



Optimising Equipment Maintenance & Replacement Decisions

30 Dec 2019 - 03 Jan 2020, London

11 - 15 Oct 2020, Dubai

28 Dec 2020 - 01 Jan 2021, London

Optimising Equipment Maintenance & Replacement Decisions

Introduction

Major world companies from the process and petrochemical industry have developed their maintenance practices based on the optimisation of predictive maintenance management system. This approach works well for both stationary and rotating equipment and includes continuous condition monitoring and the detailed inspection of vital elements of the equipment. The optimisation of the maintenance activities includes the spare parts handling, the selection of the right size and skill of maintenance crew with consideration of potential outsourcing i.e. subcontracting. Based on the collected data on reliability of the equipment in operation, Maintenance department can complete the Fitness for Service analysis based on which the decision can be made about 3Rs: Run, Repair or Replace, for the particular component of the equipment. Final decision regarding equipment replacement depends very much on the economic and safety aspect that must be taken into consideration.

This training seminar is intended to introduce the participant to the process of making decisions regarding equipment maintenance optimisation including equipment replacement. Various optimisation techniques will be presented and the optimisation criteria explained. This training seminar will include several workshops with case studies and real world problems to be solved. This will enable all participants to actively take part in the team work and classroom discussions.

This training seminar will feature:

- Main Types of Equipment Failure Mechanisms
- Maintenance Methodologies and Economic Aspects
- Spare Parts Handling and Storage Modeling
- Risk Assessment and Management
- Equipment Inspection and Fitness for Service Analysis

Objectives

By the end of this training seminar, the participants will be able to:

- Identify equipment failures, and the impact on plant reliability
- Understand the cost-effectiveness of Preventive / Predictive Maintenance program
- Apply techniques of optimisation of various maintenance activities
- Define criteria for work-crew size, spare parts and equipment replacement
- Make the important decision on the basis of the cost and benefit analysis
- Incorporate safety objectives to the equipment repair or replacement optimisation

Training Methodology

This training seminar will be conducted along workshop principles with formal lectures and interactive examples, which will result in the active participation of all delegates in discussions and teamwork of problem solving. There will be several class-workshops during which

case studies and real life problems will be solved in team work. This will provide understanding of the problems and illustrate the efficient application of modern maintenance optimisation technologies. There will be ample opportunities for active, open discussions and sharing professional experiences on various industrial applications. All training seminar materials will be provided.

Organisational Impact

On completion of this training seminar, the delegates will be able to analyze the operation and maintenance of various stationary and rotating equipment installed within the organization and suggest potential improvement in maintenance procedure where required.

The knowledge gained in this training seminar will:

- Enable the delegates to optimize the operation and maintenance of various equipment
- Give the delegates skill to analyze efficiency of equipment maintenance techniques
- Enable measures to optimize maintenance for the given application
- Give better insight to the safety of equipment maintenance and replacement decisions

Personal Impact

- Improved confidence when solving problems of maintenance of various equipment
- Better understanding of how optimized maintenance impacts equipment reliability
- Better knowledge of equipment instrumentation regarding failure prevention
- Improved personal skills of analysis of spare part handling and optimization
- Better ability to troubleshoot difficult situations

Who Should Attend?

This training seminar is suitable to a wide range of professionals but will greatly benefit:

- Operation, Technical Production & Service Professionals
- Technical Professionals responsible for maintenance and repair of equipment
- Professionals involved in inspection and reliability
- Technical Professionals dealing with risk assessment and integrity analysis
- Technicians dealing with regulating and metering and other measurements

DAY 1

Physical Asset Management & Failure Analysis

- Physical Asset Management
- Maintenance Management: Preventive / Predictive Approach
- Nature and Modes of Equipment Failure
- Failure Modes & Effect Analysis (FMEA)
- Analysis of Component Failure data using the Weibull Distribution
- Censored Data, the 3-Parameter Weibull, and the Kolmogorov-Smirnov Test

DAY 2

Preventive Maintenance & Spare Parts Replacements

- Reliability and Availability Concept: MTBF & MTTR
- Reliability Improvement through Reduction of Downtime
- Maintenance Performance Quantification
- Preventive Maintenance & Spare Part Handling
- Spare Parts Provisioning: Prediction Models and Techniques
- Management of Change: In-Kind Spare Parts

DAY 3

Equipment Inspection & Fitness for Service

- Condition Monitoring & Inspection
- Risk Based Inspection (RBI)
- Risk Matrix: Management and Mitigation Measures
- Reliability Improvement through Inspection
- Inspection Scope & Frequency
- Fitness For Service Analysis (FFS)

DAY 4

Economics of Maintenance, Repair & Replacement

- Management of Maintenance Resources
- Effective Use of CMMS
- Maintenance Organization Analysis: Crew size
- Equipment Repair or Replacement Decision
- Economic Aspect of Maintenance Outsourcing: Subcontract
- Economic Aspect of Equipment Replacement

DAY 5

Total Productive Maintenance & Safety

- Capital Investment in Equipment and Maintenance: ROI
- Total Productive Maintenance
- Safety in Maintenance Work
- KPI and OEE: Leading and Lagging Indicators
- Summary and Conclusions



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Code	Date	Venue	Fees
MN006	30 Dec 2019 - 03 Jan 2020	London	\$5,950
MN006	11 - 15 Oct 2020	Dubai	\$5,950
MN006	28 Dec 2020 - 01 Jan 2021	London	\$5,950

REGISTRATION DETAILS

LAST NAME: _____
FIRST NAME: _____
DESIGNATION: _____
COMPANY: _____
ADDRESS: _____

CITY: _____
COUNTRY: _____
TELEPHONE: _____
MOBILE: _____
FAX: _____
EMAIL: _____

AUTHORISATION DETAILS

AUTHORISED BY: _____

DESIGNATION: _____
COMPANY: _____
ADDRESS: _____

CITY: _____
COUNTRY: _____
TELEPHONE: _____
MOBILE: _____
FAX: _____
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PAYMENT DETAILS

- Please invoice my company
 Cheque payable to GLOMACS
 Please invoice me

CERTIFICATION

Successful participants will receive GLOMACS' Certificate of Completion



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TERMS AND CONDITIONS

- Fees - Each fee is inclusive of Documentation, Lunch and refreshments served during the entire seminar.
- Mode of Payment - The delegate has the option to pay the course fee directly or request to send an invoice to his/her company/ sponsor. Credit card and cheque payments are both acceptable.
- Cancellation / Substitution - Request for seminar cancellation must be made in writing & received three (3) weeks prior to the seminar date. A US\$ 250.00 processing fee will be charged per delegate for each cancellation. Thereafter, we regret that we are unable to refund any fees due, although in such cases we would be happy to welcome a colleague who would substitute for you.
- Hotel Accommodation - is not included in the course fee. A reduced corporate rate and a limited number of rooms may be available for attendees wishing to stay at the hotel venue. Requests for hotel reservations should be made at least three (3) weeks prior to the commencement of the seminar. All hotel accommodation is strictly subject to availability and terms and conditions imposed by the hotel will apply.
- Attendance Certificate - a certificate of attendance will only be awarded to those delegates who successfully completed/ attended the entire seminar including the awarding of applicable Continuing Professional Education Units/Hours.
- Force Majeure - any circumstances beyond the control of the Company may necessitate postponement, change of seminar venue or substitution of assigned Instructor. The Company reserves the right to exercise this clause and implement such amendments.
- Fair Access / Equal Opportunities - In the provision of its services as a world-class Training Provider, the Company is committed to provide fair access / equal opportunities throughout the delivery of its courses and assessment leading to the completion of training seminars, or 3rd party qualifications/certifications.

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