Boilers are considered to be part of the critical and essential production facility in Oil and Gas, Utility and Marine industries. A failure in the system may translate to sizeable loss of time, production and costs, not neglecting the importance of life and safety at stake.

This 3-day interactive training introduces the fundamentals and methodologies of failure analysis and the basic knowledge of solving and preventing failures in boiler systems. It will help the participant to identify the basic modes and root causes of a failure and to understand the macro and micro aspects of a failure investigation. The course also seeks to introduce the concept and implementation of risk-based inspection (RBI) for boiler system, in order to optimise the through-life economic performance of the equipment whilst ensuring prescribed safety and regulatory requirements are met.

WHO SHOULD ATTEND
The course is designed for engineering disciplines that includes Engineers, Inspectors, Safety Engineers, Maintenance and Plant Operators and Quality Assurance Personnel. It is essential for those whose work involve maintenance, trouble-shooting, inspection and prevention of failures in order to operate their Plant at optimal efficiency with high level of safety and reliability.

COURSE OBJECTIVES
The training provides participants with:

- Introduction to fundamentals and methodologies of failure analysis.
- Understanding failure modes and root causes in boiler systems
- Introduce the concept and implementation of risk-based inspection (RBI).
- Theoretical and practical knowledge through case studies.

COURSE OUTLINE

**Failure Analysis**
- Introduction and Course Objectives
- Fundamentals of Failure Analysis
- Materials of Construction
- Degradation Mechanisms
- Failure of components (e.g. tubes, vessels, drums)
- Case Studies

**RBI**
- Introduction, Purpose, Roles and Responsibilities
- Risk Assessment concepts
- Types of RBI assessment
- Probability of Failure (PoF) analysis
- Consequence of Failure (CoF) analysis
- Risk Determination and Inspection Planning

ABOUT THE TRAINERS

Er. LIAM KOK CHYE  BEng (Hons) M.Eng, P.Eng, Sr M.I.E.S. NACE

30 years of consulting experience in failure analysis, forensic engineering and condition assessment covering a wide spectrum of industries such as oil and gas, chemical, pharmaceutical, construction, aerospace, marine and offshore. He is also an expert witness for litigation and insurance cases.
REGISTRATION FORM

To register for the course, please complete this form and email to training@matcor.asia

**Course Name:** Failure Analysis and Risk-Based Inspection of Boiler Systems

**Course Date:** 26th February 2018 to 28th February 2018

**Venue:** 3 Seletar Aerospace Link, Singapore 797550

**Time:** 8.30 am to 5.30 pm each day

**Course Fee:** SGD 1,200.00 per person (exclude GST), before any approved funding or grants

**Early Bird:** 10% Discount! Registration must reach us by one month before course commencement

**Group Discounts:** SGD 1,000.00 per person (exclude GST), minimum 3 participants from the same company

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**Name of Participant(s)** | **NRIC / FIN No.** | **Designation** | **Mobile No.** | **Email** | **Meal Preference**
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**Payment Details:**
- Registration form and course fees are to reach MATCOR before the closing date.
- Registration will only be confirmed upon full payment.
- All cheques should be made payable to “MATCOR Technology & Services Pte Ltd”.
- Overseas participants are to pay in Singapore Dollar bank draft ONLY. If payment is by TELEGRAPHIC TRANSFER, please add S$70.00 for administrative and bank charges.

For further information, please contact Ms. Irene Lim or Ms. Lynn Tan at +6567788285 or training@matcor.asia

**Cancellation & Refund:**
- Any cancellation made after closing date – no refund, but delegate substitution is allowed.
- Any cancellation made before closing date – full refund.
- MATCOR reserves the right to cancel or reschedule the course, only if deemed necessary.

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Organised by: MATCOR

Supported by: [Qualified for PDUs by Professional Engineers Board]

Subject to Terms and Conditions