

1-Day Training Course aimed at Industry



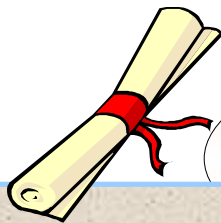
LIFE ASSESSMENT & DAMAGE MECHANISMS IN HIGH TEMPERATURE PLANT (POWER, PETROCHEMICAL, REFINING ETC.)



Note: This course on 11th Nov. will be run back-to-back (at the same venue) with the following **Optional** events (you can attend one or more events):

- 1) 2-day Training Course on **P91/T91** (8-9 Nov),
- 2) 1-day **Seminar & Discussion** on the use of new steels (P91, P92, P122, P23) in high temperature plant (10 Nov).
- 3) 1-day Training Course on **Crack Assessment & Fitness for Service** (12 Nov).

>> To see further information and programme details please visit: www.etc1.co.uk



1-Day Training Course

Venue: BALI HYATT SANUR, BALI,
INDONESIA

Dates: 11 NOVEMBER 2010

European Technology Development (UK) are pleased to announce the organisation of this 1-day Training Course covering 'Life Assessment and Damage Mechanisms' which has been formulated to emphasise the practical implementation of Plant Life Management. The course has been designed to allow the participant to initially establish a sound knowledge base and then build on this to develop a greater understanding of Damage Mechanisms and the subtleties of effective Life Assessment.

Training for Success

Why this course?

The pace of change in the Power and Petrochemical industries has never been higher with a continuing move from principles of “engineering excellence” to a highly commercial management style aimed at maximising company profits and minimising corporate exposure. In this competitive arena, there is increased emphasis on maintaining plant and equipment in productive use well beyond its original design date. This must be achieved without increasing the risk to plant safety, personnel or the environment. Increasingly, run/repair decisions must be made for old, or even new, plant components containing service induced and design allowable defects, based on state of the art analysis and life assessment techniques.

The **modules** in these courses discuss basic failure/damage mechanisms in high temperature plant, plant life assessment in through component failure.

Who Should Attend These Courses?

- *Plant managers* requiring an overview of the techniques available to them.
- All those involved in *high temperature component damage/cracking assessment*.
- *Plant maintenance engineers*.
- Engineers from *service/consulting companies*.
- *Inspection* personnel seeking an appreciation of the use of defect survey results.
- *Planning* personnel seeking a better understanding of state of the art technologies.
- *Insurance Personnel* wishing to increase their knowledge of practical problems and revise established techniques.
- *Researchers* involved in high temperature crack assessment who need to know the various international/industry procedures.

Course Presenters

Dr Ahmed Shibli, Dr D Robertson and Dr S Simandjuntak have well-established track records in component assessment and life management in power generation, petrochemical and refining industries. They also are known for their large contributions in many reputable international publications such as journals and reports.

Course Certificates

This will be awarded for attendance covering completion of the ETD Plant Life Assessment and Damage Mechanisms course.

Feedback

Previous courses have been exceptionally well received. Participant feedback has continually placed these courses at the top of the spectrum, in the range “very good” to “excellent”.

Feedback from a cross section of delegates who attended one of our courses is shown below:

*“The course was exactly what I was looking for and was well executed.”
Robert Anderson, Progress Energy, Florida, USA.*

“Thank you for your interesting classes (and practicals / calculations) and the time we were in London.” Lumbreras Jimenez, Iberdrola, Spain.

“Please thank colleagues for a great course, very enjoyable” Kevin Easby, BASF, UK

Technical Enquiries to:

Dr Sarinova Simandjuntak Tel: + 44 1372 363 111 ssimandjuntak@etd1.co.uk

Who Are We ?

European Technology Development Ltd. (ETD) is a UK based engineering advisory, consulting and R&D company specialising in high temperature plant life assessment/extension, maintenance, materials and engineering issues in all type of power generating and process plant. ETD has, in the recent past, organised various international workshops/ courses/ conferences in the UK, a number of other European countries (Germany, France, Portugal etc.) and Asia, mainly on the issues such as: plant life assessment/extension, high temperature plant materials, plant component safety and durability, performance of in-service welds, power plant cycling and power plant risk based maintenance (RBM). The company is leading and co-ordinating a number of large leading edge international industry initiatives (supported by the industry from North America, Japan, Europe and elsewhere or by funding agencies such as the European Commission) on issues related to the assessment and improvement of high temperature plant performance, materials and design, and maintenance and inspection strategies. The company has carried out/ participated in some leading edge projects on P91 weld repairs, crack assessment, life assessment and integrity issues and has carried out reviews of plant performance in plant worldwide.

DAY - 11 November 2010

REGISTRATION & WELCOME 0830 – 0900 hrs

Module 1: Materials and Damage Mechanisms

0900-1300 hrs

Presenter
ETD, UK

Objectives

A key element for successful plant life management is to have a fundamental understanding of the type of damages occurring at high temperature that affect the performance of materials and thus influence the life of components. The factors that control material properties such as strength, toughness, creep and fatigue are examined and illustrated with common plant problems.

Specific topics will include:

- Ø Effect of failures on plant availability and importance of failure analysis
- Ø Materials performance and metallurgy
- Ø Damage mechanisms
- Ø Time-dependant (Creep, Fatigue, Corrosion) and Time-independent (Tensile, Brittle) failure modes
- Ø Common plant failures, identification and characterisation.

LUNCH 1300 – 1400 HOURS

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Training for Success

Module 3: Plant Life Assessment + Case Study*14.00 – 1700 hrs (with 30 min break)*

Presenter
ETD, UK

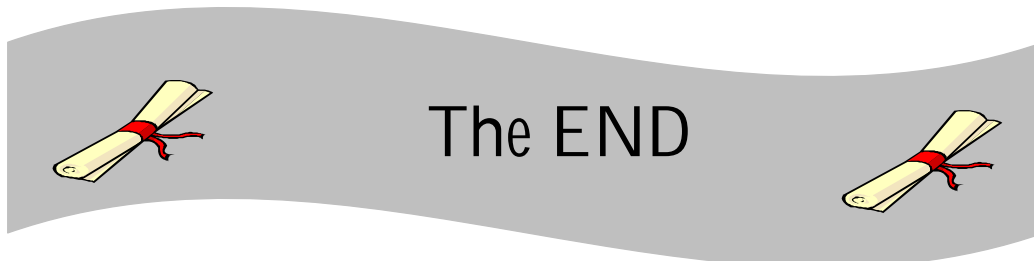
Objectives

This part of the course uses the information gained from the preceding modules to establish how to develop plant life management strategies and perform remaining life assessment. Participants will be able to understand the main factors influencing component life, thereby allowing selection of the most appropriate analysis techniques for specific situations.

The course will conclude with discussion on actual plant case studies i.e. from actual plant experiences.

Specific topics will include:


- Ø Life assessment principles
- Ø Staged approach to life assessment
- Ø Cost effective management strategies
- Ø Standard inspection techniques (MPI, DPI)
- Ø Special inspection techniques (Replication, Strain Measurement)
- Ø Case studies such as effect of tube thinning on life, replication and its use for assessment of creep damage, approach for assessing a tubular component, etc.



REGISTRATION FORM (Please copy and e-mail / fax / post)

**New High Temp. Materials Seminar (10 Nov) + P91 Training Course (8-9 Nov)
+ Life Assessment & Damage Mechanisms Training Course (11 Nov) + Crack
Assessment & FFS Training Course (12 Nov) - Bali Hyatt Sanur, Bali**

REGISTRATION FEE *:

 Please circle in the table below the amount relevant to you. The fee will be charged in pound sterling. For general guidance the conversion rate on 1st January 2010 was: £1 = US\$1.50. *Please feel free to register for one or more events.*

	Reduced Fee (until 1 st October 10)	Full Fee (from 2 nd October 10)
<i>Seminar: New High Temperature Materials</i> (10 Nov. 2010)	£200	£225
<i>Course: P/T91 Advanced Steel (8-9 Nov. 2010)</i>	£700	£750
<i>Course: Plant Life Assessment & Damage Mechanisms</i> (11 Nov. 2010)	£400	£450
<i>Course: Crack Assessment & Fitness-for-Service (FFS)</i> (12 Nov. 2010)	£400	£450

* **Note:** 20% discount for attending any 3 or more events or for group booking of 3 or more attendees from the same organisation.

PAYMENT

By bankers draft, or bank to bank transfer to:

European Technology Development

(For payment by bank to bank transfer, account details will be supplied on request. Contact details are shown at the bottom of this form). *Please quote reference 'Bali Events 10' with the payment and state here how you paid or intend to pay:*

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By Credit Card: Major cards such as Visa/ Master Card/ JCB/ American Express/ Switch are accepted with the exception of Dinners Club. For security please *fax or post* this information.

Name of Account Holder		Amount to pay	£ Sterling
Card Type and No.		Expiry date	
Authorisation signature		Security code	

Venue: Bali HYATT Sanur, Bali, Indonesia (www.Bali.Resort.Hyatt.com)

Accommodation: Information on local hotels can be acquired by email to: bali@matta-tour.com

Delegate Details: (Required for your badge)

Your **title** and **name:**

Company:

Position:

Address:

Phone:

Fax:

E-mail:

REGISTRATION ADDRESS: Please copy and post/ fax/ e-mail to address below:

Registration Section, European Technology Development, 6 Axis Centre, Cleeve Road, Leatherhead, Surrey KT22 7RD, UK

Enquires for registration or accommodation: registration@etd1.co.uk

Tel: + 44 1372 363 111 or + 44 1372 363 112 Fax: + 44 1372 363 222