



TRAINING COURSES for the Heat Exchanger Engineer

True North Consulting has developed several training courses specifically for the Heat Exchanger Engineer. Our training course, Eddy Current Testing for the Heat Exchanger Engineer, emphasizes how to make the best tube plugging decisions by improving the students understanding of the various defect indications in the eddy current test report, the degradation mechanisms that cause them, and the limitations of the inspection technology. We also offer training courses on Heat Exchanger Preventative Maintenance and Visual Inspection. The Heat Exchanger Preventive Maintenance training focuses on achieving the most cost effective maintenance for heat exchanger reliability by discussing the EPRI PM templates and adjustments to them to reflect site and industry experience. The Visual Inspections training course addresses general heat exchanger inspections as well as Service Water system heat exchanger inspections performed to meet GL 89-13 requirements. This course covers damage mechanisms, industry experiences and the use of inspection checklists to obtain consistent and effective inspections.

The ECT for the HX Engineer course is 2 days, while the Preventative Maintenance and Visual Inspection courses are each ½ day. All courses include a workshop and Q&A period. True North Consulting offers each training course individually or a combined training package including all three courses at a discounted price. Individual course pricing is available upon request.

The next course offering for the Heat Exchanger Engineer will be held on June 26 - 28, 2012 in Ouray, CO at the Beaumont Hotel. Details regarding the conference location and accommodations are included below.

Additionally, we offer the option of providing a dedicated training course at your site, corporate location, or a preferred conference site of your choice, typically requiring a minimum of 5 participants.

Course details, instructor information, testimonials from attendees, and registration details are listed below.

“COMPREHENSIVE TRAINING SERVICES FROM INDUSTRY EXPERTS”

INSTRUCTOR / COURSE

Instructor – Iver Jacobson

Mr. Jacobson has 20 years of professional experience in nuclear power plant engineering, including engineering roles in the System Engineering, Engineering Programs, and Design Engineering organizations. Heat exchanger activities have involved specifications, replacements, repairs, eddy current testing, monitoring, thermal performance testing, performance analysis, program procedures, calculations, reports, preventive maintenance optimization, and training. Related heat exchanger activities in conjunction with EPRI include:

- Technical Lead for EPRI Report 1022980, Guidance for an Effective Heat Exchanger Program, September, 2011.
- Technical lead for "Partial Tube Blockage Guidance for GL89-13 Heat Exchanger Inspections", EPRI Report to be published 2012.
- "Heat Exchangers & Power Uprates" paper at EPRI 11th BOP NDE Conference, August 2010.
- "An Integrated Approach to Visual Inspection of GL 89-13 Heat Exchangers" paper at EPRI SWAP conference, July 2010.
- EPRI Heat Exchanger Performance Users Group (HXPUG) past utility co-Chairman.
- EPRI Technical Advisory Group, "Heat Exchanger Maintenance Guide" Report TR1018089, June 2009.
- EPRI Technical Advisory Group, "Heat Exchanger Thermal Performance Margins Guideline" Report TR1012129, November 2005.
- EPRI Technical Advisory Group, "Feedwater Heater Maintenance Guide" Report TR1003470, May 2002

COURSE OUTLINE

Course content & approach for each training course is structured to include the following key areas:

Eddy Current Testing

- Eddy Current Testing Background
- Planning & Preparation for Eddy Current Testing
- ECT Report Content / Indications / Reviews
- Tube Plugging Threshold Calculator
- ECT Reports – Class Exercises
- Tube Plug Selection
- Tube Leak Response / Tube Pulling Considerations
- HX Industry Experiences / HX Technical References / Contacts

Visual Inspection

- Basis HX Design
- General HX Visual Inspection
- Generic Letter 89-13 Visual Inspections
- HX Visual Inspection Checklists
- Review / References / Resources

Preventative Maintenance

- PM Component Classification
- EPRI Templates
- Regulatory Actions
- PM Template Adjustments
- HX Degradation Mechanisms
- In-Service Actions
- PM Maintenance Actions
- PM Template Review
- Industry Experience / HX Technical References / Contacts



Training Critique and Comments

- "Excellent materials, maybe the best on-site training we've ever had. Excellent presentation."
- "Will improve heat exchanger performance and reliability site wide."
- "Long overdue training. I've been reviewing ECT data and making calls, but learned a lot about the data we're presented to make more informed calls."
- "Excellent training. Would highly recommend."
- "Trainer was very knowledgeable subject matter expert. This was a very good and very applicable training subject for BOP Engineers."
- "The material was very pertinent to our work. Good OE, vendor contact info, and reference materials. The material was covered well with good experience of the presenter. Excellent class."
- "Handouts were excellent quality, many good, real-life examples made the training hit home."

COURSE REGISTRATION:

Telephone – 970-252-1489

E-mail – cma@tnorthconsulting.com or complete and return form below.

PRICING 3 day training package inclusive of all course and related reference materials
\$1,850/attendee

LOCATION Beaumont Hotel
 www.beaumonthotel.com
 505 Main Street
 Ouray, CO 814257
 Phone: (970) 325-7000
 Reservations: (888) 447-3255

ACCOMODATIONS There are several options for accommodations in the Ouray area, most within walking distance of the training facility. Please see the below link for Ouray for more information.

Montrose Area
Information: [Montrose](#) , [Telluride](#) , [Ouray](#)

Note: Additional information on Courses offered may be found at the link above or through True North's website at: tnorthconsulting.com.

“COMPREHENSIVE TRAINING SERVICES FROM INDUSTRY EXPERTS”



Registration

Four Easy Ways to Register!

- E Mail: (Complete Form below and forward to Christine Allen (cma@tnorthconsulting.com))
- Telephone: 970-252-1489
- Fax: 970-252-1837
- Mail (complete form and enclose check or credit card information):

True North Consulting, LLC
Training Courses for the Heat Exchanger Engineer
101 N. Uncompahgre, Ste. 5
Montrose, CO 81401

Name _____

Title _____

Company _____

Address _____

Telephone _____

Fax _____

Email _____

Payment Information

Credit Card

Visa MasterCard American Express Other ()

Card # _____ Exp. Date _____

Cardholder Name _____

Cardholder Signature _____

Receipt will be available at the conference or returned by mail if not picked up.