

# Training & Seminars



Plant Integrity &  
Life Assessment  
Worldwide

Power & Process Plant • Plant Integrity • Plant Services • Training • R&D

ETD Consulting is world renowned for its training courses. By training with ETD you can be confident that you are learning from top industry and academic experts.

In addition to our regularly run training courses, ETD Consulting is happy to provide bespoke training courses to suit your needs. These can be held at your sites anywhere in the world or at ETD's training centre in the UK. ETD has successfully ran bespoke courses for clients worldwide, including in the USA, Japan, Philippines, South Africa etc. Alternatively, our state of the art videoconferencing suite enables delegates to remotely participate in our courses, allowing complete participation while saving time and money.

Shown below are the ETD's Sample Course Descriptions. These are only shown as examples of our previous course programmes. These courses and the length of their delivery can be modified or new courses can be developed in accordance with client requirements.

| Course Title  | Course Description   | Course Duration (Expected)              |
|---|--|---|
| Gas Turbine Technology  | Module 1- Design, Operation, Materials & Integrity/ Lifting Issues<br>Module 2- Material Selection, Design, Material Degradation, Coatings, Repair & Life Assessment<br>Module 3- Lifting of Hot-gas path components   | 4 or 5 Days                             |
| Steam Turbine Technology  | Module 1- Materials & Damage Mechanisms<br>Module 2- Maintenance, Inspection & Repair<br>Module 3- Life Assessment of Steam Turbines- Practical Examples   | 1 or 2 Days                             |
| Life Management Foundation (LMF)                                    | LMF 1- Plant Operation, Damage & Life Assessment<br>LMF 2- Failure Avoidance & Advanced Assessment of Complex / Welded Components<br>LMF 3- Damage & Defect / Crack Assessment under Creep & / or Fatigue Conditions   | 2 Days on each course<br>(Total 6 Days) |
| Power Plant Boiler Inspection, Maintenance & Monitoring             | Module 1: Plant Maintenance Issues<br>Module 2: Plant Inspection & Monitoring<br>Module 3: Introduction to Risk Based Maintenance<br>Module 4: Workshop  | 1-2 Days                                |
| Supercritical Plant- Design, Materials, Operation & Maintenance     | Module 1: Plant Design Characteristics<br>Module 2: Materials of Construction<br>Module 3: Damage Mechanisms & Life Assessment<br>Module 4: Operation & Maintenance Experience   | 5 Days                                  |
| Design of Boiler Combustion Systems and Retrofit Technology         | Module 1: Design of Boiler System<br>Module 2: Design Technology of Boiler Combustion Technology<br>Module 3: Design of Boiler Tube Heating Surfaces & Sizing of Pressure Parts<br>Module 4: Boiler Retrofit Technology & Boiler Combustion Optimisation   | 4 Weeks                                 |
| Turbine Failure Analysis & Life Assessment                          | Module 1: Steam Turbine Component Damage Mechanisms<br>Module 2: Gas Turbine Design, Operation, Materials & Integrity/ Lifting Issues<br>Module 3: Steam Turbine Component Failure<br>Module 4: Gas Turbine Component Degradation & Failure<br>Module 5: Fundamentals, Cyclic operation & Refurbishment<br>Module 6: Gas Turbine Materials Selection & Related<br>Module 7: Lifting of GT Hot-gas path components<br>Module 8: Steam Turbine Component Integrity/Lifting Issues<br>Module 9: Analytical & numerical models for remaining creep life estimation | 3 Weeks                                 |
| Boiler/HRSG and Steam Turbine Remaining Life Assessment & Extension | Module 1: Overview of Component Life Assessment & Damage Mechanism<br>Module 2: Life Methodologies / Available Tools<br>Module 3: Component Life Assessment<br>Module 4: Plant Life Management   | 5 Days –<br>4 Weeks                     |
| P/T 91  | Module 1: Material Properties & Heat Treatment<br>Module 2: Steam-Side Oxidation of Thin Wall Tubing<br>Module 3: Welding & Welded Component Behaviour<br>Module 4: Component Integrity / Life Assessment  | 2-3 Days                                |
| HRSG Integrity  | Module 1- Principles of HRSG Design & Cyclic Operation Related Issues<br>Module 2- HRSG Materials, Welding, Water Treatment, Corrosion & Other Failure Mechanisms<br>Module 3- Inspection, Monitoring & Maintenance Issues<br>Module 4- HRSG Component Life Assessment & Workshop  | 2-3 Days                                |
| P/T 23  | Module 1: T/P23 Material Properties & heat Treatment<br>Module 2: T/P23 Weld Consumables & Welding Issues<br>Module 3: Steam Side Oxidation, Component Integrity/Life Assessment   | 1- 2 Days                               |
| Risk Based Maintenance & Inspection (RBMI)                          | Module 1: Management Programme Level<br>Module 2: Implementation Programme Level<br>Module 3: Component Condition Programme Level<br>Module 4: Prioritisation  | 2-3 Days                                |

For more information on our upcoming Training Courses and Seminars visit [www.etd-consulting.com/upcoming-past-training](http://www.etd-consulting.com/upcoming-past-training)

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