

Registration Form

A TO Z OF OIL & GAS TO PETROCHEMICALS
5 - 6 May 2011

Registration Fee: SGD\$750.00 nett

Name: Dr/Mr/Mrs/Ms: (Attach your name card, if any)

Designation: _____

Name of Organisation: _____

Address: _____

Contact Person: _____

Email: _____

Tel No (O): _____ Fax No: _____

Dietary Preference: No Pork No Lard / Vegetarian

NUS Alumni Membership (if any) # _____

Payment mode:

Cheque / Bank draft No.: _____

Payable to "National University of Singapore"

Visa/Master/Amex:

Expiry Date: _____ Amount (S\$): _____

Signature: _____

Closing Date :

Please send in your registration form together with your payment by **21 April 2011**

Authorised Signature / Company Stamp

Mailing address: Professional Activities Centre
NUS, Faculty of Engineering
3 Engineering Drive 2, Blk E1 #05-15
Singapore 117578

Fax : +65 6874 5097

3 Easy Ways to Register MAIL or FAX to:



Professional Activities Centre
Faculty of Engineering
3 Engineering Drive 2
Blk E1 #05-15 Singapore 117578
Fax: (65) 6874 5097

REGISTER ONLINE

@ PAC Website:

<http://www.eng.nus.edu.sg/PACentre>

Enquiries: Please contact Gabriel ONG for more information at
Tel: (65) 6516 5113 or e-mail: gab@nus.edu.sg

Fee: SGD\$750.00 nett

Payment: Payment is required prior to the course. Crossed
Cheque should be made payable to "National
University of Singapore" and mailed together with the
registration form to the mentioned address.

Discount: Maximum of 10% discount is applicable to:

- NUS Alumni &
- Organizations / Companies sending three or more participants.

Refunds and Cancellations:

A 50% refund will be made for withdrawals (received in writing) ten working days before the commencement of the course. No refunds will be made thereafter. However, a replacement will be accepted upon prior arrangement at no extra cost. Please inform us of the changes, if any, by fax.

The Professional Activities Centre reserves the right to cancel the course and fully refund the participants, should unforeseen circumstances warrant it. Every effort will be made to inform participants of any changes.

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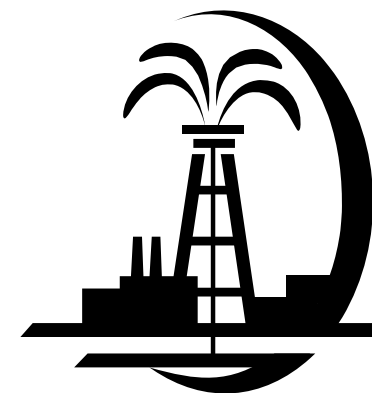
12 PDUs Accredited by PE Board

A to Z of Oil & Gas to Petrochemicals

by

Dr U.K. Dutta

CEO, The Technomanage Group



Date: 5 – 6 May 2011

Time: 9.00 am – 5.00 pm

Venue: National University of Singapore

Organised by:

**Professional Activities Centre
Faculty of Engineering
National University of Singapore**

Course Objectives

- ✚ To give an idea of the entire system of the hydrocarbon value chain, from oil and natural gas production to valorisation into refinery products and petrochemicals.
- ✚ To provide a business executive working in either upstream or downstream of the system, a perspective of how he is linked to the rest of the system.
- ✚ Highlight technology aspects, opportunities and economics in the chain.

We go further step by step expanding each of the blocks. We cover the technologies, business trends and economics.

The course is designed and presented in a manner that it is received well and **appreciated by both technical and non-technical participants**. It is a popular program appreciated by major international companies in South East Asia, USA and India.

Course Outline

Definitions & Concepts

- ✚ Definitions of Raw Materials – What is Crude Oil? What is Natural Gas? What are LNG, LPG, CNG & NGL?
- ✚ Properties & characteristics of oil and gas.
- ✚ The Value Chain – Oilfield to the plastics & fibers.

Processing & Transportation of Oil & Gas

- ✚ Exploring for hydrocarbon – an overview.
- ✚ Oilfield Processing – Why and How?
- ✚ Process Systems – Separation, Dehydration of oil and gas, Pumping & Compression
- ✚ Offshore Production Systems – Platforms, deep sea facilities and FPSO. Deep sea challenges.
- ✚ Modes of Transportation of Oil and Gas :Road tankers & Railcars, Marine tankers, LNG tankers, Transportation by Pipeline

Gas Processing

- ✚ Configuration of Gas Processing facility
- ✚ Gas Treatment: Dehydration, Sweetening
- ✚ Low Temperature Processing: Recovery of ethane, propane and LPG, Conversion to LNG
- ✚ The LNG Cycle – upstream and downstream terminals

Petroleum Refineries

- ✚ The Raw Material & Products – Characteristics & Specs.
- ✚ Why Refining – The objective of processing and significance of various process units.
- ✚ Basic Processes – An Overview of Separation Process (Distillation), Conversion Processes (Cracking), Gasoline Octane improvement (Reforming), Hydro-treating. Trends on Sulfur Specification and related processing.
- ✚ Development of Refinery Configurations – How it has developed and changed over the years. How the economics, environmental specifications and changing product specification changes the configuration.
- ✚ Modern Refinery Economics – How to make it economically attractive.
- ✚ Environmental Aspects
- ✚ Trends on Technology

Petrochemicals

- ✚ What are Petrochemicals?
- ✚ The Raw Materials and the Products (End Users)
- ✚ Configuration of a Petrochemical Complex – Naphtha based, Gas based and Aromatics based
- ✚ Major Processes Schematics – Major processes such as cracking, polymerization and aromatics extraction
- ✚ Petrochemical Economics
- ✚ Technological Trends
- ✚ The Value Chain – Examples of vertical integration

Trends on Technology and Economics

- ✚ The Economic Scenario
- ✚ The price of CrudeOil – Trends of the last forty years and likely future scenario
- ✚ The Challenges Solved– LNG, Syn Fuel (GTL). CNG & LPG as Auto Fuel
- ✚ Natural gas as future source of energy, Shale gas, Hydrates.
- ✚ The Business Trends - Oil & Gas Production, LNG, Refinery & Petrochemicals
- ✚ Upstream and downstream integration for profitability
- ✚ Future energy sources

Target Audience

- ✚ Business Managers, Corporate Planners, Marketing Managers of companies from hydrocarbon industry (oil & gas, pipeline, refinery and petrochemicals), who want to have a complete overview of the entire value chain of hydrocarbon industry. It applies both to operating and contracting industries.
- ✚ Finance and HRD personnel from companies working in hydrocarbon industry who want to know the technical aspects of the industry they are working in.
- ✚ Executives who have interaction with upstream and downstream of the industry they are working in.
- ✚ Executives from financial institutions and management consultants who are often engaged in evaluating a project in hydrocarbon industry.
- ✚ Those working in banks which finance major hydrocarbon projects.
- ✚ Industrial architects and planners.

Course Lecturer

Dr.U.K.Dutta: Doctorate in Chemical Engineering from Loughborough University of Technology (UK), he is a consultant in the Hydrocarbon Process Industry, focusing on specialist consultancy in niche areas and training. He has over 35 years of experience in Hydrocarbon Industry (upstream & downstream) in the areas of process and technology, engineering, project management, marketing and organization development. He had work experience and association with major Indian and International companies like EIL, Union Carbide, CE Natco, Lummus Crest, Triune and Rotary Engineering.

He presented papers on Technology Development & Technology Transfer in major International Conferences such as ASCOPE & CHEMTECH. He has conducted training for executives from major companies like Petronas (Malaysia), Aker-Kvaerner (Philippines), Yokogawa (India), Vopak (Singapore), Solar Turbines (Singapore and USA), PTT (Thailand), Technip and other major multinationals. His programs have been successfully conducted for industry executives in Singapore jointly with NUS. Presently he is running his own consultancy firm Technomanage Consultants, based in New Delhi.