

9<sup>th</sup> Run in Asia based on popular demand!

# Using a 16 point action Plan:

# Reduce stock levels, spares costs and stocking costs

18<sup>th</sup> – 20<sup>th</sup> May 2016 | Miri, Sarawak

Use Successful and proven methods and analysis techniques to effectively Reduce inventory and costs of spares part.

# **Comments from past participants:**

"The topics covered from this course are very relevant for me to perform my daily job, which will serve better foundation whenever I want to challenge my users and suppliers." REPSOL (Malaysia)

"Very good workshop with experienced trainer." VICO (Indonesia)

"These programmes enable us to learn more details on Spares inventories" PETRONAS GAS BERHAD ( Malaysia)

"Good example of spares management, concepts and techniques used for optimization of  $\ensuremath{\mathsf{spares}}\xspace$ "

SHELL CHEMICAL SERAYA (Singapore)

"Good course " MUBADALA PETROLEUM, (Thailand)

"We found that our stock control was very poor and we have adopted different strategies depending on cost and usage." Middle East Gas Producer

"We didn't realise we were significantly overstocking until we applied the techniques we learnt on your course." Major Beverage Producer "The content are helpful and can be applied to the works for the improvement and on inventory and cost" Binh Son Refining (Vietnam)

"Thank you, the man with full of experience." BOB PT BUMI (Indonesia)

"The training is very good" PT CABOT (Indonesia)

"Interesting topic, especially for people who work for material planning" TOTAL E&P (Indonesia)

"Facilitator is knowledgeable on this subject " Sarawak Shell Berhad, (Malaysia)

"We didn't know there was any science in setting reorder levels, we have always used guess work, we feel we have an important role in the company asset management programme. "

"This course is useful for our Inventory Management" Nghi Son Refining (Vietnam)

#### Previous clients attended:

Nestle Manufacturing, KPOC, HESS INDONESIA, Thai Aviation services, San Roque Power, HMC Polymers, NGHI SON REFINERY AND PETROCHEMICAL, STAR ENERGY, VICO INDONESIA, NIPPON, TNB, BRUNEI LNG, SARAWAK ENERGY, CARIGALI-PTEPI, SHELL CHEMIAL SERAYA, GLOW ENERGY, MURPHY SARAWAK (CARIGALI HESS, PETRONAS GAS, STAR PETROLEUM, PTTEP SIAM, VINYTHAI, THAIOIL, MUDABALA PETROLEUM, PTT LNG, SIAM YAMATO STEEL, PTT E&P, PETROFAC, SARAWAK SHELL BERHAD,, PT BADAK NGL, TALISMAN, HESS INDONESIA, TRANS-THAI MALAYSIA, BINH SON REFINING AND PETROCHEMICAL, TOTAL E&P, SINGAPORE REFINING COMPANY, PT CABOT, SWIRE PACIFIC OFFSHORE, UMW Offshore Drilling, MAERSK, MODEC, SAPAURA KENCANA and SHELL.











OilVoice

Many companies do a bad job at managing their inventory effectively; there are many reasons for this. But it starts with bad submission of SPIRs, cataloguing and selecting initial spares.

This practical newly structured 3 day workshop covers every aspect related to reducing inventory and costs of spares parts and is supported by case studies, software and practical exercise to aid understanding. <u>The techniques allow you to immediately apply them in the workplace and start to reduce cost.</u>

Initial spares planning and procurement and detailed cataloguing is covered in a separate 2 day workshop. This 3 day workshop focuses on reducing the inventory. This is an area often overlooked.

An Excel Analysis worksheet containing all formulae will be provided to conduct an audit of current inventory parameters. With this, participants can then return to their workplace and conduct such an audit and highlight spares where the current ROPs are too high or too low or buying costs are too high or too low.

The analysis technique will be based on probability for normal operating and consumable spares, the analysis of insurance spares using simulation (modelling) is covered in the initial spares workshop. A new topic focusing on inventory management auditing will allow delegates to learn about different types of audits and to conduct an inventory management audit so the delegates can evaluate what they have in place with respect to best practices.

Delegates are required to bring laptop to conduct the numerous exercises.

This course has a new structure designed to focus more to reduce stock levels, spares costs and stocking costs - and provide additional exercises using the optimization techniques in addition to include how to conduct improved CMMS spares cataloguing.

# Attend this course to Master:

- ISO55000 and what it means for inventory management
- How to audit inventory management processes
- The different costs associated with spares management
- Learn techniques to improve reliability resulting in less spares usage
- How to select the right inventory policy for fast and slow moving parts
- Good practices related to SPIR forms
- How to evaluate safety stocks scientifically
- How to determine how many to buy
- Learn strategies to minimize stock
- How to justify the financial case for high value spares
- How to measure inventory performance
- What can be done in-house and what can be done with specialist software

### PRACTICAL INVOLVEMENT:

Delegates will learn about types of audits and to conduct an inventory management audit so the delegates can evaluate what they have in place with respect to best practices. The audit will be an excel worksheet and provide a quantifiable score so they can compare themselves

Participant will be involved in how to audit their existing inventory management parameters using a Excel worksheet, this worksheet will be partly developed before the class which then the class will build upon the worksheet with the trainer guidance. These will provide the participants better understanding during the building process.

# This program is intended

The Course is designed to:

- Managers
- Purchasing & Logistics
- Planners
- Materials
- Project and Design Engineers who have an interest in how to minimize risk and costs of spare part inventories.
- Engineers responsible for specifying, buying spares and setting up the spares information in the CMMS.
- Anyone who want to reduce Maintenance OpEx.

<u>Previous Attended Job-titles:</u> Inventory Management, Maintenance Department, warehouse, Maintenance mechanical, Inspection & Data Management, Production, Material, Instrument & Control, Maintenance & Reliability, Buyer, Procurement & contract, Planner, Store controller, CMMS coordinator, Supply chain management, Plant Engineer, Equipment Analysis and Central service Manager.

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	ICE SPARES INVENTORIES oint action plan - When to order (Setting of Re-Order Points, safety stocks Levels) • Different approaches to set safety stock • Using the Poisson distribution to set re-order points based on lead time, annual usage and criticality and the typical issue quantity • Alternative strategies including Constant Vendor Delivery
Summary case studies showing 70% reduction.	• Exercise - setting re-order levels using the approximate formula and the Poisson cumulative probability tables
Auditing inventory management         • Scope of audits         • Overview ISO55000 and Inventory Management         • Sample SAMP ( Take Away)         • Process & procedures for effective spares management.         • Introduction to auditing and benchmarking         • Conducting an inventory practices audit         • This allows delegates to conduct a full audit of their process &	<ul> <li>How many to order?</li> <li>How to determine the economic order quantity using formula and a tabular approach.</li> <li>The effects of ordering too many or too few,</li> <li>Evaluating whether discounts are worth accepting for higher quantities</li> <li>What to do if the EOQ is not practical</li> </ul>
<ul> <li>procedures back at their workplace.</li> <li>Inventory cost reduction programme</li> <li>A 16 step inventory reduction programme, tactics including</li> <li>Auditing CMMS Data Quality : Bearing List case study</li> <li>Key question to challenge whether to stock or not, include use of a decision chart for slow moving parts.</li> <li>Applying the 80-20 rule to AIV, unit price and stock value including how to determine and migrate the ABBC class to the CMMS.</li> <li>Identifying duplicates</li> <li>Internal lead times reduction</li> <li>Reduce internal lead times</li> <li>Part Standardization</li> <li>Different strategies, min-max, reorder point, vendor controlled supply, including exercises</li> <li>Replace OEM</li> </ul> Spares costs <ul> <li>Different costs used in the stock management process, e.g. buying, holding cost, item cost, issue cost, penalty cost, average stock level costs, annual issue value, standard costs, average costs</li></ul>	<ul> <li>Auditing current inventory Parameters effectiveness</li> <li>Introduction to 25 inventory formula, use a Excel worksheet to seek opportunities to reduce stock levels and stock holding costs</li> <li>Metrics include service levels; safety stock. ROP, Average stock levels, No of years of stock, Annual Issues Rates and value, stock holding value all calculated at line item level</li> <li>Demonstration of an MS Access Based Application to simplify the analysis</li> <li>Evaluate policies for insurance spares</li> <li>Planned purchases and emergency purchases</li> <li>Holding costs and costs of lost production</li> </ul>
<ul> <li>Introduction to reliability theory</li> <li>Normal &amp; Poisson distribution,</li> <li>Calculating Weibull parameters for high value spares</li> <li>Explanation of service levels what they really mean</li> <li>Why is the P-F interval important</li> <li>How to estimate annual usage using MTBFs, population&amp; utilization factors or reliability data sources</li> <li>Spares Criticality</li> <li>Four Spares criticality definitions</li> <li>Criticality and service levels and demand rates</li> </ul>	<ul> <li>Auditing business process</li> <li>Reviewing work processes &amp; procedures</li> <li>Planning the scope of the audit</li> <li>Conducting an audit</li> <li>Identifying the issues and corrective actions</li> <li>Exercise applying the process to the SPIR process from request to spares purchase</li> <li>KPI Reporting system</li> <li>Discuss Purchasing &amp; Inventory KPI Using 7 Key result area</li> <li>What makes a Performance management system</li> </ul>

# TAKE AWAY MATERIAL

\*An innovative Revised SPIR sheet to aid in setting Inventory Management system will be used to analyze your own spares parts.

\* CMMS Inventory Parameter Auditing Tool (Excel) and of course the 16 point Action Plan to Reduce Inventory & Spares Costs.



Lap top is required.

# **Optimizing Maintenance Spares Inventories - Class of 2012, 2013, 2014 and 2015**



















## David Thompson, RAMsoft UK – MAINTENANCE RELIABILITY CONSULTANT

David extensive experience covers all aspects in Maintenance, Reliability and Operation management. His area of strength covers specifically in maintenance management audit reports, RCA, Shutdown planning and failure code systems, CMMS, KPIs, Spares Optimization, RCM and RAM Modelling

#### RAMsoft, UK

#### For the past 40 years, David had been actively involved in:

- Conducted over 400 audits including fast track audits, in-depth audits and distance audits in maintenance management
- Currently working for Worley Parsons in UK writing document for a number of FEED projects worldwide.
- Interest in helping companies collect better data and to try and make reliability of interest to the regular maintenance engineer by concentrating
  on applications rather than complex mathematical theory.
- Developed Policy and procedures documents for a number of Oil & Gas Companies.
- Wrote standard and guidelines on many topics on maintainability, RCA, work packs, Shutdown planning and failure code systems.
- Wrote over 400 audits reports covering excellence in Maintenance management and in specialist topics spares, CMMS, KPIs and Reliability Management system.
- Presented Papers at several Maintenance & Reliability Symposiums in Europe, Malaysia and Brazil.
- Online distant learning instructor for Robert Gordon University in Assets integrity and Reliability Management.
- Undertaking a major CMMS data Cleansing Project as part of a CMMS upgrading.

#### Symposiums

- European & world Maintenance Congress 2007
- Applied Reliability Symposiums Europe 2009, Brazil 2008, Asia 2006, 200, 2010.
- Presented paper at the Applied Reliability Symposium Singapore 2013 (4<sup>th</sup> Year)

David has worked for many blue chip companies either directly or through a consulting role.

#### **David,s International Clients :**

Nippon Oil, Talisman, Petrofac, State Oil Dubai Petroleum, Novartis, EGGBOROUGH POWER STATIONS, Chinese Oil & Gas company, worley parsons, sabic, Qatar petroleum, Scottish power, wood group, shell Nigeria, Hunstsman, ENI oil, Saudi Aramco and SONANDOL P&P

David is a certified instructor in RCA and Reliability Methods and Techniques. He has developed and delivered training programs worldwide including both to offshore and onshore facilities, topics include RCM, FMECA, Weibull Analysis, RAM Modelling, Reliability Growth, Analysis, and Fault Tree Analysis, Incident /Root Cause Analysis, Work Planning and Control, Spares Optimisation & Rationalisation. Recent workshops that have been well received are Achieving CMMS Data Integrity, Implementing Asset Management Systems to support ISO55000 and Reducing OPEX costs.

David has presented papers at several Maintenance & Reliability Symposiums in Europe, Malaysia, and Brazil. He is an Online Distant Learning Instructor for the Robert Gordon University for a distance learning MSc Course in Asset Integrity and Reliability Management. David's workshops include many case studies and examples gaining from working in the Middle East, Africa, and Asia.

David has conducted many reliability studies over the past 20 years. He has a particular interest in helping companies collect better data and to try and make reliability of interest to the regular maintenance engineer by concentrating on applications rather than complex mathematical theory. He has worked for many blue chip companies either directly or through consultants.

#### Early days

David initially started in the steel making and mining sectors and for the past 15 years in the oil & gas sector. David was the UK partner for Reliasoft one of the world's leading reliability engineering companies, and is currently part of a team to implement improved Asset Reliability in the Middle East, including RAM and RCM studies.



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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- Peritus international

- Petrofac
- Keppel Corporation
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- Binh Son Refining Vietnam
- PTT Global Chemical
- Newfield
- Atkins Australasia
- Brunei Methanol
- Curtin university
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#### SGS

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- Halliburton
- Brunei LNG
- Shell Chemical
- Worley Parson
- China university of petroleum Beijing
- Thaioil
- Aker Solutions
- Star Petroleum
- Jurong Shipyard

### **Investment Packages**

Optimizing	Early Bird	Standard Price
maintenance spares	Full 3 Days	Full 3 Days
inventories		
Per Delegate	SGD 2751()	SGD 3175()
<ul> <li>REGISTER 3 AND SENT THE 4<sup>TH</sup> FREE</li> <li>Please note that all registrations must be made at the same time to qualify.</li> <li>Early Bird Promotion Deadline – 18th April 2016</li> </ul>		

## **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:	

# **Invoice Details**

Invoice Attention to:	
Company:	
	Country:
	-
	Fax:
Email:	
Authorized Signature :	
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# **REGISTRATION FORM**

PROGRAM DETAILS Venue: Miri, Sarawak

Date: 18th - 20th May 2016

REGISTER NOW

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

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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.

<u>Walk in Registration</u>: 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.