PETRO1
TECHNICAL CONSULTANCY FOR OIL & GAS INDUSTRY

Separate Bookable session

Early Project stage: Spares part planning & Procurement for New Equipment

13th – 14th June 2016 – Ho Chi Minh, Vietnam

16 Point Action Plan: Reduce stock levels, spares costs and stocking costs

15th – 17th June 2016 – Ho Chi Minh, Vietnam

Initial planning, procurement, cataloguing & inventory reduction

www.petro1.com.my

Media Partners:

WorldOils

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 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)

Effective Spares Management (5 Days)

Early Project Stage: spares part planning & procurement for New Equipment (13th – 14th June 2016)	How to improve the effectiveness of the initial spares planning process for new equipment, the benefits more costs effective purchasing of initial spares to minimize costs and the number of items purchased. The covers the process from initial specification through to handover to the operations phase of the life cycle.
16 point of action: Reduce stock levels, spares costs and stocking costs (15th – 17th June 2016)	Use Successful methods and analysis techniques to effectively reduce inventory and costs of spares part.

Early Project Stage: spare parts planning & procurement for New Equipment (2 Days)

Program Overview

This 2 day workshop is new and focuses on the important activity of purchasing spares during the project phase. The workshop will provide the delegates with best practices and processes related to the planning and procurement of initial spares. This activity is usually done badly, resulting in duplication of stock, poor cataloguing, under or over stocking and poor ordering rationalisation.

Initial spares planning starts in the design phase with equipment specifications and the request for recommended spares parts list, until the items are handed-over to the warehouse and the items set-up in the CMMS. ISO55000 stipulates we have to demonstrate that all assets are effectively managed from cradle to grave, then initial spares planning and procurement process is an important element of asset management.

The course will focus on:

- The responsibilities of who does what and the timing, who buys the company or the EPC contractor and this will cover commissioning & start up spares, 2 year spares and insurance spares.
- Achieving rationalisation in the initial spares phase by creating a master recommended spares part database (RSPL) e.g. rather than purchase RSPL spares by each RSPL, we need to leverage grouping common items.
- The need to build into the design phase standardization in order to reduce the variability of item purchased.

Attend this course to Master:

- What is required under ISO55000 to manage the initial spares procurement process
- Why existing RSPL/SPIR forms are ineffective
- How to rationalize initial spares procurement using MS Access
- How to challenge vendors 2 years spares recommendation and then to specify inventory parameters
- The importance of assigning a spares criticality as this influences the selected desired service level
- How to select the right stocking strategies to minimize stock holding
- How to justify the financial case for high value spares
- Understand basic MS Access functionality that can be applied to the SPRL or SPIR master tracking & build Tool.

Unique features of this training:

Having the ability to implement immediately the techniques learned once you are back at your workplace is crucial for every participant. During the 2 days training, practical involvement and exercises will be shared.

- Discuss delegate's issues with the initial spares process.
- Develop a process map (using post-Its) to cover specification, RSPLs, purchase, receiving, preservation, handover.
- Building automatically an equipment BOM.
- Converting vendors RSPL quantities into inventory control parameters.
- Reviewing RSPL procedures and formats and developing the ideal electronic RSPL.

This program is intended

This training course is designed for:

- Maintenance Managers, Engineers,
- CMMS super users
- Warehouse Managers & Supervisors
- Project Engineers
- Spares & Inventory Personnel
- Purchasing & Logistics

Previous Attended Job-titles: Engineering executive, Material Analyst, Material & Inventory Management, Project Delivery, Maintenance planners.

Initials spare parts planning & procurement (2 Days)

Topic 1 Common Issues with the Initial Spares

Delegates state their issues in this process

Common issues found in the process and industrial sectors, e.g. as lack of effective procedures, poor specifications, purchasing duplicates,

The above will be supported by examples/case studies collected through numerous audits and upgrade projects.

Discussion on stocking objectives

Topic 2 Initial Spares Planning & Procurement Process

Review of the spares planning & procurement process categorize in 12 main phase.

Delegates should understand their company's process so that areas of opportunity can be identified

Group exercise to develop a process map (using post-Its) to cover specification, RSPLs, purchase, receiving, preservation, handover

Documents required to support the Strategic Asset Management Plan (SAMP) for initial spares. A SAMP is a key term within the new ISO55000 standard.

Topic 3 Effective Recommended Spare Parts List (RSPL) from Vendors

SPIRs, their purpose and why they are submitted incorrectly, principles of good spares cataloguing to ensure zero duplicates, and ease of searching

A critical review of a typical RSPL form known as a SPIR (Spare Parts Interchangeability Record and associated procedures sent to vendors. We have developed 11 review rules.

Examples of good and bad RSPL/SPIR

Proposed improved format for the electronic RSPL/SPIR that facilitates migrating to a database.

Topic 4 Building an effective spares catalogue

Introduction to ISO55000 and the requirements for initial spares

Key features of cataloguing including the selection vendor, i.e. OEM, original vendor or to select an alternative vendor

An introduction to our 8 step cataloguing process, and a detailed treatment of each step, including:

- Naming formats,
- Developing part type guides to ensure naming consistency
- Defining rules when vendors utilise different specification formats,
- Defining strategies for purchasing common items and to understand the scope of your maintenance strategy as this influences parts stocked,
- Documenting the cataloguing process with all the defined rules and decisions
- Building the spares catalogue and conducting quality checks
- Creating CMMS migration upload files

Topic 5 Deciding Whether to Stock

The questions to be answered to decide whether to stock or not

Criticality definitions (vita, essential, desirable and non–critical)

Different approaches to aid the decisions including a simple decision diagrams for slow moving spares

Maintainability FMEA

Topic 6 How to Challenge Vendors Recommended 2 Year Quantities

Introduction to reliability principles, probability distributions and the bath tub curve and its influence on spares demand

Risk and the Poisson distribution

How to estimate annual demand rates (ADR) from populations or generic data sources using a formulae requiring populations, MTBF, Utilisation Factor

Exercise to support understanding

Topic 7 Converting Annual Demand Rates to Inventory Control Parameters

The ROP inventory model and definitions of the metrics used

11 formulas for the key metrics including ROP, Safety Stock, Average Stock Levels and Values. EOQs, etc.

How to use the estimated ADR to establish the CMMS parameters (defined above)

Exercises using the Excel Calculation Worksheet designed to support inventory parameters using populations & MTBFs as well as Bulk items

Topic 8 Creating Additional CMMS Spares Data

Spares class and sub class
Type codes
Spares attributes & purchase descriptions
Cost & Demand Codes including the ABC classification,
Item cost including transport costs
UoM

Topic 9 Building the SPIR Build & Tracking Tool

Introduction to database solutions, what is the functionality requirements

How MS Access can provide a useful tool to support the RSPL/SPIR process

Overview of the RSPL Database tool including the structure and how data is importing

Identifying duplicates, updating installed populations for duplicated items,

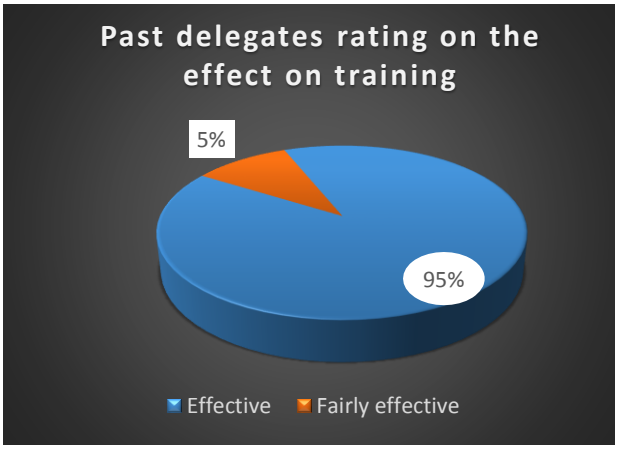
Comparing calculated 2 year quantities to vendor recommended quanties, updating quantities, & the preferred vendor, printing the pro-forma PR, Exporting to the CMMS for purchasing

Topic 10 **Insurance Spares & Their Evaluation**

Definition of an insurance spares

What is required to support the decision whether to purchase or not (penalty costs, repair times, planned and emergency purchase lead times and costs

Overview of RAM Study Software that allows analysis whether to stock 0, 1 or 2



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- Mubadala Petroleum
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- Singapore refining Company
- Salamander Energy
- Binh Son Refining Vietnam
- PTT Global
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- Atkins Australasia
- Brunei Methanol
- Curtin univeristy
- Technip
- Premier Oil
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- Halliburton
- Brunei LNG
- Shell Chemical
- Worley Parson
- China university of petroleum Beijing
- Thaioil
- Aker Solutions
- Star Petroleum
- Jurong Shipyard

Optimizing Maintenance Spares Inventories – Using a 16 point of action

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.

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.

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

OPTIMZING 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.
- Summary case studies showing 70% reduction.

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 & procedures back at their workplace.

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?

- How to determine the economic order quantity using formula and a tabular approach.
- The effects of ordering too many or too few,
- Evaluating whether discounts are worth accepting for higher quantities
- What to do if the EOQ is not practical

Inventory cost reduction programme

- A 16 step inventory reduction programme, tactics including
- Auditing CMMS Data Quality – Bearing List case study
- Key question to challenge whether to stock or not, include use of a decision chart for slow moving parts.
- Applying the 80-20 rule to AIV, unit price and stock value including how to determine and migrate the ABBC class to the CMMS.
- Identifying duplicates
- Internal lead times reduction
- Reduce internal lead times
- Part Standardization
- Different strategies, min-max, reorder point, vendor controlled supply, including exercises
- Replace OEM

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, standard costs, average costs

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

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

Spares Criticality

- Four Spares criticality definitions
- Criticality and service levels and demand rates

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

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.

Principal Program 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

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 , 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.

Investment Packages

Effective spares Management	INSPP Full 2 Days (13th – 14th June))	OMSI Full 3 Days (15th – 17th June)	2 Days + 3 Days (13th – 17th June) 5 Days
Standard Price	USD 1704	USD 2220 ( )	USD 3066 ( )
Early Bird Price	USD 1397	USD 1924 ( )	SGD 2726 ( )

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 – 18th May 2016

REGISTRATION FORM

PROGRAM DETAILS
Venue: Ho Chi Minh, Vietnam
Date: 13th – 17th June 2016

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☐

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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.

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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.