



**C**entre for  
**M**anagement  
**T**echnology®  
into our 26<sup>th</sup> year

*A 2-day intensive program on*

# ***STORAGE TANKS***

**18-19 May 2009** | Crowne Plaza Mutiara Hotel, Kuala Lumpur

- **Design Considerations**
- **Construction, Erection and Commissioning**
- **Inspection & Maintenance**
- **Testing and Repairs**

#### ***WHO SHOULD ATTEND***

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

### **COURSE HIGHLIGHTS:**

- Basic Design Concepts
- Types Of Storage Tanks
- Construction And Erection Of Typical Aboveground Storage Tank
- Operations
  - + Operating Principles
  - + Operating Problems
    - Foaming
    - Leaks And Repairs
    - Corrosion
    - Vent Associated Problems
    - Spillage Control And Environment Protection
- Maintenance, Repair And Troubleshooting
  - + Bottom Plate Thickness Inspection And Analysis
  - + Tank Verticality
  - + Leak Test
  - + Sludge Removal And Tank Cleaning
  - + Sludge Treatment And Disposal

## *Day 1* Monday, **18th May 2009**

9:00 Welcome Address and Course Introduction

### **BASIC DESIGN CONCEPTS**

- Types Of Storage Tanks
  - Floating Roof
  - Fixed Roof
  - Bullet Tanks
  - Spherical Gas Tanks
  - Bolted Tanks
  - Plate Thickness, Bottom And Side Plates
  - Roof Frame Design

10:30 Tea Break

10:45 **BASIC DESIGN CONCEPTS** (CONT)

1:00 Lunch

2:00 **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

Program topics, speakers and schedules published herein are confirmed as at printing time. Please refer to the event's timetable page at [www.cmtevents.com](http://www.cmtevents.com) for the most up-to-date information.

3:30 Tea Break

3:45 **CONSTRUCTION AND ERECTION**  
(CONT)

4:30 Review and Q&A

5:00 End of Day 1

## *Day 2* Tuesday, 19th May 2009

9:00 **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

9:30 **OPERATING PROBLEMS**

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

10:30 Tea Break

10:45 **MAINTENANCE AND REPAIR**  
**PART 1**

- Corrosion Inhibition
- Tank Painting And Coating

1:00 Lunch

2:00 **MAINTENANCE AND REPAIR**  
**PART 2**

- Painting Inspection And Repair
- Sludge Removal And Tank Cleaning
- Sludge Treatment Disposal
- Tank Leak Repair
- Hot Tapping
- Leak Plugs
- Valve Replacements And Repair

3:30 Tea Break

3:45 **MAINTENANCE AND REPAIR**  
**PART 2** (CONT)

4:30 Review with Q&A

5:00 End Of Course

STORAGE TANKS

Name \_\_\_\_\_  
 Position \_\_\_\_\_  
 Email \_\_\_\_\_  
 Name \_\_\_\_\_  
 Position \_\_\_\_\_  
 Email \_\_\_\_\_  
 Tel \_\_\_\_\_ Fax \_\_\_\_\_

Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/Postcode \_\_\_\_\_ Country \_\_\_\_\_  
 Approving Manager's Name \_\_\_\_\_  
 Position \_\_\_\_\_  
 E-mail \_\_\_\_\_

\_\_\_\_\_

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

	1 Person	Group fee for 3 or more* (from the same company)
<b>Regular Fee</b>	<b>RM2695</b>	<b>RM2395 (MIN SAVINGS OF RM900)</b>

\* 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.

**Cheques :** Crossed & payable to  
**"Centre for Management Technology Sdn Bhd"**

Photocopy Registration Form to Preserve Brochure Copy. May 2009

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**TO REGISTER**

Online : [www.cmtevents.com](http://www.cmtevents.com)  
 Email : [adminkl@cmtsp.com.sg](mailto:adminkl@cmtsp.com.sg)  
 Fax : (603) 2162 6393  
 Tel : (603) 2162 7322  
 Post to : Lot 7.03, 7th Floor, North Block, The Ampwalk,  
 218 Jalan Ampang, 50450 Kuala Lumpur

**CERTIFICATE OF COMPLETION**

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

**PROGRAM TIMING**

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

**TELEGRAPHIC TRANSFER**

Account Name: **Centre for Management Technology Sdn Bhd**  
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**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, analysing, developing and delivering of courses/training programmes. Roberto has also customised 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. *In September 2007, Roberto conducted two in-house training courses on Storage Tanks for Fluor Daniel inc. which were received well by the client.*

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