

RISK BASED INSPECTION

MNE004

COURSE DESCRIPTION

This Risk-Based Inspection training course helps attendees understand and use RBI technology, develop a program, and learn which RBI procedures and working process comply with industry standards. The course covers risk determination and planning; assessment of damage mechanisms; and probability of failure, consequences of failure, and various risk determinations. Additionally, we will facilitate discussions on risk-based inspection planning and financial risk and cost benefit analysis. The instructors will discuss the background and logic behind RBI technology and intersperse some example problems to demonstrate the step-by-step calculation of risk.

COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary to understand methodology of actual implementation of RBI in Oil and Gas industry.

COURSE OBJECTIVES

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

- Understand the reasons for and benefits of implementing RBI.
- Undertake rapid practical RBI implementation.
- Plan successful RBI projects.
- Prepare risk-based inspection plans and optimise maintenance and inspection intervals.
- Recommend suitable risk mitigation actions.

WHO SHOULD ATTEND

- Engineers, Supervisors, and Managers and Individuals who are responsible for implementing risk-based inspection programs within their own company or plant facility.
- Inspection Personnel who are responsible for maintaining the serviceability of process plant equipment based on a cost-effective inspection program.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Introduction

- What is RBI?
- Scope of RBI
- Purpose & Utility of RBI
- Common Definition RBI
- Definition of Risk
- Relative Risk V/S Absolute Risk
- Relationship between Inspection & Risk
- Types Of RBI Assessments
- Qualitative, Quantitative and Semi-Quantitative Approaches

2. Planning RBI Assessment

- Selecting Type of RBI Assessment
- Identifying Deterioration Mechanisms

3. Introduction to Qualitative Analysis

- Likelihood Category
- Consequence Category
- Step-By Step Method for Qualitative Analysis
- Understanding the Damage Factors
- Determine Likelihood Category
- Determine Consequence Category and Risk Category
- Preparation of Risk Matrix, Analysis and Conclusion

4. Introduction to Quantitative Analysis

- Flammable Effects
- Toxic Effects
- Business Interruption Effects
- Estimation of Release Rate and Post Leak Response
- Risk Evaluation
- Risk-Weighted Consequences

5. Introduction to Semi Quantitative Approach

- Likelihood Analysis
- Consequence Analysis

- Risk Management Post RBI Analysis
- Inspection Strategies Post RBI Analysis
- Using RBI Findings To Evolve Inspection Strategy In Oil And Gas Industry

6. Inspection Effectiveness

- Optimizing Inspection Methods And Frequencies
- Risk Mitigation and Follow-Up
- Re-Assessment and Updating RBI
- Implementation of RBI in Oil and Gas Industry

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