

€ TRAINING

Process Plant Troubleshooting and
Engineering Problem Solving





Process Plant Troubleshooting and Engineering Problem Solving

Introduction:

This training program aims to equip participants with essential skills and methodologies to effectively diagnose and resolve issues in process plants. This program emphasizes critical thinking, systematic problem-solving approaches, and practical troubleshooting techniques essential for ensuring operational efficiency and reliability.

Program Objectives:

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

- Develop proficiency in diagnosing process plant issues.
- Acquire systematic problem-solving skills.
- Apply root cause analysis techniques effectively.
- Implement preventive and corrective actions.
- Enhance operational reliability and efficiency.
- Foster a culture of continuous improvement in troubleshooting.

Target Audience:

- Process engineers and plant operators.
- Maintenance and reliability professionals.
- Technical staff involved in operations and troubleshooting.
- Engineering managers and supervisors.
- Professionals seeking to enhance problem-solving capabilities in process industries.

Program Outline:

Unit 1:

Fundamentals of Process Plant Troubleshooting:

- Introduction to process plant troubleshooting.
- Importance of systematic problem-solving.

- Roles and responsibilities in troubleshooting.
- Safety considerations in troubleshooting activities.
- Regulatory compliance and standards.

Unit 2:

Root Cause Analysis Techniques:

- Overview of root cause analysis RCA.
- Common RCA methodologies 5 Whys, Fishbone Diagram.
- Data collection and analysis for RCA.
- Case studies on successful RCA applications.
- Implementing preventive measures based on RCA findings.

Unit 3:

Equipment and Process Troubleshooting:

- Troubleshooting mechanical equipment failures.
- Electrical and instrumentation troubleshooting.
- Troubleshooting control systems and PLCs.
- Process deviations and abnormal operations.
- Interpreting equipment performance data.

Unit 4:

Implementing Effective Solutions:

- Developing action plans for corrective actions.
- Monitoring and evaluating effectiveness of solutions.
- Documenting troubleshooting processes and outcomes.
- Integration of troubleshooting with maintenance strategies.
- Continuous improvement in troubleshooting practices.



Unit 5:

Case Studies and Practical Applications:

- Real-world case studies in process plant troubleshooting.
- Simulation exercises and hands-on problem-solving.
- Group discussions and peer learning sessions.
- Lessons learned and best practices in troubleshooting.
- Future trends in process plant troubleshooting and problem-solving techniques.