MERCURY

Process Plant Troubleshooting & Engineering Problem Solving Workshop

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Introduction:

Excellent troubleshooting skills are essential for Best-in-Class modern industrial companies. Having personnel trained in troubleshooting training and equipped with solid troubleshooting skills minimizes downtime and enhances overall productivity.

This plant troubleshooting and engineering problem-solving workshop is designed to instill maintenance troubleshooting techniques and an engineering approach to problem-solving, ensuring rapid and efficient issue resolution.

Why is Troubleshooting Important?

Plant troubleshooting and engineering problem-solving are critical processes for identifying the cause of a system problem and solving it.

Understanding the importance of troubleshooting must be addressed in industrial and manufacturing settings where downtime can result in significant financial loss and reduced safety.

Through this plant troubleshooting and engineering problem-solving seminar, participants will understand why troubleshooting is necessary and how it can contribute to process continuous improvement.

Targeted Groups:

- Employees are responsible for leading and directing teams to improve productivity.
- Individuals tasked with plant troubleshooting and solving plant-related problems.
- Production, Maintenance Engineering, and Process Engineering personnel.
- Supervisors are involved in the operations or maintenance functions.
- Planners, coordinators, engineers, and technologists are committed to enhancing their troubleshooting skills training.

Workshop Objectives:

By the end of this plant troubleshooting and engineering problem-solving workshop, participants will:

- Understand how to become a Top Gun troubleshooter.
- Develop a structured approach to troubleshooting and problem-solving with common terminology and understanding.
- Learn how to make incremental efficiency gains through continuous improvement practices.
- Distinguish between owning a techniques manual and effectively applying it.
- Identify motivated individuals who should lead troubleshooting efforts.
- Understand work practices that enable success in troubleshooting and problem-solving.

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Targeted Competencies:

By the end of this plant troubleshooting and engineering problem-solving conference, participants will:

- Problem-solving terminology.
- Tools and techniques for maintenance troubleshooting.
- A standard blueprint for problem analysis and resolution.
- Strategies, planning, and protocols for effective problem-solving.
- Variability analysis for anticipating and mitigating issues.
- Human factor analysis as a source of error in troubleshooting.

Conference Content:

Unit 1: Introductory Concepts:

- Understanding the nature of problems.
- Establishing a common terminology for plant troubleshooting.
- Contextualizing problems: asset-based vs. business process-based approaches.
- Structured approaches such as 6 Big Losses and 7 Wastes.
- Introduction to various troubleshooting techniques and tools.
- Setting a Six-Level Performance Standard.
- Recognizing critical relationships in problem-solving.

Unit 2: Tools and Techniques:

- Applying decision logic to troubleshooting.
- Understanding maturity indexing in problem-solving.
- Analyzing relationships to identify problem sources.
- Synthesizing problem analysis for effective resolution.
- Making practical use of tools and techniques for troubleshooting.
- Selecting appropriate project selection methods.
- Choosing the correct tools and techniques for each troubleshooting scenario.

Unit 3: People Issues:

- Investigating how work practices impact troubleshooting effectiveness.
- Exploring group dynamics in problem-solving.
- Delving into individual motivators for effective troubleshooting.
- External vs. Internal Motivation.
- Developing troubleshooting and mechanical engineering problem-solving skills.
- Managing change associated with problem-solving initiatives.
- Implementing a Transition Matrix to aid in troubleshooting efforts.
- Fraction.

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Unit 4: Operator, Maintainer, Designer Interface:

- Encouraging cross-functional working for troubleshooting.
- Examining the effect of maintenance strategy on troubleshooting efforts.
- Analyzing functional contributions to problem-solving.
- Considering Life Cycle Analysis and designing for operation and maintenance.
- Conducting variability analyses to anticipate potential issues.
- Strategies, planning, and protocols for enhanced troubleshooting.
- Improving the fit between critical parameters in operations.
- Continuous improvement.

Unit 5: Review of Concepts, Tools, and Techniques:

- Creating an action plan for troubleshooting and problem resolution.
- Understanding configuration management in the context of troubleshooting.
- Considering commercial programs that support troubleshooting efforts.
- Applying standard questions as a structured approach to troubleshooting.
- Reviewing the four critical stages of Data Maturity for engineering problem-solving.

Conclusion:

Through this structured troubleshooting workshop, participants will gain engineering problem-solving skills crucial for effectively addressing and preventing issues within process plants.