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## **COURSE 1: 2-Day Intensive Program On Best Practices In Oil & Gas Pipeline Systems** - Design, Operation, Maintenance & Integrity Management

25-26 June 2007 • Berjaya Times Square Hotel • Kuala Lumpur

## **COURSE 2: 1-Day Intensive Program On Best Practices In Plant Piping Systems** - Operation & Maintenance

27 June 2007 • Berjaya Times Square Hotel • Kuala Lumpur



### **Course 1 Highlights:**

#### *Part 1: Offshore Pipeline Systems*

- Design Considerations
- Pipeline Laying
- Pipeline Operation
- Pipeline Maintenance
- Pipeline Protection & Integrity

#### *Part 2: Transmission Pipeline Systems*

- Basic Design Principles
- Applicable ASME Code & Industry Guide
- Material Selection & Properties
- Piping Installation, Construction, Pipe Laying Procedures & Systems
- Maintenance, Inspection & Repair

### **Course 2 Highlights:**

- Design Bases – Service Conditions
- Applicable ASME Code & Industry Guide
- Industry Best Practice & Applications
- Operating Strategies
- Operator Competencies Requirements
- Maintenance Practices & Procedures
- Maintenance & Inspection
- Maintenance Repair
- Review & Q & A

organised by



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Into our 24th year

## COURSE 1: Best Practices In OIL & GAS PIPELINE SYSTEMS

- Design, Operation, Maintenance & Integrity Management

[ 25-26 June 2007 • Berjaya Times Square Hotel • Kuala Lumpur ]

DAY 1		DAY 2	
<b>OFFSHORE PIPELINE SYSTEM</b>		4:15	<b>WORKSHOP 1 – CASE STUDY ANALYSIS WITH Q &amp; A</b>
8:30	Course Introduction	5.00	End of Day 1
9:00	<b>DESIGN CONSIDERATIONS</b>	<b>DAY 2</b>	
	<ul style="list-style-type: none"> <li>• Route Survey And Soil Sampling</li> <li>• Flow Regimes, Velocities And Friction Losses</li> <li>• Piping Materials Considerations</li> <li>• Anchoring Systems</li> <li>• Pipeline Protection                             <ul style="list-style-type: none"> <li>- Route Stability</li> <li>- Crush Mitigation</li> <li>- Corrosion Prevention</li> </ul> </li> </ul>	<b>TRANSMISSION PIPELINE SYSTEMS</b>	
10:30	Tea Break	8:30	<b>PRINCIPLES OF TRANSMISSION PIPELINE DESIGN</b>
11:00	<b>PIPELINE LAYING PROCEDURES</b>		<ul style="list-style-type: none"> <li>• Flow Volumes And Velocity</li> <li>• Water Hammer Effect And Flow Reversals</li> <li>• Friction Losses</li> <li>• Flow Regimes</li> <li>• Reynold's Number</li> <li>• Ducts, Road And Railroad Crossing Design Considerations</li> </ul>
	<ul style="list-style-type: none"> <li>• Pipe End Preparation</li> <li>• Welding Procedures</li> <li>• Weld Inspection</li> <li>• Pipe Wrap And Coating</li> </ul>	9:30	<b>ASME CODE AND INDUSTRY GUIDES</b>
1:00	Lunch and Zohor		<ul style="list-style-type: none"> <li>• Understanding ASME Requirements</li> <li>• Industry Best Practice And Applications</li> <li>• Operating And Transient Pressures</li> <li>• Selection Of Weld Joints</li> <li>• Environmental Considerations (Leakage And Spillover Containment)</li> </ul>
2:00	<b>PIPELINE OPERATIONS AND MAINTENANCE</b>	10:30	Tea Break
	<ul style="list-style-type: none"> <li>• Operating Procedures</li> <li>• Pigging Operations</li> <li>• Leak Test</li> <li>• Underwater Welding</li> <li>• Underwater Painting</li> <li>• Integrity Testing</li> <li>• Corrosion Mitigation</li> </ul>	10:45	<b>MATERIAL SELECTION, PROPERTIES AND APPLICATIONS</b>
3:30	Tea Break		<ul style="list-style-type: none"> <li>• Carbon Steel Pipes</li> <li>• Special Alloys</li> <li>• Positive Material Identification</li> <li>• Pipe Protection (Coatings, Cathodic Protection, Painting)</li> <li>• Pipe Sizing</li> </ul>
3:45	<b>VALVES &amp; PRACTICAL CONSIDERATIONS</b>	12:00	<b>PIPELINE INSTALLATION AND LAYING</b>
	<ul style="list-style-type: none"> <li>• Gate Valves</li> <li>• Globe Valves</li> <li>• Valve Leak Detection</li> <li>• ROV's Operations</li> </ul>		<ul style="list-style-type: none"> <li>• Pipe laying Procedures For Riverbed Crossings, Cross-Country And Highly Urbanized Centers</li> <li>• Sabotage And</li> <li>• Pipeline Failure Consequences</li> <li>• Soil Erosion And Corrosion Mitigation</li> </ul>
		1:00	Lunch And Zohor
		2:00	<b>MAINTENANCE AND INSPECTION</b>
			<ul style="list-style-type: none"> <li>• Methods For Hydrotesting And Leak Testing</li> <li>• Inspection Techniques, Interval And Extent</li> <li>• Evaluation Of Cracks And Flaws</li> <li>• Evaluation Of Mechanical Damage</li> <li>• System Evaluation For Remaining Life</li> <li>• Fit For Service Analysis (Flow Characterization, Stability)</li> <li>• Isolation, Blanking, Cleaning And Vents</li> <li>• Steam Out And Flushing Procedures</li> </ul>
		3:30	Tea Break
		3:45	<b>MAINTENANCE REPAIR</b>
			<ul style="list-style-type: none"> <li>• Welded Repairs</li> <li>• Hot Tapping</li> <li>• Temporary, Permanent &amp; Remedial Actions</li> <li>• Methods Of Hydrotest And Leak Testing</li> </ul>
		4:30	<b>WORKSHOP 2 CASE STUDY WITH Q &amp; A</b>
		5.00	End Of Course

### After Attending This Course, You Will Return To Your Job...

1. Learning Key Operation, Maintenance, And Integrity Fundamentals And Practices For Pipelines.
2. Gaining Thorough Working Knowledge In The Interdependence Of Design, Operation, And Maintenance On The Reliability And Cost-Effectiveness Of Pipeline Systems.
3. Understanding The Requirements And Application Of The Relevant ASME Code In Piping System Operation, Repairs And Alterations.
4. Increasing Your Ability And Skills In Piping Failure Detection And Analysis, Estimating Failure Consequences, And Fitness-For-Service Assessment.

### LEARN FROM THE BEST

**ROBERTO BENEDICTO MARAVILLA**, BS in Mech Eng., was acting Consultant to Petronas Plants & Qatar Petroleum 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 design and delivery of the maintenance programme initiative on "Workshop on Maintenance with subjects like Maintenance – A New Paradigm and Piping Systems, Management, Operation and Maintenance of Boilers, he has delivered a host of other courses on Pumps, Compressors, Heat Exchangers, Columns, Separators, Internal Combustion Engines and Storage Tanks.

Roberto also was a Director and responsible for a project...

## **COURSE 2: Best Practices In PLANT PIPING SYSTEMS** - Operation & Maintenance

[ 27 June 2007 • Berjaya Times Square Hotel • Kuala Lumpur ]

8:30	Course Introduction	2:00	<b>MAINTENANCE PRACTICES AND PROCEDURES</b> <ul style="list-style-type: none"><li>• Zero Leak Program</li><li>• API 570 – Piping Inspection Code</li></ul>
8:45	<b>DESIGN BASES – SERVICE CONDITIONS</b> <ul style="list-style-type: none"><li>• Piping Systems And Plant Specifications</li><li>• Pipe Design Considerations<ul style="list-style-type: none"><li>- Flow Volumes And Velocity</li><li>- Friction Losses</li><li>- Flow Regimes</li><li>- Reynold's Number</li><li>- Operating And Transient Pressures</li><li>- Joints Design</li></ul></li></ul>	2:30	<b>MAINTENANCE AND INSPECTION</b> <ul style="list-style-type: none"><li>• Methods For Hydrotesting And Leak Testing</li><li>• Inspection (Visual, NDT)</li><li>• Evaluation Of Cracks And Flaws</li><li>• Evaluation Of Mechanical Damage</li><li>• System Evaluation For Remaining Life</li><li>• Validating Inspection Data</li></ul>
	<b>APPLICABLE ASME CODE AND INDUSTRY GUIDE</b> <ul style="list-style-type: none"><li>• Understanding ASME Requirements<ul style="list-style-type: none"><li>- Pipe Supports And Hangers</li><li>- Piping Integrity And Fit For Service Requirements</li><li>- Pipe Sizing And Materials Selection</li></ul></li></ul>	3:30	Tea Break
	<b>INDUSTRY BEST PRACTICE AND APPLICATIONS</b> <ul style="list-style-type: none"><li>• Static Loads, Dynamic Loads, Expansion, Flexibility And Support Spacing</li><li>• Limitations, Safeguards, And Engineering Controls For Piping Components, Material Properties, Fluid Characteristics, Fluid Velocity, Corrosion, Erosion</li></ul>	3:45	<b>MAINTENANCE REPAIR</b> <ul style="list-style-type: none"><li>• Welded Repairs</li><li>• Hot Tapping</li><li>• Temporary Repairs</li><li>• Permanent Repairs</li><li>• Specialized Repairs</li></ul>
10:30	Tea Break	4:30	<b>REVIEW AND Q &amp; A</b>
10:45	<b>OPERATING STRATEGIES</b> <ul style="list-style-type: none"><li>• HSE Considerations</li><li>• Startup, Shutdown, Emergency Operating Procedures</li><li>• Flushing Procedures, Heat Tracing</li><li>• Change Control Policy Procedures For Process Operating Changes</li></ul>	5:00	End Of Course
12:00	<b>OPERATOR COMPETENCIES REQUIREMENTS</b> <ul style="list-style-type: none"><li>• Competency Gap Analysis</li><li>• Gap Closure Measures</li></ul>		
1:00	Lunch And Zohor		

### **After Attending This Course, You Will Return To Your Job...**

1. Understanding clearly the key aspects of piping systems including design, operation, maintenance, failure prevention, and troubleshooting, including the applicable codes, standards and industry practices.
2. Obtaining practical and effective methods and guidelines to assist in achieving, cost-effective operation and maintenance of piping systems with high technical integrity.
3. Developing skills in troubleshooting and improving existing piping systems.

### **WHO SHOULD ATTEND FOR BOTH COURSES**

- Consulting Engineers • Maintenance Engineers
- Project Engineers • Maintenance Superintendents
  - Maintenance Personnel • Service Engineers
  - Planners and Schedulers • M & E Foremen
  - Chargemen & Technical • Technical Assistants
    - Technical Co-ordinators
- Operation & Maintenance Personnel • Technicians
  - New/Trainee Engineers • Contractors

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

### **CERTIFICATE OF ATTENDANCE & COMPLETION**

A Certificate of Attendance & Completion will be awarded upon successful completion of the whole 2 day program. This serves as evidence to your personal and professional commitment to your career.

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Engines, Gas Turbines,  
Deputy Project Manager  
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.

Roberto has served as a Lecturer at a University in the Philippines lecturing senior students on major subjects such as Power Plant Engineering, Engineering Management, Process Plant Equipment, Project Management and Maintenance Optimisation.

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.

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Please refer to the event's **Latest Schedule** at [www.cmtevents.com](http://www.cmtevents.com) for most up-to-date details.

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

Regular Fee	1 Person	3 or more (from the same company)*
Course 1	USD795	USD695 <i>(min saving of USD300)</i>
Course 2	USD495	USD395 <i>(min saving of USD300)</i>
Both Courses	USD1,095 <i>(min saving of USD200)</i>	USD895 <i>(min saving of USD600)</i>

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Register me for

- Course 1 only       Course 2 only  
 Both course 1 & 2

*\*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. June. 2007

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~ CMT'S UPCOMING EVENTS ~

## Indonesia OGP 2007

3 - 4 September 2007 • Jakarta

*"En-route to becoming net energy exporter – opportunities in light of new government policy"*

## 15th Asia Petchem Summit

4 - 5 September 2007 • Phuket, Thailand

*"Extended peak or bubble trouble?"*

## 3rd ASIA Refining

17 - 18 September 2007 • Singapore

*"Refinery Reconfiguration for Margin Improvement"*

## 2nd LPGtrade Summit

19 - 20 November 2007 • Park Hyatt Dubai

*"Opportunities in the age of LPG supply growth"*