

# 2009 Wood Pole Structure Design Seminars

Seminars conducted by: **Hi-Line Engineering**, a GDS Company  
 sponsored by: **North American Wood Pole Council**

Seminar	Dates	Cost	Location	Hotel Information
Wood Pole Structure Design	April 28-30, 2009	\$795	Little Rock, AR	Courtyard Little Rock West Special Rate = \$89 (good thru 4/11/09) 800-321-2211 or 501-227-6000
Wood Pole Structure Design	June 16-18, 2009	\$795	Birmingham, AL	Residence Inn Birmingham Homewood Special Rate = \$141 (good thru 6/1/09) 800-331-3131 or 205-943-0044
Wood Pole Structure Design	June 23-25, 2009	\$795	Charlotte, NC	Courtyard Charlotte Airport Special Rate = \$129 (good thru 6/1/09) 704-319-9900
Wood Pole Structure Design	October 13-15, 2009	\$795	Minneapolis-St.Paul, MN	Courtyard Minneapolis St. Paul Airport Special Rate = \$119 (good thru 9/28/09) 800-321-2211 or 651-452-2000

**Note:** Seminars are limited to the first 30 people to register.

**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
- 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

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.

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](mailto:rachael.harms@gdsassociates.com) or [maria.traylor@gdsassociates.com](mailto:maria.traylor@gdsassociates.com)



# 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 agents 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.

## 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.

## 2009 Wood Pole Structure Design Seminars

(Check box below next to seminar date you are requesting)

- Apr 28-30, 2009** Little Rock, AR     **Jun 16-18, 2009** Birmingham, AL     **Jun 23-25, 2009** Charlotte, NC     **Oct 13-15, 2009** Minneapolis-St. Paul, MN

**Seminar Cost = \$795 per person**

Please fill in the information below and mail, email, or fax form to [rachael.harms@gdsassociates.com](mailto:rachael.harms@gdsassociates.com) or [maria.traylor@gdsassociates.com](mailto:maria.traylor@gdsassociates.com) or Fax # **334-887-3298**

Name \_\_\_\_\_ Title \_\_\_\_\_ Phone \_\_\_\_\_

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Name \_\_\_\_\_ Title \_\_\_\_\_ Phone \_\_\_\_\_

Company Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Invoice Company – P.O. #, if required

Check is enclosed for \$  Mail to: **Hi-Line Engineering**  
Attn: Rachael Harms  
1826 Opelika Road  
Auburn, AL 36830

Bill \$ \_\_\_\_\_ to Charge Card –  Master Card  Visa

Number:  Expiration Date:  V-Code:

Name on Card:

Signature: