

## Thermal EA

**3-Day Short Course**  
*Focus on Engineering Practice*

### **HEAT EXCHANGER PERFORMANCE ASSESSMENT AND MAINTENANCE**

*Featuring Sessions by*

**Carl Kuester / Carlton Lindell**  
*and Associates*

**Danny Alleman / Bill Closser**  
**Allen Gallaher / Paul Koss**  
**Dean Leimbach / Lindon Thomas**  
**Harry Williamson**

### **Thermal Engineering Associates**

**July 10 – 12, 2012**  
**8:00 a.m. Tuesday / 5:00 p.m. Thursday**

**MainStay Suites**  
**Pigeon Forge, Tennessee**

### **Course Objective**

The primary objective of this course is to provide practical information on power plant heat exchanger performance assessment and maintenance and a forum for interaction with senior practicing engineers and inspection experts.

### **Who Should Participate**

Practicing engineers and other professionals who are involved in fossil or nuclear power plant heat exchanger operation and maintenance should consider this course.

### **Course Coverage**

- Construction and operation characteristics of
  - Condensers, Feedwater heaters, MSRs
  - Other shell-and-tube heat exchangers
- Retubing
- Failure mechanisms
- Preventive and corrective maintenance
- Eddy current assessment
- Visual inspection
- Introduction to basic analysis principles
- Performance monitoring, trending, and testing

### **Instruction**

#### **Carl Kuester, Owner Engineering Consultant & Exchanger Repairs**

- Past President, Turbine, Exchanger, Condenser Co., Dynamic Energies Inc., and Condenser Technologies, Inc.
- Over fifty years engineering experience.
- Extensive consulting experience in all phases of large power plant engineering, operation, maintenance, and construction, with special interest in heat exchanger equipment, repairs, and removal of sample tubing for analysis.
- BSE, Brown University.

#### **Carlton Lindell, Consulting Engineer**

- Past Vice President, Cramer & Lindell Engineers, Inc., and General Manager of Rust-Cramer & Lindell Engineers.
- Over fifty years engineering experience.
- Extensive experience in eddy current testing in fossil/nuclear power, chemical, and petrochemical industries, development of inspection standards, tube failure analysis.
- BSME, MSME, University of Connecticut.

### **Course Schedule**

### **Heat Exchanger Performance Assessment and Maintenance** **July 10 - 12, 2012**

#### **Construction and Operation Practice Day 1**

- Condensers
- Feedwater Heaters
- Moisture Separator Reheaters
- Shell-and-Tube Heat Exchangers
- Question & Answer Session

#### **Maintenance Practice Day 2**

- Retubing
- Tube and Other Failures:  
Materials and Degradation Mechanisms
- Preventative and Corrective Maintenance
- Eddy Current Assessment
- Question & Answer Session

#### **Inspection / Performance Evaluation Day 3**

- Visual Inspection
- Plant HX Inspection Program Development
- Heat Exchanger Analysis Basics:  
Key Performance Parameters and Relations
- Performance Monitoring and Trending
- Performance Testing
- Question & Answer Session
- Closure

## Instruction

### Danny Alleman, Senior Project Engineer Dominion Power

- Thirty years engineering experience in electric power industry, with experience as a Performance Engineer, System Engineer, and Component Engineer responsible for plant heat exchanger program.
- Extensive experience in heat exchanger maintenance.
- Responsible for managing installation of new turbines and other major equipment as a Project Engineer.
- BSME, Virginia Tech.

### Bill Closser, Asst. Vice President Division Manager for Nuclear Services Alion Science and Technology, Inc.

- Provides consulting, testing and support services to the utility industry.
- Extensive experience in the areas of condition monitoring, plant performance, equipment reliability.
- Eight years experience with EPRI. Program Manager, Nuclear Applications and Services; Director of Nuclear and International Services, EPRI Solutions.
- Chairman, ASME PTC 12.5 Committee. Member, ASME OM-21 Committee; Co-author EPRI NP-7552.
- BSME and BSNE, OSU; MBA, Regis University.

### Paul Koss, Project Manager CWFC Anatec-LMT

- Over 25 years of experience in heat exchanger inspection and assessment primarily in fossil and nuclear applications.
- Eddy Current Level III NDE inspector.
- BS Geology, Western Kentucky University.

### Allen Gallaher, Project Manager, CWFC Anatec-LMT

- BOP Heat Exchanger Inspection and Assessment.
- Thirty years experience in project management of heat exchanger inspection, eddy current testing, and assessment programs in industry.
- Extensive experience in BOP heat exchanger training.
- Eddy Current Level III NDE Inspector.
- BA/MA Math, Northeastern University.

## Instruction

### Dean R. Leimbach, ISI Specialist, Susquehanna Nuclear Power Station

- Thirty-five years experience in heat exchanger inspection, testing, condition assessment, and NDE issues, as well as program management and personnel training.
- Eddy Current Level III NDE inspector, Ultrasonic Testing Level III NDE inspector, ANSI weld inspector. NACE coatings systems inspector.
- Nuclear Power Utility Supervisor Certification.
- NDE Personnel Training and Certification.
- 1975 NDE Technical School graduate, specializing in eddy current testing and radiography.

### Lindon Thomas, President Thermal Engineering Associates

- Forty years experience in college engineering teaching and research.
- Has taught Heat Exchanger Analysis to practicing engineers over the past 18 years.
- Author of *Heat Transfer*, standard and professional versions, Outstanding Academic Title, 2000 Choice (American Library Asso.).
- BSME, Tulsa University; PhD ME, Kansas State University.

### Harry Williamson, Senior Engineer Duke Energy

- Sixteen years experience as heat exchanger and pressure vessel consultant on predictive and preventive maintenance for fleet fossil, hydro, and combined cycle power plants.
- Twelve years experience as design engineer for fleet fossil plants and Oconee Nuclear Station.
- Extensive experience with heat exchanger cleaning, inspection, repair, retubing, manufacturing procedures, trouble shooting, and root cause analysis.
- Registered Professional Engineer.
- BSME, North Carolina State University.

**On-Site Courses**  
**Contact Dr. Lindon Thomas**

## Registration

### Short Course Registration Form

#### **Heat Exchanger Performance Assessment and Maintenance**

Course Date \_\_\_\_\_  
Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
Phone/Fax \_\_\_\_\_  
E-mail \_\_\_\_\_

**Course Fee: \$1475**

Lecture PDF files, certificate of training, and refreshments.

*Register on-line at*  
**www.thermalea.com**

*or forward registration form and payment to*

#### **Thermal Engineering Associates**

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**lthomas@thermalea.com**

*Contact MainStay Suites for room reservations.*  
A special rate applies for course participants.

Phone: (888) 428-8350  
**www.mainstaypigeonforge.com**

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in the foothills of the Smoky Mountains.***

***Also Announcing***  
***Heat Exchanger Analysis Basics***  
***August 6-10, 2012***  
***Pigeon Forge, TN***