covered Development Cost and Will Manage Programs.**
- **Attendees Receive Continuing Professional Education Credits.**
- **Participants Receive Full Training Manual and CD of NAWPC Information. (And a Seminar Hat)**

Wood Pole Design Seminars

2007 Schedule

- April 3-6 Nashville, Tennessee.
- May 30 – June 1 Boise, Idaho.
- Sept 25 – 27 Nashville, Tennessee.

Wood Pole Structure Design Seminar

Conducted by: **Hi-Line Engineering**
a GOS Company

Sponsored by: **North American Wood Pole Council**

ENGINEERED BY NATURE
ENHANCED BY TECHNOLOGY

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WOODPOLES.ORG

Seminar	Dates	Cost	Location	Hotel Information
Wood Pole Structure Design	May 30-June 1, 2007	\$795	Boise, ID	Boise Doubletree Special Rate = \$99/night 208-343-1871

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For more information regarding registration, course descriptions, etc. please contact Rachael Harms or Maria Traylor at 334-887-3297, Fax 334-887-3298, or rachael.harms@gdsassociates.com or maria.traylor@gdsassociates.com

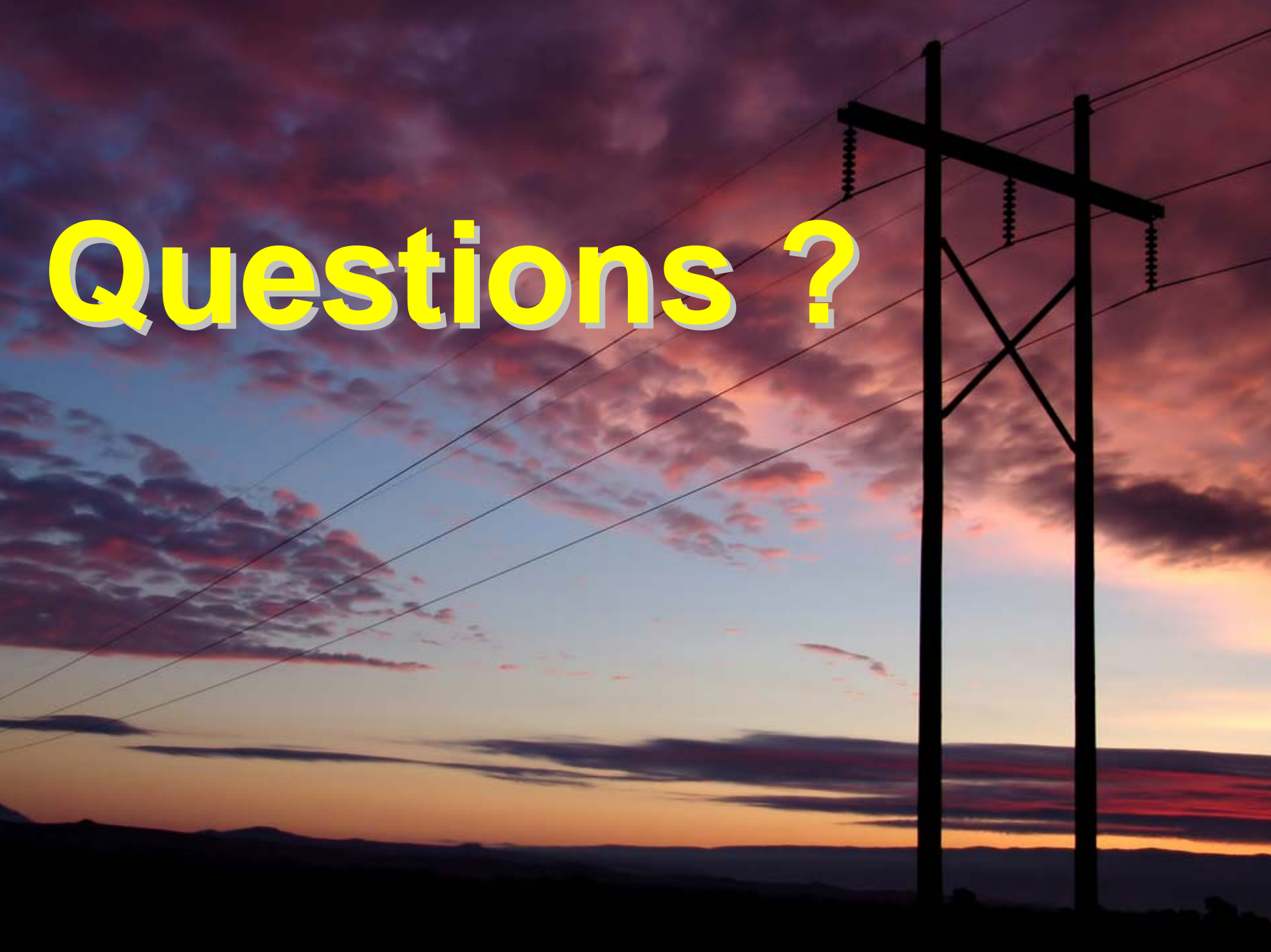


Wood Pole Design Seminars

Future Program

- **At the End of 2007 We Will Evaluate Success, Modifications and Future Use of the Program.**
- **May Conduct Seminar Just For Pole Industry Personnel.**
- **May Put it On Line.**
- **Could Sponsor For Use In University Setting.**

Questions ?



THANK YOU



THE END