BLACKBIRD FOR TRAINING

# Reliability Excellence, Asset Integrity & Risk-Based Maintenance

11 – 15 April 2027
Cairo (Egypt)

UK Traininig
PARTNER



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# Reliability Excellence, Asset Integrity & Risk-Based Maintenance

**Ref:** 3256000_358382 **Date:** 11 – 15 April 2027 **Location:** Cairo (Egypt) **Fees:** 4900 GBP

## Introduction

This advanced one-week course provides an integrated approach to improving equipment reliability, asset integrity, and maintenance effectiveness. It focuses on Reliability-Centered Maintenance RCM, Risk-Based Inspection RBI, FMEA/FMECA, equipment criticality, bad-actor elimination, Root Cause Analysis RCA, predictive maintenance, reliability KPIs, and asset integrity governance.

## Course Objectives

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

- Apply Reliability-Centered Maintenance RCM principles.
- Develop risk-based maintenance and inspection strategies.
- Apply RBI methodologies to critical assets.
- Conduct FMEA/FMECA and identify failure modes.
- Identify and eliminate bad actors.
- Apply Root Cause Analysis to recurring failures.
- Develop predictive and condition-based maintenance strategies.
- Assess equipment criticality.
- Improve MTBF and reduce MTTR.
- Develop and monitor reliability KPIs.
- Strengthen asset integrity governance.
- Develop reliability improvement programs.

## Course Outline - 1 Week

### Day 1 - Reliability Strategy & Equipment Criticality

- Reliability management fundamentals.
- Reliability strategy and business objectives.
- Equipment criticality assessment.
- Criticality ranking and risk prioritization.
- Failure consequences and functional failures.
- Reliability KPIs.
- MTBF, MTTR, availability, and reliability.
- Developing a reliability improvement strategy.



**Day 2 - RCM, FMEA/FMECA & Maintenance Strategy**

- Reliability-Centered Maintenance RCM.
- RCM principles and methodology.
- Failure modes and failure effects.
- FMEA and FMECA.
- Failure consequence analysis.
- Selecting appropriate maintenance tasks.
- Preventive, predictive, and condition-based maintenance.
- Developing optimized maintenance strategies.

**Day 3 - RBI, Asset Integrity & Risk Management**

- Risk-Based Inspection RBI.
- Asset integrity management principles.
- Risk identification and assessment.
- Probability and consequence of failure.
- Inspection planning and prioritization.
- Integrity threats and degradation mechanisms.
- Risk-based maintenance decisions.
- Asset integrity governance and assurance.

**Day 4 - Bad Actors, RCA & Reliability Improvement**

- Identifying and prioritizing bad actors.
- Bad-actor elimination strategies.
- Root Cause Analysis RCA.
- Failure investigation techniques.
- Recurring failure analysis.
- Corrective and preventive actions.
- Reliability improvement projects.
- Predictive maintenance and condition monitoring.
- Improving MTBF and reducing MTTR.

**Day 5 - Reliability Performance, KPIs & Continuous Improvement**



- Reliability performance management.
- Reliability and maintenance KPIs.
- Equipment availability and performance.
- Predictive maintenance performance.
- Benchmarking reliability performance.
- Reliability data analysis and decision-making.
- Asset integrity performance indicators.
- Lessons learned and knowledge capture.
- Reliability improvement roadmap.
- Building a culture of reliability excellence.

**Why Attend This Course?**

**Wins**

- Improved equipment reliability.
- Reduced recurring failures.
- Better equipment criticality decisions.
- Optimized maintenance strategies.
- Improved RCM and RBI application.
- Stronger asset integrity management.
- Increased MTBF.
- Reduced MTTR.
- Better predictive maintenance performance.
- Improved reliability KPIs.
- Reduced maintenance and operational risk.

**Potential Losses Without These Capabilities**

- Recurring equipment failures.
- Poor maintenance task selection.
- Ineffective inspection strategies.
- Uncontrolled asset integrity risks.
- High MTTR and low MTBF.
- Excessive corrective maintenance.
- Persistent bad actors.
- Poor reliability performance.
- Increased downtime and production losses.

**Conclusion**



This course provides managers and reliability professionals with an integrated framework for improving **reliability, asset integrity, maintenance effectiveness, and risk management**, using proven approaches including **RCM, RBI, FMEA/FMECA, RCA, criticality analysis, predictive maintenance, and reliability performance management**.

**Frequently Asked Questions FAQ**

**Who should attend?**

Reliability Managers, Asset Integrity Managers, Maintenance Managers, Reliability Engineers, Maintenance Engineers, Inspection Engineers, and senior technical professionals.

**Is it an advanced course?**

Yes. It is designed for experienced reliability, maintenance, inspection, and asset integrity professionals.

**What is the duration?**

**1 week, 4 hours per day — 20 training hours.**

**Does it cover RCM and RBI?**

Yes. Both RCM and RBI are core components of the course.

**Does it cover FMEA/FMECA and RCA?**

Yes. The course covers both failure-mode analysis and Root Cause Analysis.

**Does it cover predictive maintenance?**

Yes. Predictive and condition-based maintenance strategies are covered, including their role in improving reliability and reducing failures.

