

# Optimizing spare parts for power plants

**Apply the techniques learnt in order to carry out a properly constituted inventory reduction programme, to lower downtime and reduce spare parts costs**

**28<sup>th</sup> – 29<sup>th</sup> May 2015, Kuala Lumpur, Malaysia**



**Paul Wheelhouse - BSc, CEng, MIET,**

- ❖ More than 20 years of Experience in Operations, Maintenance and Asset Management Consulting.
- ❖ A chartered electrical engineer.
- ❖ Expertise in enhance return on assets through improved equipment reliability, reduced working capital and effective use of resources including spare parts.
- ❖ Electrical utility assignments have included projects on hydro-electric, coal, gas & nuclear power stations together with their power distribution systems.
- ❖ Lectures on Asset Management and Engineering MSc and MBA programmes for Manchester University.
- ❖ Former council member for the Institute of Asset Management in the UK.
- ❖ Co-authored a book called "Excellence in Maintenance Management."
- ❖ Assignments across a range of industries ( Oil & Gas , Power & utilities and many more) located in Europe, Middle East, North America and the Far East
- ❖ Major clients lists: Aker Kvaener, BP, Burmah Castrol, Gassco, Kuwait Oil Company, Saudi Aramco, Petroleum Development Oman, Shell, Single Buoy Mooring, Petronas and many more.

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# Programme Overview

The provision of adequate spare parts is an essential part of the maintenance process in all power plants which is even more important in a lean business environment. However, a balance must be struck between the guarding against the risk of downtime and the cost of holding spare parts.

This programme has been designed to show participants how to take into account the various factors in order to be able to achieve the right balance. It describes the latest tools and techniques for managing inventories, their benefits and potential pitfalls and when and how to apply them for maximum impact on the bottom line.

After completing this programme, participants will be able to construct a customized audit methodology for their own organization and carry out inventory auditing projects, to identify opportunities for improvement and provide a quantified measure of currently performance levels.

Delegates will leave the training with the full set of knowledge and tools to be able to apply the techniques learnt in order to carry out a properly constituted inventory reduction programme, to lower downtime and reduce spare parts costs.

## Attend this course to Master:

- Apply the latest techniques for inventory management.
- Categorize spare parts according to their cost, usage patterns and function.
- Manage spares more effectively.
- Ensure that inventories continue to remain low.
- Have an awareness and working knowledge of key aspects of inventory management.
- Review the key elements of a best practice approach to inventory management.
- Apply the inventory management methodology to audit their inventory management approaches.
- Identify and plan improvement opportunities based using audit results.
- Carry out a high level benchmarking analysis.
- Use the inventory audit methodology as a benchmarking tool.
- Conduct a benchmarking exercise and use the results to identify and plan opportunities for improvement.
- Review best practice benchmarks.

## Unique features of this training:

Having the ability to implement directly once you are back at your workplace is crucial for every participant. Sustainable Inventory Reduction is a hands-on, stimulating learning experience. The programme will be highly interactive, with opportunities to advance your opinions and ideas. Participation is encouraged in a supportive environment.

To ensure the concepts introduced during the programme are understood, they will be reinforced through a mix of learning methods, including lecture style presentation, open discussion, relevant case studies, simulations and group work. Group practical exercises will include:

- Application of a spare parts best practice assessment methodology
- Assessing spare parts stock levels using a software calculation tool which takes into account downtime costs and holding costs

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## This program is intended

This programme addresses the needs of a diverse audience with an interest in Inventory Management, including:

- Professionals who have oversight responsibility for Inventory Management
- Logistics personnel with direct line responsibility as well as staff support responsibility for Inventory Management
- Internal improvement consultants, facilitators and maintenance excellence support staff
- Maintenance Supervisors, Maintenance Engineers and Maintenance Planners who must have an awareness of Inventory Management principles
- Attendees who are experienced in this field will be an understanding of different practices which are used in a range of other industries plus knowledge of the latest tools and techniques which are currently being used.

## Optimizing spare parts for power plants (2 Days)

Morning session	
<b>Day 1</b> <ul style="list-style-type: none"> <li>• Introduction and Foundation Concepts</li> <li>• The Importance of Spare Parts</li> <li>• Working Capital Implications</li> <li>• Why do we Stock Spare Parts?</li> <li>• The Stocking Equation</li> <li>• The Importance of Lead-time</li> <li>• Self-Scoring Audit Exercise</li> </ul>	<b>Day 2</b> <ul style="list-style-type: none"> <li>• Inventory Reduction Strategies</li> <li>• Standardisation and Inter-changeability</li> <li>• Alternative Spares</li> <li>• Replacing OEM Spares</li> <li>• Obsolete Parts Control</li> <li>• Different Stock Management Techniques</li> <li>• Separating Dependant and Independent Demand</li> </ul>
Afternoon session	
<ul style="list-style-type: none"> <li>• Consequence of a Stock Out</li> <li>• Criticality</li> <li>• Failure Characteristics</li> <li>• Lead-time</li> <li>• Stock Value</li> <li>• Characterising Spare Parts</li> </ul>	<ul style="list-style-type: none"> <li>• Purchasing</li> <li>• Use of Computer Systems</li> <li>• Layout and Management of Stock Rooms</li> <li>• Key Performance Indicators &amp; Review Process</li> <li>• Life-Cycle Service Contracts</li> <li>• Extended Supply Chains</li> <li>• Using the World Wide Web</li> <li>• Condition-Based Maintenance</li> </ul>



Energy1 is a sub-division of PETRO1 focus on provide Trainings & Technical Consultancy services ranging from Revenue losses reduction, Maintenance & reliability, spares parts optimization 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.

- |   |                                       |
|---|---------------------------------------|
| ▪ 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                           |

# Principal Program Facilitator

Paul Wheelhouse, Red Wheel Solutions Ltd, UK



- More than 20 years of Experience in Operations, Maintenance and Asset Management Consulting.
- Director of Red Wheel Solutions Ltd
- Expertise in enhance return on assets through improved equipment reliability, reduced working capital and effective use of resources including spare parts.
- Chartered electrical engineer a member of the Institution of Engineering Technology
- Former council member for the Institute of Asset Management in the UK.
- Lectures on Asset Management and Engineering MSc and MBA programmes for Manchester University.
- Co-authored a book called "Excellence in Maintenance Management."
- Assignments across a range of industries ( Oil & Gas , Power & utilities and many more) located in Europe, Middle East, North America and the Far East
- Major clients lists: Aker Kvaerner, BP, Burmah Castrol, Gassco, Kuwait Oil Company, Saudi Aramco, Petroleum Development Oman, Shell, Single Buoy Mooring, Petronas and many more.

## Red Wheel Solution, UK

For the past 20 years, Paul had been actively involved in range of industry:

Oil & Gas assignments included:

- Determining the scope of a €100m investment programme for a gas terminal in Germany.
- Reviewing the operations and maintenance strategies for two North Sea production platforms.
- Establishing optimum spare parts requirements for the FPSO vessel Berge Hugen.
- Modelling life cycle costs for a worldwide fleet of 16 floating production, storage and off-loading (FPSO) vessels.
- Reviewing the skills and competencies required for a corporate reliability improvement group in a major Asian Oil & Gas Company.
- Providing operations and maintenance seminars for the oil & gas industry in Europe, the Middle East and Asia.
- Benchmarking maintenance practices for 24 off-shore production platforms.
- Developing a maintenance strategy for a combined heat and power plant on a refinery in the Middle East.

## Electrical utility assignments:

Projects on hydro-electric, coal, gas & nuclear power stations together with their power distribution systems.

## Lectures, teaching and industrial training capabilities:

- Paul also lectures on the Maintenance Engineering & Asset Management MSc for Manchester University.

## Professional Memberships – C. Eng. MIET, MInstAM, AM Inst MC

- Institution Of Engineering Technology (formerly IEE) - Chartered Engineer
- Institute of Asset Management – Council Member
- Institute of Managements Consultants – Associate Member

Paul Wheelhouse worked in the specialty chemicals business for 18 years where he was responsible for Pan-European maintenance and production organisations. A large part of his time was devoted to enhancing the performance of plant, work processes and the functioning of groups.

For the past twenty years Paul has been engaged in maintenance and asset management consulting. This has involved identifying solutions for clients to enhance their return on assets through improved equipment reliability, reduced working capital and effective use of resources. His assignments have been across a range of industries located in Europe, Middle East, North America and the Far East.

## Early days

After studying physics at UMIST (now The University of Manchester) he worked in the specialty chemicals business for 20 years in a variety of engineering, production and distribution roles at several locations in Europe.



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 south East Asia Region.

- |                      |                              |                                 |
|----------------------|------------------------------|---------------------------------|
| ▪ Total E&P          | ▪ Petrofac                   | ▪ SGS                           |
| ▪ Petronas           | ▪ Keppel Corporation         | ▪ Halliburton                   |
| ▪ Murphy Oil         | ▪ Singapore refining Company | ▪ Brunei LNG                    |
| ▪ JX Nippon          | ▪ Salamander Energy          | ▪ Shell Chemical                |
| ▪ Scomi Oil          | ▪ Binh Son Refining Vietnam  | ▪ Worley Parson                 |
| ▪ Hess               | ▪ PTT Global                 | ▪ China university of petroleum |
| ▪ Saipem             | ▪ Newfield                   | ▪ Beijing                       |
| ▪ Mubadala Petroleum | ▪ Brunei Methanol            | ▪ Thailoil                      |
| ▪ Bureau Veritas     | ▪ Technip                    | ▪ Star Petroleum                |
| ▪ Pertamina          | ▪ Premier Oil                | ▪ Jurong Shipyard               |

## Investment Packages

Optimizing Spare parts for power plant	Early Bird Full 2 Days	Standard Price Full 2 Days
Per Delegate	SGD 2539 ( )	SGD 2649 ( )
<b>TEAM DISCOUNT of 3 or more off 10%</b> <ul style="list-style-type: none"> <li>- Team discount are not applicable to early bird pricing.</li> <li>- For 5 or more, please do contact us to get attractive price.</li> <li>- Early Bird Promotion Deadline – 28th April 2015</li> <li>- <b>The above price is inclusive of GST 6%.</b></li> </ul> Please Note that a SGD\$40 will be incur for Administration Fee.		

## 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: \_\_\_\_\_

Head of Department: \_\_\_\_\_

## Invoice Details

Invoice Attention to: \_\_\_\_\_

Company: \_\_\_\_\_

Industry: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_ Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

## REGISTRATION FORM

### PROGRAM DETAILS

Venue: Kuala Lumpur, Malaysia

Date: 28<sup>th</sup> – 29<sup>th</sup> May 2015

#### REGISTER NOW

CONTACT: kelvin

MAIN: +603 7727 3952

FAX: +603 7722 5278

Email: registration@petro1.com.my

### Credit card Payment

Please Debit my credit card:

☐ VISA ☐ MASTERCARD

Card Number: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Security Code:     Expiry Date:

Named printed on card: \_\_\_\_\_

Signature: \_\_\_\_\_

#### REGISTRATION DEADLINE

As an internationally operating training organization, PETRO1 would appreciate receiving registrations at least one (1) month prior to course commencement. Registrations after this date will be accepted provided that places are available. We strongly recommend early enrolment to avoid disappointment!

#### 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.

#### 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)

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 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.