Advanced Maintenance Planning and Shutdown Management

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PARTNER



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Introduction

The Advanced Maintenance Planning & Shutdown Management training course explores modern approaches used in maintenance planning, shutdown coordination, and asset performance improvement within industrial and operational environments. The course focuses on integrating technical planning, resource management, risk analysis, and cost control to ensure maintenance activities and planned shutdowns are executed efficiently, safely, and within the required timeframe and quality standards.

This course is designed for professionals working in maintenance, operations, engineering, planning, asset management, safety, and projects, as well as supervisors and team leaders responsible for improving equipment reliability and minimizing unplanned downtime. It is also highly relevant for organizations operating continuous systems and equipment in industries such as oil and gas, power generation, manufacturing, utilities, transportation, and other technical sectors.

Participants will gain a practical understanding of the full maintenance planning cycle, from analyzing asset requirements and prioritizing work to preparing shutdown schedules, managing contractors, monitoring execution, and evaluating post-shutdown performance. The course also introduces practical tools that support better coordination between departments, reduce operational waste, and improve safety and reliability performance.

Course Objectives

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

- Understand the fundamental and advanced concepts of maintenance planning and shutdown management.
- Analyze maintenance requirements based on asset condition and operational priorities.
- Develop effective maintenance plans considering resources, time, cost, and risks.
- Apply structured scheduling techniques for maintenance and shutdown activities.
- Define shutdown work scope aligned with technical and operational objectives.
- Manage workforce, equipment, and spare parts during maintenance and shutdown phases.
- Assess risks associated with maintenance and shutdown activities and implement suitable control measures.
- Improve coordination between maintenance, operations, safety, procurement, and contractors.
- Monitor shutdown progress using clear performance indicators.
- Evaluate shutdown results and identify lessons learned for continuous improvement.



Course Outlines

Day 1: Advanced Maintenance Planning & Asset Management Fundamentals

- Introduction to advanced maintenance planning and its role in operational stability.
- Differences between planned, preventive, predictive, and corrective maintenance.
- Relationship between maintenance management, asset management, and equipment reliability.
- Impact of failures and shutdowns on productivity, cost, and safety.
- Roles and responsibilities of maintenance, operations, and planning teams.
- Work order lifecycle from request to closure and evaluation.
- Equipment criticality classification based on operational importance and risk.
- Practical exercise on prioritizing maintenance activities according to operational impact.

Day 2: Work Analysis & Maintenance Prioritization

- Collecting equipment data, failure history, and previous work orders.
- Analyzing recurring failures and their effect on operational continuity.
- Establishing maintenance priority criteria based on risk and cost.
- Developing clear work scopes for maintenance activities with technical requirements.
- Estimating labor, duration, and spare parts needed for execution.
- Understanding the relationship between material availability and maintenance readiness.
- Improving planning accuracy and reducing emergency work.
- Practical activity on preparing prioritized maintenance task lists.

Day 3: Shutdown Planning & Work Scheduling

- Overview of shutdown phases from preparation to restart.
- Defining shutdown scope aligned with production and safety objectives.
- Preparing detailed work breakdown structures for shutdown activities.
- Identifying critical activities affecting total shutdown duration.
- Applying scheduling principles and resource allocation techniques.
- Coordination methods between maintenance, operations, safety, and procurement teams.
- Managing interfaces between technical and support activities.
- Practical exercise on preparing a preliminary shutdown schedule.

Day 4: Execution Management & Risk Control During Shutdowns

- Monitoring daily work execution against approved plans and schedules.
- Managing workforce and contractors during shutdown execution.
- Applying safety procedures and permit-to-work systems during maintenance activities.
- Managing unexpected changes and deviations from the original plan.
- Tracking work progress using daily performance indicators.
- Addressing operational issues during execution and making effective decisions.
- Controlling costs and resources throughout the shutdown period.
- Practical simulation for handling delays or work conflicts during shutdowns.



Day 5: Post-Shutdown Evaluation & Continuous Improvement

- Reviewing shutdown results against schedule and approved budget.
- Evaluating work quality and achievement of technical objectives.
- Measuring maintenance and shutdown performance indicators.
- Identifying causes of deviations in time, resources, or cost.
- Preparing structured post-shutdown reports.
- Capturing lessons learned and converting them into future improvement actions.
- Developing follow-up plans for remaining work and improvement opportunities.
- Final case study assessment on a planned operational shutdown.

Why Attend this Course: Wins & Losses!

- Improve the ability to develop realistic and executable maintenance plans.
- Reduce unplanned shutdowns through better planning and analysis.
- Enhance the efficiency of workforce, equipment, and spare parts utilization.
- Strengthen coordination between maintenance, operations, safety, and procurement teams.
- Improve control over maintenance and shutdown costs.
- Apply practical tools for monitoring execution and measuring performance.
- Increase organizational readiness for major and periodic shutdowns.
- Support higher asset reliability and operational stability.

Conclusion

The Advanced Maintenance Planning & Shutdown Management training course provides a practical framework for understanding how to prepare, execute, and monitor maintenance plans and operational shutdowns in a structured and efficient manner. The course begins with the core principles of maintenance and asset management before progressing into work analysis, prioritization, scheduling, resource management, and execution control. This structured approach gives participants a clear understanding of the complete workflow, from initial planning through final evaluation and improvement.

The program focuses on the factors that directly influence maintenance and shutdown success, including accurate work scoping, material availability, team readiness, role clarity, and risk management. It also highlights the importance of cross-functional coordination to ensure work is completed efficiently without unnecessary delays or conflicts. Through practical exercises and real-world case studies, participants will be able to translate concepts into actionable practices suitable for technical and operational environments.

By the end of the course, participants will have a practical understanding of how to build advanced maintenance plans, manage structured operational shutdowns, and evaluate results after execution. They will also be able to identify weaknesses in existing maintenance processes, propose data-driven improvements, and monitor performance using clear operational indicators. This course is highly valuable for organizations aiming to reduce failures, improve asset readiness, control costs, and enhance operational reliability on a continuous basis.

