

Course No. 2029

Turnaround, Shutdown & Overhaul Management for Rotating Equipment Training Course

MAINTENANCE ENGINEERING
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Turnaround, Shutdown & Overhaul Management for Rotating Equipment Training Course provides a practical and structured framework for planning, managing, and executing shutdown, turnaround, and overhaul activities for critical rotating equipment. The programme focuses on achieving safe, efficient, and timely maintenance interventions while controlling costs, resources, quality, and operational risks.

Participants will examine the complete turnaround lifecycle, from early scope development and equipment identification through planning, scheduling, preparation, execution, commissioning, and post-turnaround review. Particular attention is given to pumps, compressors, turbines, motors, gearboxes, fans, blowers, couplings, bearings, and other rotating machinery requiring inspection, repair, refurbishment, or overhaul.

The course addresses detailed work scope development, equipment criticality, work-pack preparation, resource planning, spare parts, specialist contractors, isolation and permits, quality requirements, inspection hold points, schedule control, progress monitoring, and management of unexpected findings. Participants will also explore strategies for controlling turnaround risks, minimizing downtime, and maintaining equipment reliability following overhaul.

Through practical planning exercises, turnaround scheduling, resource optimization, equipment overhaul case studies, risk assessment, progress control, and an integrated final workshop, participants will develop the capability to manage rotating equipment shutdowns and turnarounds effectively from planning through successful restart.

Objectives

- By the end of this training course, participants will be able to:
- Explain the principles and lifecycle of shutdown, turnaround, and overhaul management.
- Analyze the specific requirements of rotating equipment during turnaround activities.
- Develop comprehensive turnaround scopes for critical rotating machinery.
- Assess equipment criticality and prioritize overhaul activities.
- Develop work packages and detailed job plans for rotating equipment.

- Apply effective turnaround planning and scheduling techniques.
- Estimate manpower, tools, materials, spare parts, and specialist resources.
- Coordinate contractors and multidisciplinary maintenance teams.
- Identify turnaround risks and develop appropriate mitigation measures.
- Apply safe isolation, permit, and work control requirements.
- Manage inspections, quality controls, and technical hold points.
- Monitor turnaround progress, productivity, schedule performance, and costs.
- Manage scope changes, unexpected findings, and emergent work.
- Coordinate equipment reassembly, testing, commissioning, and startup readiness.
- Evaluate overhaul quality and post-turnaround equipment performance.
- Develop a structured framework for continuous improvement of turnaround performance.

Who Should Attend

This course is designed for maintenance managers, turnaround managers, shutdown planners, mechanical engineers, rotating equipment engineers, reliability engineers, maintenance planners, and project engineers responsible for shutdown and overhaul activities.

It is also suitable for operations managers, maintenance supervisors, inspection professionals, condition monitoring specialists, planning and scheduling teams, procurement professionals, contractors, and technical specialists involved in turnaround preparation and execution.

The programme is particularly relevant to professionals working in oil and gas, refineries, petrochemicals, power generation, energy, chemical processing, manufacturing, utilities, mining, and other asset-intensive industries where rotating equipment shutdowns and major overhauls are critical to operational continuity.

Learning Outcomes

- Upon completion of the course, participants will be able to:
- Develop a complete turnaround management framework for rotating equipment.
- Define and prioritize rotating equipment overhaul scopes.

- Assess equipment condition and determine appropriate overhaul requirements.
- Develop detailed work packages and job plans.
- Build integrated turnaround schedules for multidisciplinary activities.
- Estimate labor, equipment, materials, spare parts, and contractor requirements.
- Coordinate mechanical, electrical, inspection, operations, and support activities.
- Identify critical path activities and turnaround schedule constraints.
- Apply risk-based planning to shutdown and overhaul activities.
- Establish effective work control, isolation, and permit coordination.
- Monitor turnaround progress and identify schedule deviations.
- Control emergent work and manage scope changes.
- Evaluate overhaul quality and equipment readiness for startup.
- Coordinate testing, commissioning, and return-to-service activities.
- Measure turnaround performance using relevant cost, schedule, safety, and reliability indicators.
- Develop a post-turnaround improvement plan based on lessons learned and performance results.

Course Outline

DAY 01

Turnaround Strategy and Rotating Equipment Scope Development

- Fundamentals of shutdown, turnaround, and overhaul management
- Turnaround lifecycle and governance
- Strategic objectives and turnaround success criteria
- Rotating equipment criticality assessment
- Pumps, compressors, turbines, motors, gearboxes, fans, and blowers
- Equipment history and previous turnaround findings
- Scope identification and work scope development
- Inspection and overhaul requirements
- Scope prioritization and optimization

DAY 01 — CONTINUED

PRACTICAL APPLICATION

Developing a turnaround scope for critical rotating equipment

DAY 02**Turnaround Planning, Work Packages and Scheduling**

- Detailed turnaround planning methodology
- Work breakdown structures and work packages
- Job plans and task sequencing
- Manpower and resource planning
- Spare parts, tools, and material requirements
- Specialist equipment and contractor planning
- Integrated turnaround scheduling
- Critical path and schedule constraints
- Pre-turnaround readiness and preparation

PRACTICAL APPLICATION

Developing an integrated rotating equipment turnaround schedule

DAY 03**Overhaul Execution, Safety, Quality and Technical Control**

- Rotating equipment overhaul execution
- Equipment dismantling, inspection, repair, and refurbishment
- Bearing, seal, shaft, coupling, and gear inspection
- Alignment and balancing requirements
- Safe isolation and permit-to-work coordination
- Quality assurance and inspection hold points
- Technical documentation and work records
- Contractor and multidisciplinary team coordination

DAY 03 — CONTINUED

- Managing field execution and work-front availability

PRACTICAL APPLICATION

Planning and controlling a rotating equipment overhaul work package

DAY 04

Turnaround Control, Risk and Performance Management

- Turnaround risk identification and assessment
- Risk mitigation and contingency planning
- Progress measurement and schedule control
- Productivity and resource performance
- Cost monitoring and budget control
- Emergent work and unexpected equipment findings
- Scope change and management of additional work
- Daily coordination and performance meetings
- Turnaround dashboards and management reporting

PRACTICAL APPLICATION

Managing a delayed turnaround and recovering the schedule

DAY 05

Commissioning, Startup Readiness and Continuous Improvement

- Equipment reassembly and technical verification
- Testing and inspection requirements
- Commissioning and startup readiness
- Return-to-service procedures
- Post-overhaul equipment performance evaluation
- Reliability risks following turnaround

DAY 05 — CONTINUED

- Turnaround closeout and documentation
- Lessons learned and root cause review
- Key performance indicators and continuous improvement
- Final Integrated Workshop: Developing a complete Turnaround, Shutdown & Overhaul Management Plan for a critical rotating equipment system

Register or Request More Information

Course page: <https://quest-training.com/courses/turnaround-shutdown-overhaul-management-for-rotating-equipment-training-course>

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