€TRAINING

Reliability Engineering and Asset Management REAM

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Introduction:

This training program equips participants with the knowledge and skills to optimize the reliability and performance of physical assets. It empowers them to develop and implement strategies that minimize downtime, maximize asset lifespan, and contribute to overall organizational success.

Program Objectives:

At the end of this program, participants will be able to:

- Apply core principles of reliability engineering to analyze asset failure data and predict future performance.

- Utilize various asset management techniques such as preventive maintenance, reliability-centered maintenance RCM, and condition monitoring to optimize asset health.

- Develop and implement a comprehensive REAM program aligned with organizational goals and resource constraints.

- Perform root cause analysis RCA to identify and address the underlying causes of equipment failures.

- Utilize reliability tools and software to analyze data, estimate maintenance needs, and optimize resource allocation.

- Effectively communicate REAM strategies and results to stakeholders at all levels.

Targeted Audience:

- Reliability Engineers.

- Maintenance Technicians.

- Asset Managers.

- Operations and Production Personnel.

- Plant and Facilities Engineers.

Program Outline:

Unit 1:

Fundamentals of Reliability Engineering:

- Define key reliability concepts MTBF, MTTR, downtime costs.

- Explore probability and statistics for reliability analysis.

- Analyze failure data using various techniques Weibull analysis.

- Apply reliability models to predict equipment performance.

- Understand the impact of reliability on maintenance strategies.

Unit 2:

Asset Management Strategies:

- Explore various asset management philosophies preventive, predictive, reliability-centered.

- Implement preventive maintenance programs based on risk assessment.

- Develop a Reliability-Centered Maintenance RCM program to optimize maintenance tasks.

- Integrate condition monitoring techniques vibration analysis, oil analysis into asset management plans.

- Develop strategies for asset replacement and disposal.

Unit 3:

REAM Program Development and Implementation:

- Define the key elements of a comprehensive REAM program.

- Align REAM goals with organizational objectives and resource limitations.

- Develop a data collection and analysis plan to support REAM decisions.

- Implement a change management process for successful REAM program adoption.

- Evaluate and continuously improve the effectiveness of the REAM program.

Unit 4:

Root Cause Analysis RCA for Asset Management:

- Understand the importance of RCA in preventing equipment failures.

- Apply various RCA methodologies 5 Whys, FMEA to identify root causes.

- Analyze failure data to pinpoint potential causes and contributing factors.

- Develop corrective and preventive actions to address root causes and prevent future failures.

Unit 5:

REAM Tools and Technologies:

- Explore software applications for reliability data analysis and maintenance planning.

- Utilize tools for condition monitoring data collection and interpretation.

- Leverage risk assessment software to prioritize assets and maintenance tasks.

- Learn best practices for data management and reporting within a REAM program.