



2KG TRAINING

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Audits of Existing Rotating Machinery Installation

Presenter: Claire Soares

ABOUT THE PRESENTER: CLAIRE SOARES

CLAIRE SOARES is a registered professional engineer in Alberta, Canada. She is a Fellow of the American Society of Mechanical Engineers (ASME), and has her B.Sc.Eng in Mechanical Engineering. Her M.B.A. is in International Business. Her career began in computational fluid dynamics working for Brian Spalding in Imperial College, London, on the COBALT project. She worked on developing structural patents for the marine and power distribution industries in England and Canada. She began her rotating machinery career in power generation & oil sands production at the Syncrude site in Fort McMurray, Alberta, moving to conventional oil & gas production with Esso Resources. Gas turbine systems continued to be her emphasis as she shifted to aero-engines. She worked for the Canadian Air Force as Propulsion Systems Manager and was senior engineer for Ryder Airline Services Division in the USA, where she ran technical support for 250 mechanics and their supervisors, and later became manager of the V2500 engine repair program. Her work with the International Gas Turbine Division of ASME, for whom she organized numerous conference sessions, continues to complement her current work within the power generation, oil & gas and aero-engine sectors. She is now an independent consultant, trainer, and writer.

Number of days: 3

Cost: R9 450 excl VAT

CPD Points: 3

COURSE OBJECTIVE

Upon completion of this course, participants will gain a basic understanding of the main components and subsystems of audit procedures. They will learn to critique the advantages, applications, performance, and economics of different plant features and alternative features that audits may indicate need to be retrofitted. Participants will learn about the influence of various auxiliary systems including instrumentation and controls, process accessories, the process itself, and how this can contribute to an effective audit. They will also learn some basics about the role of operations personnel and training and how they can help maximize audit effectiveness. Participants will discover the basics required in minimizing operating cost and optimizing efficiency, reliability, and component longevity and will learn about the overall legislative limits the plant must operate within (including monitoring and control of environmental emissions) and any changes in same. They will gain insights into predictive and preventive maintenance, reliability and testing, and what that does for audit planning. Finally, they will discover some of the latest technology in all of the above and identify methods for self-improvement.

WHO SHOULD ATTEND

Engineers, technologists, and other operational personnel who currently or may in the future be involved with the technology or business of running a process plant, a refinery, a power plant, and/or an oil and gas facility. Personnel can be involved in:

- Large scale commercial production and/or maintenance
- Smaller operations with smaller machinery that may be less complex
- Operations
- Maintenance, repair, and overhaul
- Systems optimization and performance verification
- Specification, retrofit design
- Business and management of machinery systems and personnel
- Support of machinery trains and their support systems

COURSE OUTLINE

1. Introduction to Audits

- What are audits?
- How much time do they require?
- How do they affect warranty cases, Time Between Overhauls (TBO), Mean Time To Failure (MTTF), Mean Time Between Replacement (MTBR)?

2. Aims of an Audit

- What are the various aims/events that prompt audits?
- How do these initiating factors affect time spent on an audit and its aims and objectives?

3. Audit Planning

- How does audit planning evolve?
- What operational constraints decide how planning must proceed?

4. General Audit Procedures

- How is information gathered?
- How does this information promote improvements to maintenance and operations?
- How might SOPs and SMPs procedures/inspections be altered/ affected?

5. Changing Legislative Requirements

6. Retrofits Aimed at Operational Optimization

- I&C retrofits and case histories
- Performance analysis principles and case histories

7. Specific Items in an Audit: detection/Assessment/Planning

- Assess Requirements During Gas Turbine Operation
 - Vibration used to assess gas turbine combustor problems

7 Cont.

- Optimizing vibration analysis to extend its problem detection capability
- Anticipate repairs needed based on gas path analysis
 - Assess changes made necessary by changing fuel/fuel composition
 - Fuel treatment
 - Financial factors with respect to fuel
 - Assess required changes to cleaning procedures
 - Hot section maintenance assessment
- Plan Maintenance Based on Operational Assessment
 - Parts pools
 - Repair development: OEMs or independents
 - Warranty issues
- Plan the Next TBO/Overhaul
- Working Out Changes in Maintenance and Repair to OEM Specs

8. Examples of Audits Prompted by Operational and Maintenance Information Revealed

9. Some Decision-Making Philosophies Used to Assess Audit Findings

- Risk and weighting factors method
- General problem diagnosis
- Assessing the effectiveness of existing instrumentation
- Assessing the effectiveness of a condition monitoring package
- Starting from scratch
- Troubleshooting summary rules

10. Strategy Summations, Summary, and Conclusions



Registration Form:

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How to register for the course:

1. Complete this registration form and fax it to Phindi Mbedzi: Tel: 011 325 0686 Fax: 011 325 0488 Email: Phindi@2kg.co.za
2. Acknowledgement will be emailed to you.
3. Final confirmation and details will be faxed or emailed to you approximately 7 days before the commencement of the seminar.

Conditions of entry:

1. Cancellations are accepted in writing and without penalty, up to 7 working days prior to commencement of the seminar.
2. Cancellations in writing less than 7 working days prior to the seminar will be liable to pay 20% cancellation fee.
3. If prior written notification of cancellation is not received, defaulter will be liable to pay 50% cancellation fee.
4. In case of insufficient applications for the workshop 2KG reserves the right to cancel the seminar. Applicants will be informed and all fees will be refunded immediately.

Delegate information:

Title: _____ Surname: _____ Name: _____

Full Company name: _____ Job Title: _____

Postal Address (to which invoice must be sent): _____

Code: _____ VAT number: _____

Tel: () _____ fax: () _____

Cell: _____ Email: _____

Contact/ Accounts information:

Title: _____ Surname: _____ Name: _____

Tel: () _____ fax: () _____

Cell: _____ Email: _____

Dietary Requirements: Normal Vegetarian Halaal

Accommodation Requirements: Yes No

Please tick the course that you would like to attend:

09-11 July 2014
Johannesburg, Mintek

I have read and agreed to all the conditions of registration as stipulated in this brochure.

Signature

Date