

Machinery & Marine Engineering Failure Prevention & Analysis

Identifies costly failures, why the failures occur and how to avoid errors of judgement and importantly how to reduce your costs from failures.

26th – 27th September 2016 | **Kuala Lumpur, Malaysia**



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In collaboration:



Machinery & Marine Engineering Failure, Prevention & Analysis (2 Days)

Led by a highly experienced and skilled Offshore Oil/Gas Project and Marine Engineering expert for multinational underwriters and insurers worldwide this course provides delegates an in-depth understanding of the technical approaches to Mechanical, Marine Engineering, floating structures failures, analysis and prevention. It is a practical course covering issues and problems encountered by those involved in the industry. Get an in depth understanding and learn why so many failures occur; **some in excess of \$699USD Million**. Protect your interests in the ever changing environment with escalating costs. Understand the complexities and how to prevent them.

The course specifically identifies costly failures in the industry so it will enable you to know not only **'where to look for trouble'** but also why the failures occur and how to avoid errors of judgement and importantly how to reduce your costs from failures. The course contains extensive marine engineering knowledge. This is given so that the student can understand the environments that vessels operate and the marine engineering industry.

The course provides grounding in the main areas of successful multinational marine engineering firms, as they apply to all floating structures and explore areas of specific interest. This seminar acquaints the participants with the skills and explains how to utilize them.

Challenging Tutored Marked Assignments and in depth Case Studies are presented to delegates for the duration. The trainer uses factual case studies and exercises along the way to cement participants' newly acquired skills and help them apply them to real situations. Equally as important, a look at the mind-set of marine engineers, ship designers and project managers is given through the discussion; thus giving participants an additional boost in anticipating potential problems and correcting them beforehand.

MASTER the necessary knowledge and complexities of:

- Be able to critically assess marine engineering schematics, drawings and design.
- In a team environment exchange ideas and theories as to factual mechanical and structural failures.
- Provide - deliver technical mechanical and structural diagnoses of failures after thorough examinations of the engineering design, documentary material, physical and photographic evidence.
- Be able to technically evaluate and provide 'evidence based' conclusions when encountering marine engineering failures.
- Learn the lessons from past failures from around the world associated with failures in the maritime industry.

This program is intended

The course contains extensive marine engineering and mechanical knowledge which will benefit both basic to intermediate level, project managers, marine engineers and marine response teams with techniques, procedures and resources to manage and understand the aspects of marine engineering in a maritime environment. They will also be learning and understanding and the processes of Marine Engineering in the Offshore Sector. Suitable job titles include but are not limited to:

- Ship/barges/tug Owners, Container ship operators/oil tanker, operators/ OSV, DSV, AHTS operators/ Tug operators/barge operators/ferry operators/Passenger ship operators, Freight Forwarders Cargo – Marine.
- Both vessel owners and charterers of OSV, Containerships/Ferries/Multipurpose Heavy Lift ships/Car Carriers/Bulk Cargo Carriers/LNG and others.
- Charterers of OSV from E&P companies holding position in HSE Supervisors, Technical Superintendents, Surveyors, Engineers, Crew, Technical Offshore Exploration Specialists, offshore filed operation managers, Marine Captains.
- Ship superintendent, , Master Mariners, Ship Crew Management agents, 2nd, 3rd and 4th Marine Engineers, On Board Chief Engineers and Captains/Pilots – personnel, Maritime Safety Government Agencies, Cruise Ship Class and Foreign Going Safety Officers, Break Bulk Cargo/Cruise Ship and Bulk Carrier firms, Maritime Industry professionals CEO/M.D's, Maritime HSE/O.H& S personnel, Fleet Supervisors.
- Vessel Manufacture, Civil and ship Construction operators, Civil and Ship Marine repairers and contractors, Ship builders, commercial boat builders.
- Ship insurance agents, Cargo underwriters, Marine Claims managers, Cargo and Insurance Brokers, Forensic Engineers and Investigators, Containerised freight and logistics providers, Professional Marine Investigators and consultants, offshore credit risk managers of financial institution.
- Port Authorities - CEO's/ Superintendents/Health and Safety Professionals, Maritime Authorities and PMA, Port and Ship Maritime Critical/Major Incident Controllers and Management.
- Environmental Protection Agencies - Marine Environmental Investigators/Officers and Risk Managers, Maritime Law Specialists and firms, Maritime Emergency Response.

Machinery & Marine Engineering Failure, Prevention & Analysis (2 Days)

DAY 1

What are the common marine engineering & mechanical failures and the analysis of significant and common failures; what can be learnt?

- Propulsion systems
- Shafts
- Stern tubes and bearings
- Propellers fixed and non-fixed CCP
- Ship steering
- Analysis of Condition monitoring technical CME OEM Main Engine component failures relevant to engine performance
- Bow thruster failures
- Machinery arrangement
- Conditions of ME rooms

Explore the factual analysis and why they occur and how they could have been prevented so to reduce costs.

- Machinery arrangement and installations
- How to deal with OEM failures
- Seals
- Diesel Engines
- Liner Lacquering
- Piston damages and rings
- Damage from unusual sources
- What can you learn from the external appearance of failures?

Learn about the effects of Poor Maintenance, Monitoring, Prevention and Crew behavior through (6) Six Factual Case Studies and delegate learned exercises

- Jack Up Barge failures
- Turbo's
- Main Engine failures
- Ship Cranes
- Marine Engineering Latent Engineering Design
- Mechanical and Structural engineering failures

Delegates will form (2) groups of study; participate in, critical examine and technically assess catastrophic marine engineering failures from around the globe and diagnose root causes.

LEARNED OUTCOMES - DELEGATE LEARNED EXERCISE

- ✓ Be able to critically assess marine engineering schematics, drawings and design
- ✓ In a team environment exchange ideas and theories as to factual mechanical and structural failures.
- ✓ Provide - deliver technical mechanical and structural diagnoses of failures after thorough examinations of the engineering design, documentary material, physical and photographic evidence
- ✓ Be able to technically evaluate and provide 'evidence based' conclusions when encountering marine engineering failures
- ✓ Learn the lessons from past failures from around the world associated with failures in the maritime industry

DELIVERY OF DELEGATES LEARNED OUTCOMES BY CLASS

QUESTIONS AND ANSWERS

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DAY 2

The importance of preparation, information gathering, prevention, ships records, document handling, preservation, and early responses to crisis in the marine engineering industry

- What factual information do you need/want??
- How are you going to get it?
- What are you requesting?
- Deal with media and media coverage extensive. What do you do?
- Cost to business and image

Factual Case Studies on flooding and salvage for the Marine engineering industry (Factual Case Study – MS 'Costa Concordia' Passenger Cruise ship Disaster – what did we learn?)

Attendees will be shown photographic, media coverage and documentary material from actual critical maritime safety, engineering and environmental incidents.

The Case Studies reflects upon the issues involved, and demonstrates the current ineffectiveness and cost to businesses that do not equip themselves with the technical procedures and resources to manage engineering investigations and marine claims in a maritime environment. Lessons Learnt exercise.

Mechanical failures due to fuel and lubricants. What are the effects and the Risks?

- Diesel Engines
- Liner Lacquering
- Piston damages and rings
- Exhaust and inlet valves and piston rods
- Improper maintenance practices by engineering crew
- Damage from unusual sources
- What can you learn from the external appearance of failures
- Q & A

Improper Maintenance and prevention

- Improper operation and maintenance by the crew
- Common Fire System Failures aboard IMO Class Ships
- Missing Service Letters
- OEM and Costs

Oil purification failures - Contributing factors to mechanical failures in the offshore industry

- Maintenance not performed by manufacturer
- service life limitations
- Late maintenance and overhauls

Marine Engineering and the Science of Fire

- A common engineering failure with vessel automated fixed dry sprinkler systems installed is that they do not engage.
- What are some possibilities?
- What are you looking for?
- Where would you look?
- What documents would you request?
- What would you ask to physically examine?
- What do you think happened in this case study?

Mechanical and Marine Engineering Failures (Injuries and Fatalities) - Explore the factual analysis and why they occur and how they could have been prevented

- Fuel and Sources
- Poor maintenance practices
- Visual inspections
- The Role of Class Societies/M.P.A/H.S.E and Marine Statutory Authorities in Marine Engineering disasters.

COURSE/WORKSHOP FINISH DAY 2

Marine Engineering Failure, Prevention & Analysis (2 Days)

Programme Facilitator – Mr. James Gardiner



With over 25 years of experiences and an expert regarding vessel machinery failure investigation; propulsion and vessel component integrity and failure worldwide. He is an independent expert in the Marine Engineering field predominately dominating matters involving the Oil and Gas sector, foreign going ships and vessels.

From a Marine Engineering and Surveying perspective, he has worked aboard a variety of vessel classes including; Multi-Purpose Self loaders, Roll On/Roll Off, Cruise liner Class, Offshore Supply Vessels [OSV] – Oil and Gas, Panamax, Containership and Combo -Heavy lift Ships. His previous experience also includes Technical Engineering inspection of existing ship as per class, statutory and international codes. Compliance of class, standards and flag state survey includes: Dry cargo, self-loader Ro – Ro, heavy-lift, container, cruise ship class, bulk carrier and multi-purpose vessel. His experience also includes Forensic engineering material and component surveying, Technical inspection of ship maintenance period and preparation of vessel for periodical surveys.

James has attended numerous ports [by land and sea], worked ashore and aboard foreign going vessels alongside various foreign going ports throughout Australia, including but not limited to; Port Kembla, Port of Melbourne, Woodside Pty Ltd - King Bay Supply Base - Karratha, Australian Maritime Complex [AMC] -Henderson, Port of Singapore, Ports within Korea, Japan, Malaysia and China, Port Hedland, Port of Albany, Port of Geelong, Port Botany, Port of Brisbane, Port of Hastings, Port of Fremantle and Port of Portland.

James is also engaged as an advisor to various Federal, and State Government Departments and Multinationals within Australia and South East Asia, in the Gas and Oil Installation and OSV Sectors.

His experience for undertaking assignments includes training, research and technical diagnostic experience in the fields of propulsion, ships cranes and marine cargo surveying including; Break Bulk [BB], Containerized and Out-of-Gauge [OOG] freight handling.

He has extensive experience in surveying and in the investigation of marine engineering failures including; shore based crane failures, and ships crane failures in the offshore supply vessel (OSV), containerized freight and in the oil/gas industry. He has experience regarding mobile cranes including; the operational lifting of vessels ashore, including dumb barges and Jack-Up Drilling platform barges in excess of 400 (T). He has conducted out of water marine hull commercial surveys, ultrasonic testing and, non-destructive inspections [NDT].

James is trained and experienced in the [Foreign Going sector]; it includes conducting marine safety and engineering survey inspections, and Australian Maritime Safety Authority [AMSA] audits and South East Asian PMA on foreign flagged vessels on approach to all Australian Ports to regulatory [IMO] standards. These vessels range in-between 90,000 to 189,000 Tonne.

Companies which have benefited from his expertise include:

Australian Maritime Safety Authority, BHP Australia Pty Ltd, Woodside Pty Ltd, Solstad Shipping, Rickmers Shipping, Patricks Stevedores, Forensic Engineers Society Australia and USA, Offshore Marine Service Alliance, Gorgon Gas and Oil, Chevron Oil and Gas, Petronas, Maersk Shipping, China Shipping Lines (CSL), Brambles Shipping, Icon offshore Malaysia, Sembmarine International, KSDC Brokers Singapore and many more.



PETRO1 provides Oil & Gas Trainings & Consultancy services ranging from Petroleum Engineering, Exploration & Production, Subsurface and business related activities in the oil & gas industry. We had successfully made impact to petroleum professional mainly the Top 50 Oil & gas players in the Asia Pacific Region.

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- Petronas
- Murphy Oil
- JX Nippon
- Scomi Oil
- Hess
- Saipem
- Clough
- Mubadala Petroleum
- Bureau Veritas
- Pertamina
- Peritus international
- Petrofac
- Keppel Corporation
- Singapore refining Company
- Salamander Energy
- Binh Son Refining Vietnam
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- Atkins Australasia
- Brunei Methanol
- Curtin univeristy
- Technip
- Premier Oil
- SGS
- PTT EP
- Halliburton
- Brunei LNG
- Shell Chemical
- Worley Parson
- China university of petroleum Beijing
- Thaioil
- Aker Solutions
- Star Petroleum
- Jurong Shipyard

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Registration Form

Machinery & Marine engineering failure, prevention & analysis	Early Bird Price	Standard Price
Early Bird Price	SGD\$ 2199 ()	SGD\$ 2437 ()
3 or more	SGD \$1998 ()	
Register in-house to save costs ()		
- Please note that all registrations must be made at the same time to qualify.		
- Early Bird Promotion Deadline – 26th August 2016		
- The price is inclusive GST 6%.		

REGISTER NOW
CONTACT: kelvin
MAIN: +603 7727 3952
FAX: +603 7727 5278
Email: registration@petro1.com.my

Delegate Details

1. Name: _____ Mr Mrs Ms Dr

Job Title: _____

Email : _____

Contact No: _____

Department: _____

2. Name: _____ Mr Mrs Ms Dr

Job Title: _____

Email : _____

Contact No: _____

Department: _____

3. Name: _____ Mr Mrs Ms Dr

Job Title: _____

Email : _____

Contact No: _____

Department: _____

Invoice Details

Invoice Attention to: _____

Company: _____

Industry: _____

Address: _____

Postcode: _____ Country: _____

Telephone: _____ Fax: _____

Email: _____

Authorized Signature : _____

Credit card Payment

Please Debit my credit card:

VISA MASTERCARD

Card Number: _____ - _____ - _____ - _____

Security Code: Expiry Date:

Named printed on card: _____

Signature: _____

Payment Method

By cheque/ Bank Draft: Made Payable to PETRO1 SDN BHD

By Direct Transfer: Please quote invoice numbers on remittance advice.

GST input Tax claim

Organization who have register under GST is allow to claim on any GST Incurred (Known as input tax) on their purchase to the business.

ACCOUNT NAME: PETRO1 SDN BHD
BANK: HSBC Amanah Malaysia Berhad
ACCOUNT NO : 054 – 048061 – 701 (SGD)
SWIFT CODE : HMABMYKL

All bank charges to be borne by payers. Please ensure that PETRO1 SDN BHD received the full invoice amount.

*** Credit card payment will include a charges 2.8%**

Payment Policy: Upon receipt of a completed registration form, it confirms that the organization is registering for the seat(s) of the participant(s) to attend the conference or training workshop. Payment is required with registration and must be received prior to the event to guarantee the seat. Payment has to be received 7 working days prior to the event date to confirm registration.

Venue: All of our training courses are held in 4 – 5 star venues.

The course fee does not include accommodation or travel cost. It's recommended to book the hotel room early as there are only limited room available at the discounted corporate rate.

DATA PROTECTION

The information you provide will be safeguarded by Petro1 that may be used to keep you informed of relevant products and services. We take it seriously when it come s to protection of our client data.

Cancellation & Substitutions: Upon receipt of a completed registration form, it confirms that the organization is registering for the seat(s) of the participant(s) to attend the conference or training workshop. Should you be unable to attend, substitutes are always welcome at no additional cost. Please inform us as early as possible. Payment is non-refundable if cancellation occurs 7 working days prior to event commencement. However a substitute is welcome at no additional charges. If cancellation occurs 5 working days prior to the registration date and there is no substitute, the organizer reserves the right to charge 50% of the total investment from your organization.

PETRO1 SDN BHD is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. PETRO1 SDN BHD shall assume no liability whatsoever in the event this training course is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, war, fire, labor strike, extreme weather or other emergency.

Walk in Registration: Walk-in participants with payment will only be admitted on the basis of seat availability at the event and with immediate full payment.

Program Change policy: The organizer reserves the right to make any amendments and/or changes to the workshop, venue, facilitator replacements and/or modules if warranted by circumstances beyond its control.