



---

# MAINTENANCE ERRORS

Understand, Identify and Manage

---

19 - 23 Nov 2017, Dubai

# MAINTENANCE ERRORS

Understand, Identify and Manage

## Introduction

Human factors are by far the largest cause of failures and incidents in maintenance. This goes not only for branches like aviation, but also for chemicals, oil & gas, energy and transportation. Investigation shows that approximately 12% of all aviation accidents are caused by a maintenance factor. At coal-fired power stations, 56% of forced outages happen within a week after a planned or maintenance shutdown. A power distribution company reported that on average between 50 and 60% of all failures are related to a maintenance error.

In the past we faced serious and tragic accidents in various branches. Maintenance errors at least contributed to all of the above mentioned major accidents. Because we are heavily dependent on complex modern technologies with high speed and large power and volumes, maintenance errors can have serious consequences in terms of safety, environmental issues, downtime and costs. Considering the numbers and consequences, maintenance errors should be treated as a business risk. We cannot eliminate the risk of maintenance error completely, but we can manage it more effectively.

This training seminar introduces participants to the skills and knowledge area of maintenance errors. It demonstrates why people make mistakes, not only in executing a maintenance job, but also in planning & preparing the job, in writing the maintenance manual and in engineering the asset. It shows how we could learn of maintenance errors, by analysing technical failures and incidents in a structured way. And the seminar demonstrates how we could manage maintenance error by managing the person, the task and the team; the workplace and the organization; and by creating a safety culture.

### **This training seminar will highlight:**

- The human error in maintenance phenomenon and why it is important
- The fundamentals of human performance – psychology meets engineering & maintenance
- Different types of human error
- Contributing circumstances
- Basic methodologies to analyse technical failures and incidents
- Principles of Maintenance Error Management: person – task – team – workplace – organization and how to implement it
- Creating a safety culture

## Objectives

### **At the end of this training seminar, you are able to:**

- Understand how significant the human factor in maintenance is
- Explain what human factors could cause maintenance errors
- Apply a structured approach to find the root cause of technical failures and incidents

- Understand the basic principles of Maintenance Error Management
- Explain how managing maintenance errors interacts with implementing a safety culture and how it supports each other
- Develop an action plan to manage maintenance errors in your own area of responsibility

## Training Methodology

The training seminar will be conducted along interactive workshop principles. There will be a variance of lectures and practical exercises. Experiences from different areas will be discussed. There will be many opportunities for discussion and sharing experiences.

## Organisational Impact

### **The organization will:**

- Have a comprehensive understanding of the impact of maintenance error on the organization (risk), the workplace, the worker and the bottom line of the company
- Learn fast how other companies are identifying and understanding the human factor in maintenance error
- Know how to manage maintenance error more effectively
- Gain insight in common pitfalls and key success factors
- Be able to apply instruments to implement maintenance error management in both short as well as long term

## Personal Impact

### **By attending the participants will:**

- Gain understanding and practical insight of the basic concepts of human factors in maintenance error, its impact on the organisation, workplace and worker and how to manage it more effectively
- Improve their level of personal knowledge
- Add value for themselves
- Be able to plan and develop a future career

## Who Should Attend?

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

- All professionals involved in Maintenance, Engineering, Production and Safety
- Anyone who wishes to update themselves on the human factor in maintenance and learn how to implement maintenance error management for the benefit of their organizations

## DAY 1

### Introduction to Human Error in Maintenance

- We do not want to talk about it, but...
- The significance of human error in maintenance
- Relationship with risk & risk management
- The human risk
- The psychological aspects of human error
  - Human attention
  - Levels of human performance: skill-based, rule-based, knowledge-based

## DAY 2

### Human Error – What is it?

- Different types of human error in maintenance
- How to identify them?
- Contributing factors and circumstances
- The consequences of maintenance errors
- Case study

## DAY 3

### How to Learn from Maintenance Errors

- Basic methodologies to analyse technical failures and incidents
- Multiple realities
- Subjective views
- Effective problem solving
- Cause and effect relations
- RCA methodologies – Application
  - Apollo RCA
  - Tripod
- Case study

## DAY 4

### Maintenance Error Management

- Principles of Maintenance Error Management
- Possible measures to take:
  - Person & Team
  - Workplace & Task
  - Organisation
- Creating a safety culture

## DAY 5

### Implementation Workshop

- Implementation aspects
- Performance management: influencing the behaviour of people to gain better results
- Action plan
- Case study



*"The PMI Registered Education Provider logo is a registered mark of the Project Management Institute, Inc."*

# MAINTENANCE ERRORS

Understand, Identify and Manage

Code	Date	Venue	Fees
MN039	19 - 23 Nov 2017	Dubai	\$4,500

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

## PAYMENT DETAILS

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

## CERTIFICATION

Successful participants will receive GLOMACS' Certificate of Completion

## 4 WAYS TO REGISTER

Tel: +971 (04) 425 0700  
Fax: +971 (04) 425 0701  
Email: [info@glomacs.ae](mailto:info@glomacs.ae)  
Website: [www.glomacs.ae](http://www.glomacs.ae)

## 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.

