Two-days intensive training on "Heat exchanger: inspection, condition assessment, fitness for service and failure investigation"




Dates: 20th & 21st July, 2018. **Timing**: 9:00 am to 6:00 pm.

Venue: Evolve - by TCR, 215 Pancham Icon, Nr. D-mart, Vasna Road, Vadodara, Gujarat.

Course Objective:

- ✓ Understating of metallurgical aspects of heat exchanger, design and manufacturing considerations.
- ✓ Gain valuable inputs on principles of degradation that occurs in short term and long-term operation of heat exchangers.
- ✓ Design aspects related to failure.
- ✓ Welding issues related to heat exchangers.
- ✓ Metallurgical understanding of the heat exchanger tubes.
- ✓ Exposure to increase the problem-solving attitude and take the first-hand judgment on the heat exchanger failures.
- ✓ Understanding the difference in metal behavior to mitigate the persistent tube failures.
- ✓ Understanding general procedures, techniques and precautions in failure analysis and how stress systems relate to fracture of ductile and brittle materials.
- ✓ Latest NDT inspection techniques for tube assessment.
- ✓ Achieve the knowledge required to conduct or supervise basic failure investigation and effectively communicate with metallurgists & other experts on more complicated cases.
- ✓ Preparing oneself to improve reliability of company operations, cost saving, increase profitability, and enhances safety.

Who should attend?

- ✓ Engineers of middle management level
- ✓ Maintenance / Inspection Engineers
- ✓ Process engineers
- ✓ Plant Engineers / Managers
- ✓ QA / QC Engineers
- ✓ Reliability Engineers
- ✓ Metallurgical / Materials Engineers
- ✓ HAZOP Engineers / Managers
- ✓ Other Technical, Laboratory, Sales Personnel, Engineers from allied disciplines, management and administrative staff who need a working understanding of metals and their applications.

Registration:

The course is limited to 20 participants only and will be decided on first come first served basis. Interested candidates can register by filling attached registration form. The course fee includes participation, course material and stationery. Tea / coffee and working lunch will be served. Participants have to make their own arrangements for accommodation and local conveyance. The course fee is non-refundable; however, in the event of cancellation of training program by TCR for some unavoidable reasons, it will be refunded. TCR accepts the change in nomination.

Course fee:

Single participant: Rs. 15,000.00 for Indian delegates & USD 450 for Foreign delegates.
GST @ 18.00 % applicable on above fees.
10% discount if there are three or more participants from same organisation.

Payment mode:

Interested participants should mail/ E-mail the registration form along with DD/at par cheque in favour of "**TCR ADVANCED ENGINEERING P LTD**." at the address mentioned in attached registration form.

Forward your Registration forms to:

Mr. Rajesh Kumar, HOD - Training
TCR Advanced Engineering Pvt. Ltd., 250/9 GIDC, Makarpura, Vadodara, Gujarat. Ph: 0265-2657233, 7574805594-96
Email: rajesh@tcradvanced.com
Mobile: +91 7574801050

Registration form can be downloaded from our website: http://tcradvanced.com/coursecalender.php

For more course details, check our FB page: - https://www.facebook.com/EvolveTCR/

TCR Advanced Engineering P. Ltd. ***Experts in failure Investigation, in-situ metallography, RLA and FFS***

Faculty:

Mr. Paresh Haribhakti
MD, TCR Advanced

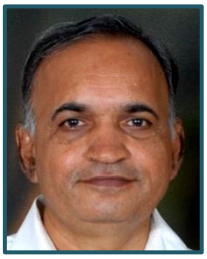
- He has over two decades of experience in the field of metallography and microstructure examination and has solved more than 3000 industrial problems. He is pioneer in promoting in situ-metallography.
- Solved materials engineering problems and performed failure analysis on components from petrochemical plants, oil and gas transmission pipelines, offshore structures, ships, pharmaceutical plants, food processing equipment, gas turbine engine components, and weldments.

Mr. Hemant Pradhan
Consultant, TCR Advanced

- He is a Mechanical Engineer with over 35 years of experience in design, detail engineering services, projects, inspection, mechanical construction, procurement, estimation etc. for fertilizer and petrochemical plants and projects.
- His major experience field has been design, detailed engineering, trouble shooting of fertilizer plants like ammonia, urea, DAP, ASP, AS, phosphoric acid, sulphuric acid etc.; petrochemical plants like Caprolactam, Melamine, Nylon-6, and utility/co-generation/ boiler, water treatment plants.
- He has participated in design conferences at international and national level with process licensors/ detail engineering firms like M/s Enco, Switzerland; M/s INCRO SA, Spain; Tunisian Joint Venture, Tunisia; M/s Schmidt & Clemens, Germany M/s Davy Powergas, M/s Uhde, M/s Linde, at India.

Mr. Ketan Upadhyay
GM – Reliability Engineering
TCR Advanced

- He has experience of 26 years in the field of NDE, Acoustic emission techniques, Vibration measurement and signature analysis, Failure Investigations, microstructure interpretation, Scanning electron microscopy and digital imaging system.
- He is a qualified level II for Acoustic Emission testing (IISC Bangalore), Vibration Analyst VT-II (Entec IRD) and Ultrasonic Flaw Detection (EEC Mumbai) techniques.



Mr. M. N. Patel
Ex. Associate Professor
Metallurgy & Materials Engg Dept.,
Consultant, TCR Advanced

- He has 34 years of teaching experience in UG and PG level in subjects like Plastic Deformation of Metals, Mechanical Metallurgy, NDT and Failure Analysis, Mechanical behaviour of materials, Selection of Materials and Failure Analysis, Physical Metallurgy and Welding Metallurgy.
- He has Published 16 research papers in various national journals in the field of weld ability of steels, corrosion of steels, sensitization of stainless steels and failure analysis.

Key Benefits:

- ✓ Understating of metallurgical aspects of heat exchanger, design and manufacturing considerations
- ✓ Understanding of principles of degradation that occurs in short term and long-term operation of Heat Exchanger
- ✓ Understanding the difference in metal behavior to mitigate the persistent tube failures
- ✓ Metallurgical understanding of the Heat Exchanger tubes

Training Sessions
Topics
Introduction
Metallurgy for heat exchangers
Design considerations of heat exchangers
Damage mechanism in the Heat exchangers
Process design considerations
Failure investigation of heat exchangers with case studies
Inspection and advanced technique for heat exchangers
Fitness for service of Heat exchangers
Lab visit and practical demonstration of various inspections