

# **BUILDING OPERATIONAL EXCELLENCE IN THE PROCESSING INDUSTRY**

March 25– 29, 2006, Crowne Plaza Hotel, Dubai



## **WHAT YOU CAN EXPECT TO GAIN**

- ◆ The Process Unit Equipment Fundamentals – how each system functions from a hands on viewpoint
- ◆ Safe commissioning and utilization of process equipment
- ◆ Maintenance Guidelines
- ◆ Process furnace concepts and application
- ◆ Rotating equipment concepts and application
- ◆ Catalyst and mole sieves concepts and application
- ◆ Distillation concepts and troubleshooting
- ◆ Process control concepts and application
- ◆ Cooling water concepts and application
- ◆ Flare safety guidelines

## **ABOUT THIS COURSE**

The success of every company depends on each employee's understanding of the business's key components. Employee training and development will unlock the companies' profitability and reliability.

The unit on-stream time is an indication of operations training need. A first quartile operating unit's on steam factor is greater than 97%. If the on-stream factor is below 97% a review of operation training and development is warranted. If on-stream factor or average years of operating experience is declining, a review of operations training and development should be considered.

This seminar was designed to serve as a guide to building the Operation and Maintenance group's excellence in the processing industry. Understanding the fundamentals of process unit operations equipment will greatly improve your team's operational excellence and safety.

The Operation and Maintenance groups are the process unit's first line of defense; the flare is the last line of defense.

Sectors covered in this seminar include;

- ◆ Furnaces
- ◆ Boilers and Steam Systems
- ◆ Steam Turbines, Pumps, and Compressors
- ◆ Distillation
- ◆ Piping and Heat Exchangers
- ◆ Process Control Systems
- ◆ Electrical Systems
- ◆ Catalyst and Molecular Sieve Systems
- ◆ Cooling Water Systems and Treatment
- ◆ Process Utilities

#### MEET THE SUBJECT MATTER EXPERT



**Karl Kolmetz** has over twenty-five years of progressive experience in the design, construction, commissioning, and operations management of process units from the US Gulf Coast to Alaska through Asia. He has a strong background in the manufacturing of a wide variety of chemical process technologies and product categories including; cryogenic liquids, ethylene, propylene, benzene & toluene extraction, styrene, catalytic reforming, crude atmospheric & vacuum fractionation, polyvinyl chloride, and steam & power plant operations.

Mr. Kolmetz has substantial experience in the design and troubleshooting of distillation columns, which is one of the key unit operations in hydrocarbon production.

His experience includes;

- ◆ Four years (4) of Construction, two of which were on the Alaskan Pipeline with Fluor Daniel.
- ◆ Seventeen years (17) of Refining experience in the Charter / Phibro (now Valero) Refinery in Houston, Texas.
- ◆ One year of commissioning experience with Raytheon Badger Ethyl benzene / Styrene plants in Asia.
- ◆ Seven years (7) Ethylene experience: four years in Louisiana and three years in Malaysia with the Westlake / Titan Group.
- ◆ Two years (2) of distillation design experience as the Asia Pacific Technology Manager for a specialty distillation company.

Karl is currently Manager of Process Technology for KLM Technology Group.

His Publications include authoring and co-authoring over 35 technical papers on a variety of subjects for product recovery, troubleshooting, training, project management, process design with safety and environmental concerns. Papers have appeared in Oil and Gas Journal (5), Hydrocarbon Processing (1), and Chemical Engineering Progress (1). Conference papers have been presented at the AIChE Conferences, the Indian Oil & Gas Conference, the Japan Petroleum Institute Refining Conference, Oil and Fats International Congress, Best Practices in Process Plant Management, and the Asean Regional Olefins Conferences, as well as others.

Karl has been nominated to a task force to help review Chemical Engineering Curriculum in Malaysia. He has a Bachelor of Science in Chemical Engineering from The University Of Houston. He is a member of the American Institute of Chemical Engineers and The American Chemical Society.

#### COURSE OBJECTIVE

This seminar's goals are to provide an understanding of the fundamentals of process unit operational equipment in the processing industry.

This seminar would be beneficial to those directly or indirectly involved in the processing industry. To those with experience in the processing industry, this seminar can reinforce their practical experience and broaden their data base. To those new in the processing industry this seminar can serve as a platform to build their data base of experience.

This seminar focuses on the core building blocks of the process unit equipment. The program will emphasise process unit equipment fundamentals, safe utilization of these fundamentals by operations and maintenance personnel, and equipment troubleshooting techniques.

#### WHO SHOULD ATTEND

- ◆ People who are making day to day decisions regarding operation, design, and economics of processing plants;
  1. 1st Line Operations personnel
  2. Operation Supervisors
  3. 1st Line Maintenance personnel
  4. Maintenance Supervisors
  5. Senior Plant Supervisors
  6. Operations Engineers
  7. Process Support Engineers
  8. Design Engineers
  9. Cost Engineers
- ◆ Ideal for veterans and those with only a few years of experience who want to review or broaden their understanding in Processing Plant Operations.
- ◆ Other professionals who desire a better understanding of subject matter

#### FEES

**US\$ 2,900-** per delegate. This rate includes Participants' Pack (Folder, Manual, Hand-outs, etc), buffet lunch and coffee/tea during breaks. Please check the registration form for discount information.

#### ACCOMMODATION

Accommodation is not included in the workshop fees. However, any accommodation required can be arranged by **TCQ TRIANGLE** at the time of booking.

#### CERTIFICATE

A Certificate for Training reception signed by **Karl Kolmetz** will be handed to all delegates successfully completing the workshop.

## COURSE OUTLINE

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### Introduction

- ◆ Overview of the Processing Industry
- ◆ Chemistry of the Processing Industry
- ◆ Safety for the Operation and Maintenance Groups

### Furnaces

- ◆ Overview of Process Furnace
- ◆ Safe Commissioning of a Process Furnace
- ◆ Economics – Excess Air Control, Flame Pattern
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety

### Boilers and Steam Systems

- ◆ Overview of Boilers and Steam Systems
- ◆ Safe Commissioning of Boilers and Steam Systems
- ◆ Economics – Excess Air Control, Demin Water and Condensate
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety

### Steam Turbines, Pumps and Compressors

- ◆ Overview of Rotating Equipment
- ◆ Safe Commissioning of Rotating Equipment
- ◆ Economics – Steam Temperature, Preventative Maintenance
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety

### Distillation

- ◆ Overview of Distillation Equipment
- ◆ Safe Commissioning of Distillation Equipment
- ◆ Economics – Reflux Optimization, Reboiler Optimization, Tray Efficiency
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines – Tray verses Packing
- ◆ Safety

### Piping and Heat Exchangers

- ◆ Overview of Piping and Heat Exchanger Equipment
- ◆ Safe Commissioning of Piping and Heat Exchanger Equipment
- ◆ Economics – Heat Exchanger Monitoring
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety – Pressure Concerns

### Process Control Systems

- ◆ Overview of Process Control Systems
- ◆ Safe Commissioning of Equipment utilizing Process Control Systems
- ◆ Economics – Process Optimization and Integration
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety

### Electrical Systems

- ◆ Overview of Electrical Systems
- ◆ Safe Commissioning of Electrical Systems
- ◆ Economics – Lighting Guidelines
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety - wire temperature monitoring

### Catalyst and Molecular Sieve Systems

- ◆ Overview of Catalyst and Molecular Sieve Systems
- ◆ Safe Commissioning of Catalyst and Molecular Sieve Systems
- ◆ Economics – Life Evaluation
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety – temperature monitoring

### Cooling Water Systems and Treatment

- ◆ Overview of Cooling Water Systems and Treatment
- ◆ Safe Commissioning of Cooling Water Systems
- ◆ Economics – Cost / Benefit Evaluations
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety – Water vapor to liquid ratios

### Process Utilities

- ◆ Overview of Process Utilities
- ◆ Safe Commissioning of Process Utilities
- ◆ Economics – Cost / Benefit Evaluations
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety – Nitrogen Issues

### Relief Valve and Flare Systems

- ◆ Overview of Relief Value and Flare Systems
- ◆ Safe Commissioning of Relief Valve and Flare Systems
- ◆ Economics – Evaluation of flare sweeps
- ◆ Trouble Shooting
- ◆ Maintenance Guidelines
- ◆ Safety – Temperature Issues

### Summary

### PROGRAMME

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08:30 AM- 10:00 AM	First Session
10:00 AM- 10:15 AM	First Break
10:15 AM- 12:00 PM	Second Session
12:00 PM– 12:30 PM	Second Break
12:30 PM- 02:30 PM	Third Session
02:30 PM- 03:30 PM	Lunch

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# BUILDING OPERATIONAL EXCELLENCE IN THE PROCESSING INDUSTRY

25-29 March 2006  
Crowne Plaza Hotel • Dubai

## REGISTRATION FORM

Yes, Please register the following personnel to attend the workshop  
(Use copies of this form for additional participants)

1st Delegate  
Name Mr/Mrs/Ms

Position

Telephone Fax

Email

2nd Delegate  
Name Mr/Mrs/Ms

Position

Telephone Fax

Email

3rd Delegate  
Name Mr/Mrs/Ms

Position

Telephone Fax

Email

4th Delegate-FREE!  
Name Mr/Mrs/Ms

Position

Telephone Fax

Email

## AUTHORISATION

Organization

Address

State Country

Telephone Fax

Authorising Manager

Position

Signature

Date

## 4 EASY WAYS TO REGISTER

- ☎ Call +971 4 214 9560
- ☎ Fax the registration form to +971 4 214 9501
- ✉ Email this form to [training@tcqtriangle.com](mailto:training@tcqtriangle.com)
- ✉ Mail this form along with Cheque/draft to  
**TCQ TRIANGLE**  
P O Box 54620  
Dubai  
United Arab Emirates

## PRICES AND OFFERS

### Fees

5-Day Seminar : **US\$ 2,900/-** per delegate

### Early Bird Offers

Register for US\$ 2700/- on or before 28th February 2006 and save **US\$ 200/-**

Register for US\$ 2500/- on or before 28th January 2006 and save **US\$ 400/-**

### Team Discounts

Send three delegates from your organization and the fourth delegate attends **FREE**

### Hotel Reservations and Visa

Please contact us for any assistance in Hotel Reservations or Visas.

## METHOD OF PAYMENT

Cheque/Draft Payable to **TCQ TRIANGLE**  
Bank Transfer A/C No. 1000635563  
Commercial Bank of Dubai  
Al Maktoum Branch  
SWIFT: CBDUAEAD

Invoice

Contact Name:

Tel:

Fax:

### Terms and Conditions

**Fees** are inclusive of programme materials and refreshments

**Payment terms:** Following completion and return of the registration form. Full payment is required within 5 days from receipt of invoice unless otherwise as stated in the invoice. TCQ TRIANGLE reserve the right to refuse admission, if payment is not received on time.

**Cancellation/Substitution:** If you are unable to attend, you can send a substitute delegate in your place. If this is not possible, a \$100 service charge will be payable. Registrations cancelled less than 2 weeks before the event must be paid in full. Cancellation must be received in writing by mail or fax before two weeks of the event. Non-payments and non-attendance does not constitute cancellation. If for any reason TCQ TRIANGLE decides to cancel or postpone the event, TCQ TRIANGLE is not responsible for covering airfare, hotel or other travel cost incurred by clients.

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