MERCURY

Turnaround Planning & Execution - Shutdown Works

Dubai - UAE: +971 4 450 5697
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Introduction:

In the high-risk, capital-intensive world of industrial operations, Turnaround Planning and Execution—Shutdown Works — is a mission-critical activity that ensures operational continuity, safety, and cost efficiency. This training course equips professionals with structured methodologies for effectively managing plant turnarounds and shutdown projects from initial planning to safe startup.

The Turnaround Planning and Execution - Shutdown Works program emphasizes minimizing downtime, maintaining asset integrity, and optimizing resource allocation. Participants will learn how to mitigate risks, control costs, and ensure compliance with safety and regulatory requirements. Real-world scenarios and best practices to help trainees navigate complexity and deliver successful shutdowns.

As turnaround management becomes increasingly data-driven and precision-focused, this Turnaround Planning and Execution - Shutdown Works course introduces tools and strategies for monitoring, scheduling, and performance tracking. It is ideal for technical professionals seeking to align shutdown operations with long-term asset management goals.

Targeted Groups:

This Turnaround Planning and Execution - Shutdown Works training course targets professionals seeking specialized knowledge and skills:

- Shutdown and turnaround engineers.
- Maintenance and reliability managers.
- Project managers and planners.
- Plant managers and production engineers.
- Safety, Health, and Environment Officers.
- Procurement and supply chain personnel are involved in turnarounds.
- Mechanical and electrical supervisors.
- Inspection and quality assurance teams.
- Asset integrity and plant operations staff.
- Professionals in oil, gas, petrochemical, power, and heavy industries.

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Course Objectives:

Participants will achieve the following objectives by completing the Turnaround Planning and Execution - Shutdown Works course:

- Understand the full lifecycle of shutdown and turnaround processes.
- Define clear scopes and turnaround goals aligned with asset strategies.
- Apply planning techniques to optimize schedules and reduce downtime.
- Analyze risks and integrate safety and compliance requirements into planning.
- Develop cost control mechanisms and budget forecasting for shutdown projects.
- Coordinate multi-disciplinary teams and contractors effectively.
- Implement tools and KPIs to monitor turnaround performance.
- Prepare detailed work packages and job plans with logical sequencing.
- Ensure quality assurance and control procedures throughout.
- Evaluate post-shutdown performance to identify improvement opportunities.
- Gain confidence in managing resources and logistics during complex outages.
- Enhance communication strategies and reporting structures within project teams to improve collaboration and efficiency.

Targeted Competencies:

Participants will gain the following competencies during the Turnaround Planning and Execution - Shutdown Works program:

- Competence in planning and executing major shutdown events.
- Ability to perform risk-based prioritization and task scheduling.
- Skills in resource estimation and contractor management.
- Proficiency in turnaround budgeting and financial control..
- Knowledge of safety protocols in confined and hazardous spaces.
- Mastery of project reporting and performance evaluation tools.
- Ability to lead cross-functional turnaround teams effectively.
- Insight into modern turnaround software and automation.

Course Content:

Unit 1: Fundamentals of Turnaround & Shutdown Management:

- Define key concepts: turnaround, shutdown, and outage.
- Identify strategic drivers behind planned shutdowns.
- Lifecycle stages of turnaround projects.
- Typical duration and scope of industrial shutdowns.
- Impact of unplanned downtime on production and cost.
- Turnaround policy and governance structures.
- The Importance of Early Planning and Stakeholder Buy-In.
- Align shutdown strategy with maintenance and reliability goals.
- Key performance indicators KPIs for measuring turnaround success.

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Unit 2: Planning, Scheduling & Scope Definition:

- Work Breakdown Structure WBS for Turnarounds.
- Crafting realistic and achievable schedules.
- Scope definition methods and avoiding scope creep.
- Job identification and prioritization matrix.
- Estimating durations and sequencing tasks logically.
- Critical Path Method CPM and Gantt Chart Applications.
- Planning tools and software Primavera, MS Project.
- Shutdown scope control and change management.
- Defining deliverables, milestones, and freeze dates.

Unit 3: Cost Management, Risk & Resource Allocation:

- Budget preparation, forecasting, and cash flow planning.
- Understanding cost drivers in shutdown execution.
- Developing a risk register for shutdown operations.
- Risk mitigation strategies and contingency planning.
- Resource estimation: labor, materials, tools, and rentals.
- Workforce leveling and peak workforce management.
- Contractor management and pre-qualification.
- Logistics planning for materials and equipment.
- Safety reserves and emergency response plans.

Unit 4: Execution, Coordination & Quality Assurance:

- Mobilization and readiness checks are conducted before shutdown starts.
- Work package execution and coordination flows.
- Interface management among teams and contractors.
- Execution control room and communication channels.
- Managing Confined Space and Hazardous Area Entry.
- Inspection, test plans, and QA/QC checkpoints.
- Tracking progress: daily reports and dashboard updates.
- Dealing with delays, bottlenecks, and last-minute changes.
- Post-work inspections and system turnover protocols.

Unit 5: Close-Out, Evaluation & Continuous Improvement:

- Safe and controlled system startup processes.
- Debriefing sessions and post-shutdown analysis.
- Lessons learned, documentation, and feedback loops.
- Final cost and performance benchmarking.
- Audit trails and regulatory compliance reporting.
- Success and Failure Metrics in Past Shutdown Projects.
- Continuous improvement strategy for future turnarounds.
- Maintenance backlog integration post-turnaround.
- Building a knowledge base for institutional learning and development.

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Final Insights & Key Takeaways:

Turnaround planning and shutdown execution are critical for sustaining asset performance in high-stakes industrial settings. Mastering these processes reduces downtime, enhances safety, and maximizes cost efficiency. Through real-world applications and structured learning, this course empowers professionals to lead complex shutdowns with confidence and expertise. Strategic planning, risk control, and team coordination are the pillars of successful turnarounds.