

**Comprehensive RAMS**  
**Reliability, Availability,  
Maintainability and  
Safety Training**

 **5 Days**

## Program Overview

By addressing RAMS importance in Design and Operations, Risk Management, Continuous Improvement, Measurements and Metrics, Regulatory and Standards Compliance, Case Studies and Examples, and Cross-disciplinary Collaboration, this RAMS training program aims to equip participants with the knowledge, skills, and tools necessary to enhance the reliability, availability, maintainability, and safety of systems and processes within various industries.

## Objectives

- Recognize the importance of RAMS in the Design Process
- Recognize how RAMS is linked to life cycle cost
- Explain the key factors affecting systems availability
- Adjust maintenance strategy
- Model process reliability, availability
- Effectively enhance reliability, availability and throughput
- Articulate the implications of RAMS requirements
- Apply a design for reliability programs to meet RAMS standards
- Plan for in-service Reliability monitoring
- Realize the relationship between RAMS requirements and a Performance Based Contract
- Analyze when the systems should be replaced
- Recognize different metrics used to analyze a system's maintainability and availability



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## Who should attend?

- RAMS Engineers and Specialist
- Analyzers and Planners
- Product Support Engineers and Specialists
- Design Engineers
- Project Engineering Managers
- Maintenance Team Leaders, Engineers and Managers
- Operations Team Leaders, Engineers and Managers
- Project Technical Personnel
- Systems Engineers
- Process Engineers
- Maintenance Professionals

## Course Details and Schedule

### Day 1

- RAMS Terms and Metrics Definitions
- Reliability Planning and Modeling
- Reliability Block Diagram
- Reliability Allocation and Prediction Analysis (MTBF, FR, MTTF)

### Day 2

- Functional and Physical Failure Modes Effects and Criticality Analysis (FMECA)
- Fault Tree Analysis (FTA)
- FMECA and FTA Link Introduction and Analysis
- FMECA and FTA Risk Assessments
- FMECA and FTA Design Effects Management

### Day 3

- Testability Analysis (FDR, FIR, FAR)
- Maintainability Planning and Modeling
- MSG-3 and RCM Analysis
- Maintenance Planning and Packing
- Maintainability Metrics Analysis (MTRR, MTBPMA, etc.)

### Day 4

- Safety Planning and Modeling
- Functional Hazard Assessment
- Preliminary Safety Analysis
- System Safety Analysis
- RAMS Case study

### Day 5

- FRACAS (Failure Reporting, Analysis, and Corrective Action System)
- Highly Accelerated Life Test (HALT) and Design Improvement
- Highly Accelerated Stress Screening Test (HASS) Application
- Accelerated Life Test (ALT) Methods and Applications
- Case Study



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