



Organised by Global Technology Forum

Wastewater treatment

19 – 21
September 2011

London

gtforum.com/wastewater



Key topics:

- Legislative drivers
- Contaminant source and characterisation
- Oil removal technologies
- Emulsion breaking
- Biological COD removal
- Nitrogen removal technologies
- Filamentous bulking/foaming
- Sludge dewatering and disposal
- Effluent polishing and recycle

Introduction

The ERTC Wastewater treatment training course is a comprehensive core skills course for professionals dealing with all aspects of wastewater treatment in refineries and petrochemical plants, with an emphasis on biological contaminant removal.

The course will be highly valuable to all engineers involved in the operation, design and troubleshooting of wastewater treatment plants. Additionally, the course will be useful to any technical personnel wishing to understand the drivers, processes and biology behind wastewater treatment.

It will address practical issues, which will enable the participants to make a positive contribution towards optimising the performance of their effluent treatment plant.

Who should attend?

This programme was developed for a broad range of professionals in need of understanding the fundamentals of wastewater treatment as well as practical guidelines on how to manage a treatment plant.

It is ideal for refinery and petrochemical process and design engineers, unit operators and supervisors as well as operations engineers and maintenance personnel. Additionally, it is well suited for personnel from consulting companies, engineering firms and suppliers of services to the refining industry.

Learning objectives

Upon completion of the course participants will have gained a solid understanding of the key elements associated with the design, operation and troubleshooting of wastewater treatment unit operations. Especially understanding the fundamentals of biological treatment will be a focus.

Furthermore, they will have an overview of the changes in the legislative framework as well as in the characteristics of refinery effluent with changing feedstock.



Course description

This course provides an in-depth overview of wastewater treatment from the sources of wastewater and their associated chemistries to the legislation governing the discharge.

The core of the training comprises the design and operational aspects of the unit operations found in wastewater treatment:

- Primary treatment for free oil, emulsified oil and suspended solids removal
- Biological secondary treatment for removal of dissolved organics and ammonium
- Tertiary treatment, effluent polishing, recycling and odour control
- Sludge dewatering and disposal

The focus is on understanding and troubleshooting the various process steps. Throughout this training, participants are encouraged to share their specific challenges, which will then be discussed to serve as case histories and examples to benefit all the class.





Course programme (registration 8.30am, course starts 9.00am, course ends 5.00pm)

Monday 19 September

Overview of Wastewater Treatment

Sources of wastewater / Chemical composition / General plant overview / Link to process / Legislative drivers: IPPC, Water Framework Directive, EPER

Primary Treatment

Oil separation, emulsion breaking, solids removal / API&CPI separators, dissolved air flotation / Chemical treatment to aid separation

Tuesday 20 September

Secondary Treatment

Biological treatment process overview / Design of treatment layout / Aeration options / Microbiology of wastewater treatment / Filamentous bulking and foaming / Microscopy as a troubleshooting tool / Respirometry

Biological Nitrogen Removal

Nitrification / Denitrification / Emerging technologies

Operational Parameters and Troubleshooting

Process control / Control of sludge age / Loading control / Mass balancing / High ammonia in the effluent / Bulking / floating sludge remediation

Wednesday 21 September

Tertiary Treatment and Polishing

Metal removal / Odour control / Effluent polishing / Recycling options

Sludge Dewatering and Disposal

Sludge thickening / Oily sludge centrifugation / Belt and plate & frame presses

Training course fee (per delegate)

For bookings received before 12 August 2011 Course Fee = **£1999 +20% VAT**

A late booking supplement of £300 +20% VAT will be applied to all bookings received after 12 August 2011

Reservation form

Please make a reservation for the following delegate:

Title	First name
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Surname	
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Position	
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Company	
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2011 Course listings

Blending

7 – 9 March 2011, London
www.gtforum.com/blending

Improving refinery profit margins

21 – 23 March 2011, London
www.gtforum.com/refineryprofit

Introduction to refining

4 – 6 April 2011, London
www.gtforum.com/introrefining

Distillation

4 – 6 May 2011, London
www.gtforum.com/distillation

Fluid Catalytic Cracking

1 – 3 June 2011, London
www.gtforum.com/fcc

Wastewater treatment

19 – 21 September 2011, London
www.gtforum.com/wastewater

Technology selection and implementation

22 – 23 September 2011, London
www.gtforum.com/technology

Catalytic reforming

September 2011, London
www.gtforum.com/reforming

Hydrocracking

11 – 13 October 2011, London
www.gtforum.com/hydrocracking

Energy efficiency

9 – 11 November 2011, London
www.gtforum.com/energy

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For more information, please visit
the individual website listed above
or send us an enquiry via
training@gtforum.com



Course presenters

Renate Ruitenberg graduated with an MSc from Delft University of Technology and has over ten years of experience in designing, commissioning and troubleshooting industrial wastewater treatment plants. After 3 years in R&D, she currently is an Industry Development Manager for the refining and petrochemical industry for Nalco.

Jeffrey Gardenhire graduated with an Engineering BS degree from Texas A&M University. He has worked in the refining industry for over 20 years, with 16 years concentrating on industrial wastewater treatment for Nalco. Most recently, he has worked as global technical consultant for wastewater in the refining and petrochemical industry.

Gaia D'Alessi has a Masters degree in Industrial Chemistry and 2 years of PhD work in the field of biotechnology. She has ten years of experience in municipal and industrial wastewater treatment, focusing on refinery and petrochemical wastewater for the last 8 years. She moved to London from Italy in the beginning of 2008, working as an Industrial Technical Consultant and Industrial Development Manager for Nalco.





Adriana Lobo
 Global Technology Forum
 Incisive Media
 Haymarket House
 28-29 Haymarket
 London SW1Y 4RX



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Accommodation

For help with booking accommodation near the course venue, please contact Event Express via:

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