

**19, 20, 21 APRIL 2010**

JW MARRIOTT HOTEL  
KUALA LUMPUR

*A 3- day intensive program on*

# STORAGE TANKS

## **FOCUSING ON**

- **Design Considerations**
- **Construction, Erection and Commissioning**
- **Inspection & Maintenance**
- **Testing and Repairs**
- **LNG & GTL Storage Tanks**
  - Design Types & Considerations
  - Construction & Erection
  - Maintenance & Repairs

## Day One

Monday, 19th April 2010

9:00 Welcome Address and Course Introduction

### TYPES OF STORAGE TANKS

- Vertical Storage Tank
  - Floating Roof
  - Fixed Roof
- LNG Tanks
- Gas Tanks
  - Bullet Tanks
  - Spherical Gas Tanks
- Bolted Tanks

10:30 Morning Coffee

### BASIC DESIGN CONCEPTS

- Foundation Design
- Bottom Plate Thickness % Side Layer Plates
- Roof Frame Design
- Site Location Selection

1:00 Lunch & Zohor

### CONSTRUCTION AND ERECTION

- Floating Roof Tank
- Fixed Roof Tank
- Bullet Type Gas Tanks
- Spherical Gas Tanks
- Bolted Tanks
- Welding Procedures

- Plate Pre-Forming
- Bund Provision

3.30 Afternoon Tea

3.45 cont. **CONSTRUCTION AND ERECTION**

4:30 Review and Q&A

5:00 End of Day 1

## Day Two

Tuesday, 20th April 2010

### TANK OPERATIONS

- Operating Pressures
- Vaporization And Its Effect On Operating Pressures
- Operating Tanks With Higher Fluid Density
- Wind Load Effects On Verticality
- Inspection Of Vents And Other Safety Features
- Leak Test

### OPERATING PROBLEMS

- Water Formation Due To Vaporization
- Product Contamination
- Sludge Deposits At Tank Bottom

10.30 Morning Coffee

10.45 **MAINTENANCE AND REPAIR PART 1**

- Corrosion Inhibition
- Tank Painting and Coating
- Painting Inspection and Repair
- Sludge Removal and Tank Cleaning
- Sludge Treatment Disposal

1:00 Lunch & Zohor

### MAINTENANCE AND REPAIR PART 2

- Tank Leak Repair
- Hot Tapping
- Leak Repair
- Valve Replacements and Repair
- Foundation Repair
- Tank Verticality Repair

3.30 Afternoon Tea

3.45 cont. **MAINTENANCE AND REPAIR PART 2**

4:30 Review with Q&A

5:00 End Of Day 2

## Day Three

Wednesday, 21st April 2010

### LNG & GTL STORAGE TANKS

#### LNG TANK DESIGN TYPES

- Double Walled

- Concrete Components Design by France
- Design Capacities

10:30 Morning Coffee

### 10.45 **BASIC DESIGN CONSIDERATIONS**

- Site Selection Concerns
- Materials Selection
- Insulation
- Safety
- Wind load considerations
- Venting Provisions

1:00 Lunch & Zohor

### 2:00 **CONSTRUCTION AND ERECTION**

- Foundation
- Bottom Plate and Side plates Connection
- Welding Procedures
- Verticality Issues
- Wind Load Factors
- Floating Roof Sealing

3:30 Afternoon Tea

### 3:45 **MAINTENANCE & REPAIRS**

- Painting Repairs
- Water Drainage System
- Cathodic Protection System
- Weld Repairs

5.00 End of Course

### **LEARNING PARTNER**

**ROBERTO MARAVILLA**, BS in Mech Eng., was acting Consultant to Petronas & Qatar Petroleum on Pipelines & Piping System and Mechanical Equipment Management.

Prior to that, Roberto was a Corporate Assessor with a Multinational Oil and Gas company, where he evaluated the competency of engineers, operators and technicians. He was responsible for identifying, analyzing, developing and delivering of courses/training programmes. Roberto has also customized courses for Esso Production Malaysia, Sudan Petroleum and PetroVietnam oil refinery.

He has taken the lead in the development and delivery of the multinational company initiative on “World Class Plants” with subjects like Reliability Centered Maintenance, Pipelines and Piping Systems, Distillation Columns, Storage Tanks & Maintenance of Boilers.

Roberto was a Deputy Project Manager responsible for a project implementation valued at USD 40 million. He also served as a Project Manager in a Nuclear Power Plant overseas.

With his vast experience, he is able to provide hands-on and practical training sessions, which have received excellent feedback from past clients from both the local and international markets. Roberto has also conducted two in-house training courses on Storage Tanks for Fluor Daniel Inc., were received well by the client.

### **WHO SHOULD ATTEND**

- Consulting Engineers
- Maintenance Engineers
- Project Engineers
- Maintenance Superintendents
- Maintenance Personnel
- Service Engineers
- Operations, Maintenance and Instrumentation Leadsman
- Plant Operators
- Chargemen
- Technical Assistants
- Technical Co-ordinators
- Operation & Maintenance Personnel
- Technicians
- New/Trainee Engineers
- Contractors

### **METHODOLOGY**

Participants learn through lectures with interactive presentation (Questions & Answers). The program is designed with case studies, review and discussion. As the subject progresses, active audience participation is encouraged along the entire course with open forums and Question & Answers.

## STORAGE TANKS

19, 20, 21 APRIL 2010 | KUALA LUMPUR

BAYARAN POS JELAS  
POSTAGE PAID  
PEJABAT POS BESAR  
KUALA LUMPUR  
MALAYSIA  
NO. WP 0722

Please fax us the completed registration form

Name (Dr/Mr/Mrs/Ms)

Company Name

Designation

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Country

Tel (Home)

(Office)

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Fax

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100471

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22-23 March 2010 | Kuala Lumpur
- **Best Practices In Presentation Of Financial Statements And Annual Reports**  
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## HOW TO REGISTER

ONLINE: [www.cmtevents.com](http://www.cmtevents.com)  
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POST TO: Lot 7.03, 7th Floor, North Block,  
The Ampwalk, 218 Jalan Ampang,  
50450 Kuala Lumpur

## FEES

The full Registration Fee includes cost of all sessions, luncheon, coffee/tea & documentation.

1 Person	Group fee per person for 3 or more* (from the same company)
RM3095	RM2695 (MIN SAVINGS OF RM1200)

\* Terms and conditions apply.

**Cancellations, Refunds & Transfers:** A full refund will be promptly made for all written cancellations 3 weeks before the meeting. Thereafter, cancellations are not refundable. A substitute may be made at any time.

## PAYMENT

### By Telegraphic Transfer

ACCOUNT NAME:

**Centre for Management Technology Sdn Bhd**

A/C No: **3 - 0903390 - 12**

BANK: Public Bank Berhad

BRANCH: Grd Floor, Menara Public Bank  
Jalan Ampang

swift code: PBBEMYKL

*TT must include additional RM75 for Beneficiary's Bank charges. Delegates must bear all bank charges and local taxes (if applicable). Fees must be NETT of ALL charges.*

CHEQUES:

Crossed & payable to

**"Centre for Management Technology Sdn Bhd"**

## CERTIFICATE OF COMPLETION

A Certificate of Completion will be awarded upon successful completion of each course. This serves as evidence of your personal and professional commitment to your career.

## COURSE TIMING

Registration: 8.30 am, Course Begins: 9.00 am,  
Morning Coffee: 10.30 am,  
Lunch: 1.00 pm to 2.00 pm,  
Tea Break: 3:30 pm, Course Ends: 5.00 pm

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