

Introduction to Refining Processes

A Eurotek training course



ERS Refining Processing

An introduction:

The ERS Refining Processing Introduction training course is a thorough skills course for professionals working within the refining business.

The course will be invaluable to all professionals working in the operation, design and troubleshooting of all refining activities.

In addition, the course will be of value to other staff in providing an insight into how a refinery is integrated within the petroleum and petrochemical industry. Those who are experienced in other fields and seek a review of the fundamentals of Refining will also find this course most beneficial.

Learning objectives:

Upon completion, graduates will be knowledgeable in the fundamentals of refining processes and understand the individual unit operations in terms of design, operation and troubleshooting.

After completing this course you will:

- Have a thorough understanding of the petroleum industry from crude exploration, production through to product specifications and shipment.
- Understand hydrocarbon separation using fractional distillation, catalytic hydro treatment of intermediate streams,

conversion and octane processes.

- Know the relevant refinery operations
- Be able to size pumps, compressors, heat exchangers, piping and control systems.
- Be able to solve problems via Trouble shooting and Root Cause Analysis.



Who should attend?

Professionals working in the operation, design and troubleshooting of all refining activities. In addition, the course will be of value to other staff in providing an insight into how a refinery is integrated within the petroleum and petrochemical industry. Those who are experienced in other fields and seek a review of the fundamentals of Refining will also find this course most beneficial.

This course has been designed for personnel who require a complete overview of refinery processing and performance benchmarks. The course will provide valuable information for those with limited to moderate petroleum refining experience or those who are involved in supporting operations.

Additionally, operating personnel and engineering staff will benefit from this overview of the entire refinery.

Job Titles/Functions Appropriate for the Course Include:

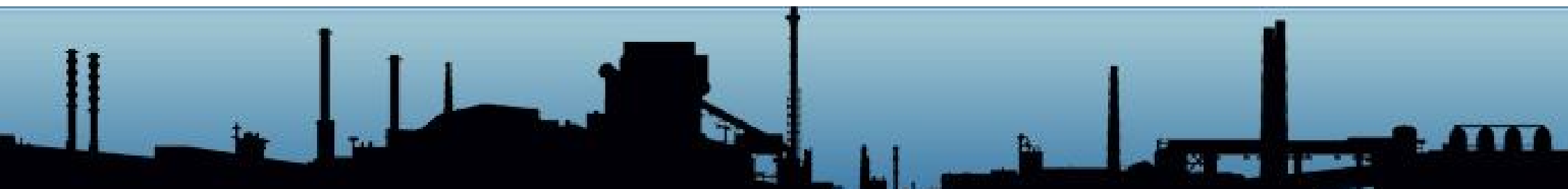
- Process, Project, and Plant Engineers
- Environmental Engineers
- Commercial Development and Planning Engineers
- Fuel Buyers and Oil Traders
- Computer/System Analysts and Refinery Modelling Engineers
- Operations Economic Evaluators
- Insurers and Insurance Evaluators
- Catalyst Manufacturers and Refinery Chemists
- Product, Equipment, Chemicals, Supplies or Services Sales Personnel

Description:

This course will present an overview of a modern, integrated petroleum refinery, including the feedstock properties, product slate and the processes used to convert crude oil and intermediate streams into desirable products.

Basic hydrocarbon chemistry, crude oil properties and fuel product quality will be discussed, including changes to products resulting from worldwide environmental legislation.

Material and energy balances of the various processes will be discussed along with their impact on the overall operability and economic performance of the refinery. Each refining process will be presented covering equipment, operating conditions, feedstock, catalyst, yields, and the relationship between process parameters, unit performance and product output and properties. Additionally, future operations, including anticipated changes in crude oil and product slates will be discussed. The course is designed to complement and supplement material presented in other ERS training courses.



Course Presenter

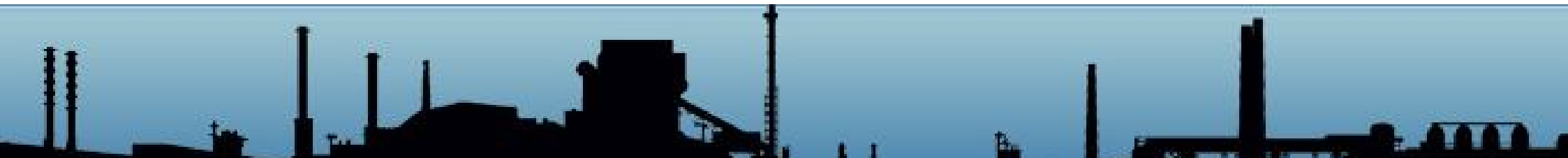
Martin Murphy is a Director and founder of MAM Consulting Ltd. He has over 35 years experience in the oil refining and allied industries from design, troubleshooting, operation and optimisation of both fuels and lubes processes as well as catalysis manufacture and application.

He has worked throughout the world in Exploration and Refining with ExxonMobil and BP, has started up and managed technical service departments, started up many FCCUs including ones at ExxonMobil, Total and Repsol.

He spent several years at ExxonMobil sites implementing non-investment operating improvements. While at BASF he managed new catalyst development programmes in Reforming and FCC as well as streamlining FCC catalyst production at one of their manufacturing plants.

He was the founder of Global Technology Forum, the organisers of the ERTC and ARTC series of Conferences.

He holds patents in fractionation and conversion processes and has authored several papers on operational analysis of conversion processes and catalysis. Martin is a Chartered Engineer and a member of the Energy Institute. He graduated in Chemical Engineering from University College Dublin, Ireland. He is also a PADI open water scuba instructor.



Course programme

Day 1

- Crude Oil Introduction
- Origin, production and transport of crude oil
- Crude Oil & Product Types
- Classification of Crudes
- Product specifications of crude oil cuts General Refinery Processes
- Refinery overview and organisation Distillation basics
- Refinery distillation schemes
- Conversion Processes
- Fixed Bed Hydrocracking
- Ebullating bed Hydrocracking
- Visbreaking
- Thermal Cracking
- Delayed Coking
- Fluid Coking
- Fluid Catalytic Cracking
- Solvent Deasphalting
- Computer Exercises

Day 2

- Octane Processes
- Alkylation
- Reforming
- Isomerisation
- MTBE
- Hydrotreating Processes
- Catalysts
- Product yields and properties Operating conditions and process variables
- Unit Operations
- Heat Exchangers
- Pumps
- Compressors
- Control Valves
- Drums
- Computer Exercises

Day 3

- Process Control Instrumentation
- regulatory control
- constraint control optimisation
- Linear Programming
- What is an LP?
- Why do we need LP's? Common uses of LP's?
- LP structure Planning and scheduling
- -Troubleshooting
- Root Cause Analysis Troubleshooting aids
- Distillation
- Fouling/coking
- Pump failures
- Incident causation
- Control systems
- Case studies -Q&A.



Registration form:**Introduction to Refining Course:**

Sir Christopher Wren's House Hotel, Windsor, UK

Please make a reservation at ERS Course for the following delegate:

Title _____ Given Name _____ Family Name _____
Position _____ Company _____
Address _____
Tel: _____ Fax : _____ Email: _____

For Bookings Received before 16th April: Course fee £1850.00 + 20% VAT

For Bookings Received after this date: Late Booking Supplement of £250.00 + 20% VAT will be applied

Eurotek Refining Services Ltd has obtained a special Conference rate at the Sir Christopher Wren's House Hotel. Bookings at this hotel must be made via Eurotek Refining Services.

- Single room per night (incl. breakfast) £116.67 + 20% VAT
- Double room per night (incl. breakfast) £133.33 + 20% VAT

Arrival Date _____ Departure Date _____ Number of nights required _____

PLEASE NOTE: Payment to be made at time of reservation. If an invoice is required to make payment by bank transfer or cheque please email your request or Purchase order to reservations@eurotek-refining.co.uk and an invoice will be emailed by return.

Make cheque payable to Eurotek Refining Services Ltd.

Transfers to: Account Eurotek Refining Services Ltd IBAN No. GB91LOYD30987301811462

Cancellations, Substitutions & Programme Changes If you are unable to attend the course, you may make a substitution at any time. All substitutions and name changes must be received in writing by mail, e-mail, or Fax. For cancellations received by mail, e-mail or Fax 21 days before course start, 75% of the fees will be refunded. For cancellations received after this date course papers will be sent, but no refund. An official cancellation number must be obtained from Eurotek Refining Services Ltd to qualify for a refund. Course content may be subject to change at Eurotek Refining Services Ltd.'s discretion

Course timetable:**16th May**

08.00 Onwards Course Registration
09:00-17:00 Course Programme

17th May

09:00-17:00 Course Programme
20:00 Course Dinner (free)

18th May

09:00-16:00 Course Programme

Five ways to book

1. Complete and return this form to:
Eurotek Refining Services Ltd 389
Woodham Lane, Addlestone Surrey
KT15 3PP UK
2. Telephone with details on: +44 1932
702914 or
+44 1737 830077
- 3: Complete and return this form
to: Reservations@eurotek-refining.co.uk
- 4: Visit our website at www.eurotek-refining.co.uk and click on Registration Form.
- 5: Complete and Fax this form to: +44
1737830239



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