

# FMEA & RCM:

*Failure detection and prevention since design phase*

## WHY SHOULD ATTEND THIS TRAINING:

- To understand the failures, risk and criticality concepts
- To understand the different application of FMEA and FMECA concepts
- To understand the Design Failure Mode and effect analysis (DFEMA).
- To understand the Process Failure Mode and effect analysis (PFMEA).
- To understand the System Failure Mode and effect analysis (FMEA).
- To understand the Maintenance concepts.
- To understand the Reliability Centred Maintenance concepts.
- To understand the FMEA & RCM concept as basic of safe integrity asset performance achievement.

## WHO SHOULD ATTEND THIS TRAINING:

The following selected participants should attend this course:

- Asset Integrity Managers, Maintenance Managers, Production Managers, HSE Managers.
- Safety Engineers, Reliability Engineer/Maintenance Engineer/ Supervisor
- Safety professional
- Design Engineer/Production Engineer
- Everybody who wants to broaden knowledge and interest in this topics

## TRAINING MATERIAL OUTLINE

### FMEA basic concepts (2 h)

- Failure concepts
- Risk Matrix Concept
- Criticality concept

### FMEA Analysis (8 h)

- Design Failure Mode and effect analysis (DFEMA).
- Process Failure Mode and effect analysis (PFMEA).
- System Failure Mode and effect analysis (FMEA).
- FMEA concept as basic of safe integrity asset performance achievement.
- FMEA case studies and exercises

### RCM Analysis (6 h)

- Maintenance concepts.
- Reliability Centred Maintenance (RCM) concepts.
- RCM concept as basic of safe integrity asset performance achievement.
- RCM case studies and exercises.



**Dr Eduardo Calixto**

Doctorate in Energy and Environment focus on risk management, Master Degree in Safety Management, Bachelor in Industrial Engineer and a wide range of reliability, risk analysis and safety techniques across a range of industries like Oil and Gas (including onshore, offshore, subsea, utilities and drill facilities), Metallurgic, Aerospace & Defense and Railway Industry. Dr. Eduardo Calixto is Certified Reliability Professional (CRP) by Reliasoft Corporation US and Certified Functional Safety Expert (CFSE) by Exida US.

Key experiences include 17 years dedicating to reliability engineer studies and Risk management assessment. A total of 12 years dedicating to Oil and gas working 8 years by Petrobras S.A in Brazil , 2 year by Reliasoft Corporation as Reliability Consultant mostly dedicated to Kuwait Oil Company projects and 2 years by Genesis Oil and Gas consultant Company in London, as Principal Reliability Engineer, which support different major Oil and Gas company projects all over the world. In addition, Dr. Eduardo had 2 years dedicated to Metallurgic Industry by Vale in Brazil, 1 year dedicated to Aerospace project in Germany and 2 year dedicated to the transportation industry in projects in Germany, Austria and UK by Bombardier Transportation and Molinari Railway as RAMS expert.



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