



Centre for  
Management  
Technology®  
into our 25<sup>th</sup> year

*A 2-day intensive course on*

# ***PRESSURE VESSELS & PIPING SYSTEM***

**27 - 28 August 2008 ■ JW Marriott Hotel, Kuala Lumpur**

## ***COURSE HIGHLIGHTS:***

- Design Parameters For Pressure Vessels (Thin Walled)
- Construction And Fabrication
- Maintainability
- Piping Failures, Consequences And Collateral Damage
- Inspection, Testing And Integrity Assurance
- Trouble Shooting
- Protection Systems For Overpressure
- Repairs, Modifications And Remedial Measures

## COURSE INTRODUCTION

This integrated course covers pressure vessels design, construction and fabrication in accordance to applicable codes and standards. This course also covers the associated piping systems operations, maintenance, repair, failure detection to achieve reliable, cost effective and high integrity piping systems.

This course combines sound engineering practices, applicable code requirements and best industry practices in approaching solutions to common problems.

## COURSE OBJECTIVES

The primary objective of this course is to enable the participants to clearly understand the foundation and key aspects of pressure vessels and associated piping systems as to design, maintenance, operation, failure prevention and troubleshooting. This course will allow participants to acquire a good working knowledge of practical and effective methods to achieve cost effective operations and reliable systems integrity.

### WHO SHOULD ATTEND

- Consulting Engineers
- Maintenance Engineers
- Project Engineers
- Maintenance Superintendents
- Maintenance Personnel
- Service Engineers
- Operators
- M & E Foremen
- Technical Assistants
- HR and Administration staff
- Technical Co-ordinators
- Purchasing and Materials Control personnel
- Operation & Maintenance Personnel
- Technicians
- New/Trainee Engineers
- Contractors

## Day 1

Wednesday, 27<sup>th</sup> August 2008

### 9.00 COURSE INTRODUCTION

- Introduction To Pressure Vessels And Piping System

### 9:30 DESIGN CRITERIA FOR PRESSURE VESSELS

- Stress factors
- Newton's Law

10.30 Morning Coffee

### 10.45 FABRICATION GUIDELINES

- ASME Section 1, 4 & 8 Code requirements
- B 31.1 & B 31.3

### WELDING DESIGN AND PROCEDURES

- AWS Code Requirements
- Best Practices For High Pressure Vessels

1.00 Lunch and Zohor

### 2.00 MAINTAINABILITY CONSIDERATIONS

- Maintenance Practices
- Isolation, Inspection And Cleaning
- Corrosion, Embrittlement, Creep, Fracture And Related Failures

3.30 Afternoon Tea

### 3.45 FAILURE CONSEQUENCES AND HANDLING OF COLLATERAL DAMAGE

- Failure Causes
- Failure Modes
- Inspection Frequency

4:30 OPEN FORUM

5:00 End of the Day 1

## Day 2

Thursday, 28<sup>th</sup> August 2008

### 9.00 FAILURE PREVENTION

- Overpressure Protection
  - Safety Valves
  - Safety Plugs

10:30 Morning Coffee

### 10:45 TROUBLESHOOTING

- Live Loads And Excessive Thrusts
- Leaking Joints
- Pipe Sag
- Resonance And Vibration

1:00 Lunch and Zohor

### 2:00 REPAIRS, MODIFICATIONS AND REMEDIAL MEASURES

- Leaks
- Hot Tapping

3:30 Afternoon Tea

### 3:45 CASE STUDIES AND OPEN FORUM

5:00 End of Course

#### **METHODOLOGY**

*Participants learn through lectures with interactive presentation (Questions & Answers).*

*As the subject progresses, active audience participation is encouraged along the entire course.*

#### **KEY BENEFITS OF ATTENDING THIS COURSE...**

1. *Obtaining a clear understanding of the foundation theories and practice on the key issues on Pressure Vessels design, operation, maintenance, failure prevention and troubleshooting.*
2. *Conceptualizing the inter relation of the associated piping system for high pressure applications.*
3. *Obtaining a thorough explanation on the relevance of specific codes as it applies to pressure vessels and its accompanying piping lines.*
4. *Acquiring a sound working knowledge on the effective methods for design of pressure vessels and piping systems that will redound into a more cost effective and better systems reliability of the whole system.*
5. *Acquiring the basic knowledge of troubleshooting high pressure systems in line with industry best practices.*
6. *Analyzing systems failure when confronted with real examples of failures related to both pressure vessels and associated piping systems.*
7. *Acquiring a better skill in analyzing failure consequences as they will be introduced to collateral damage concepts.*

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.

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 Email \_\_\_\_\_  
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 Address \_\_\_\_\_  
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 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>RM2,695</b>	<b>RM2,295</b> <b>(MIN SAVINGS OF RM1200)</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. August 2008

**TELEGRAPHIC TRANSFER**

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**TO REGISTER**

Online: **www.cmtevents.com**  
 Email: **adminkl@cmtsp.com.sg**  
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 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 course. This serves as evidence of your personal and professional commitment to you 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

Register online ~ [www.cmtevents.com](http://www.cmtevents.com)

**LEARN FROM THE BEST**

**ROBERTO MARAVILLA**, BS in Mech Eng., was acting Consultant to Petronas Plants & Qatar Petroluem on the following subjects; Pipelines & Piping System and Mechanical Equipment Management.

Prior to that, Roberto was a Corporate Assessor attached to a Multinational Oil and Gas company, where he evaluated the competency of engineers, operators and technicians. He was also responsible for identifying, analysing, developing and delivering of courses/training programmes for the staff. Roberto has also customised courses for other clients, notably ESSO Production Malaysia, SUDAN Petroleum and PETRO-VIETNAM 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 – A New Approach, Pipelines and Piping Systems, Mechanical Equipment Management, Operations and Maintenance of Boilers, he has also developed and delivered a host of other generic courses like Pumps, Compressors, Furnace, Distilling Columns, Separators, Heat Exchangers, Internal Combustion Engines, Gas Turbines, Storage Tanks.

Roberto also was a Deputy Project Manager responsible for a project implementation, which totalled a contract value of USD 40 million and has 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.

*A 2-day intensive course on*

**PREDICTIVE MAINTENANCE & TROUBLE SHOOTING – Pumps & Compressors**

**21-22 July 2008** • JW Marriott Hotel, Kuala Lumpur

**COURSE HIGHLIGHTS**

- Preventive Maintenance
- Predictive Maintenance
  - Tools And Equipments
    - Oil Analysis
    - Vibration Analysis
    - Thermography
    - Ultrasonics
  - Best Approaches Towards Predictive Monitoring
  - Continuous Improvement Programs
- Designing A Proper Maintenance Mix
- Reliability Centered Maintenance
- Failures
  - Failure Mechanism
  - Types Of Failures
  - Failure Analysis
  - Failure Mitigation Measures

