

20 point action Plan:

Optimizing Maintenance

Spares Inventories

26th – 28th September 2016 | Kuala Lumpur, Malaysia



Reduce stock levels, Spares cost and stocking costs

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 spares"
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-PTTEPI, SHELL CHEMICAL SERAYA , GLOW ENERGY , MURPHY SARAWAK , CARIGALI HESS , PETRONAS GAS ,STAR PETROLEUM, PTTEP SIAM , VINYTHAI , THAI OIL , MUDABALA PETROLEUM , PTT LNG , SIAM YAMATO STEEL, PTT E&P , PETROFAC , SARAWAK SHELL BERHAD , PT BADAQ 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.

Program Overview

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. [The techniques allow you to immediately apply them in the workplace and start to reduce cost.](#)

There are very few courses conducted that deal with the practical issues of spares cataloguing, optimizing spares and stock reduction. After this course, delegates will leave the workshop with tools and techniques that they can immediately apply in their own companies and start to reduce costs.

An Excel Analysis worksheet containing all formulae will be provided to conduct an audit of current inventory parameters. Two analysis techniques will be covered; first using probability for normal operating and consumable spares and the second using simulation (modelling) techniques for high value spares with logistic issues.

The course is of particular benefit to companies who:

- Want to audit their spares data quality or
- Need to upgrade their CMMS
- Want to reduce inventory levels and costs

Many case studies will be shown including reduction of 50-70% in line items

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:

- ISO5500 and what it means for inventory management
- How to achieve consistent cataloguing
- 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 minimise 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.

Previous Attended Job-titles: 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.

OPTIMIZING MAINTENANCE SPARES INVENTORIES

- Using a 16 point action plan -

Introduction to Spares Management

- Delegates Issues
- Common issues in inventory management with real examples
- Where we incur excess costs
- Benefits of improved inventory management
- Terms and definitions used in the workshop.

Recommended Spare Parts List (RSPL) from Vendors

- SPIRs, their purpose and why they are submitted incorrectly, principles good spares cataloguing to ensure zero duplicates, and ease of searching
- A critical review of a typical RSPL form and the associated procedures sent to vendor's
- Examples of good and bad RSPL
- 10 rules for effective use of RSPL
- Proposed improved format for an electronic RSPL

Effective Cataloguing

- Introduction and detailed examples of an 8 step cataloguing process, i.e.
- Defining naming formatting
- Developing spare type guides to ensure consistent part naming
- Developing rules for Mfg's Part/Nos, dimensions, abbreviations
- Define strategies i.e. who to buy from OEMs, Vendors, specialist company
- Develop a set of cataloguing best practice manuals
- Create upload file and quality checks
- Many examples collected from our numerous studies will be shown of poor cataloguing including the actions to achieve best practice

Inventory Cost Reduction Programme

- Introduction to a 20 step inventory reduction programme, tactics including
- Auditing CMMS Data Quality
- Challenge the decision whether to stock and who pays
- Establish spare criticality and service levels
- Applying the 80-20 rule to AIV, Item Cost, Stock Holding Cost
- Identifying duplicates
- Reduce internal lead times to reduce stock holding costs
- Standardisation
- Different strategies, min-max, reorder point control, constant vendor delivery
- Replace OEM

Discussion on Spares Costs

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

Introduction to reliability theory

- Normal & Poisson distribution,
- Calculating Weibull parameters for high value spares
- Explanation of service levels what they really mean
- Why is the P-F interval important
- How to estimate annual usage using MTBFs, population & utilization factors or reliability data sources

Challenge Vendors Recommended Quantities

- How to calculate estimated annual demand rates based spare reliability
- Case studies where actual consumption has exceeded initial estimated

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
- **Exercise - setting re-order levels using the approximate formula and the Poisson cumulative probability tables**

How Many to Order? Determining the EOQ

- How to determine the quantity of the order
- The effects of ordering too many or too few,
- What to do if the EOQ is not valid
- Evaluating whether discounts are worth accepting for higher quantities

Auditing current inventory Parameters effectiveness

- Introduction to 25 inventory formula, use a Excel worksheet to seek opportunities to reduce stock levels and stock holding costs
- 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
- Demonstration of an MS Access Based Application to simplify the analysis

Evaluate policies for insurance spares

- Planned purchases and emergency purchases
- Holding costs and costs of lost production

Auditing business process

- Reviewing work processes & procedures
- Planning the scope of the audit
- Conducting an audit
- Identifying the issues and corrective actions
- Exercise applying the process to the SPIR process from request to spares purchase

KPI Reporting system

- Discuss Purchasing & Inventory KPI Using 7 Key result area
- What makes a Performance management system
- Course Review & Delegates Action Plans
- Course review and delegates action plans

TAKE AWAY MATERIAL

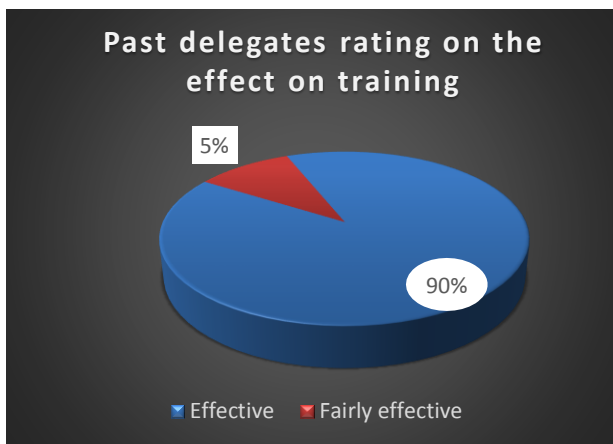
*An innovative Revised SPIR sheet to aid in setting Inventory Management system will be used to analyze your own spares parts.

* 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, 2015 & 2016



Programme Facilitator



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 (4th 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 , Hunstman , 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.



Energy1 is a sub-division of PETRO 1 focus on provide trainings & technical Consultancy services ranging from Revenue losses reduction, Maintenance & reliability, spares parts optimization, electrical & electronics and business related activities in the Energy & Utilities industry. We had successfully made impact to energy & utilities professional mainly the top players in the South East Asia Region.

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|---|---------------------------------------|
| ▪ Metropolitan Waterworks Authority Thailand. | ▪ Star Energy Geothermal |
| ▪ Tenaga nasional berhad. | ▪ Perbadanan bekalan air pulau pinang |
| ▪ San Fernando Electric Light & Power co, Inc | ▪ Aliran ihsan resources berhad |
| ▪ Sarawak Energy | ▪ Visayan Electrical company |
| ▪ SP Powergrid Ltd. | ▪ Glow Company |
| ▪ Power Seraya | ▪ Suruhanjaya Tenaga |
| | ▪ Indah Water Konsortium |
| | ▪ Jimah O&M |

Investment Packages

Optimizing maintenance spares inventories	Early Bird Full 3 Days	Standard Price Full 3 Days
Per Delegate	SGD 2967 ()	SGD 3179 ()

REGISTER 3 AND SENT THE 4TH FREE

- Please note that all registrations must be made at the same time to qualify.
- Early Bird Promotion Deadline – 26th August 2016

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: _____

Industry: _____

Address: _____

Postcode: _____ Country: _____

Telephone: _____ Fax: _____

Email: _____

Authorized Signature : _____

REGISTRATION FORM

PROGRAM DETAILS

Venue: Kuala Lumpur, Malaysia

Date: 26th – 28th September 2016

REGISTER NOW

CONTACT: kelvin

MAIN: +603 7727 3952

FAX: +603 7727 5278

Email: kelvin@petro1.com.my

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.

ACCOUNT NAME : PETRO1 SDN BHD

BANK : HSBC Amanah Malaysia Berhad

ACCOUNT NO : 054 - 048061 - 701 (SGD)

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 comes 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.