QUEST
Professional Center

PROFESSIONAL TRAINING COURSE

Course No. 1359

Turnaround, Shutdown & Outage Management Training Course

COMMISSIONING, START-UP & SHUTDOWN & OPERATIONAL READINESS
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION
5 Days

DELIVERY
Classroom

Course Overview

The Turnaround, Shutdown & Outage Management Training Course is a specialized professional program designed to develop the technical, planning, coordination, and management capabilities required to plan and execute major turnaround, shutdown, outage, and planned maintenance activities across industrial facilities. The program provides a structured approach to managing the full turnaround lifecycle, from scope development and strategic planning through detailed preparation, execution, performance monitoring, safe restart, and post-turnaround evaluation.

Turnarounds and major shutdowns are among the most complex and resource-intensive activities undertaken by industrial organizations. They involve large work scopes, multiple disciplines, contractors, equipment, materials, and operational interfaces within a limited execution window. Ineffective planning or weak coordination can lead to schedule delays, cost overruns, safety exposure, productivity losses, and delayed production restart. A disciplined turnaround management approach helps organizations control these risks while maintaining quality, safety, and operational readiness.

The course covers the complete turnaround management process, including defining and validating scope, developing turnaround strategies, work packaging, planning and scheduling, resource and contractor management, materials and spare parts readiness, critical path management, risk assessment, execution control, productivity monitoring, change management, quality control, and restart planning. Participants will also examine how turnaround activities can be integrated with maintenance, reliability, asset management, procurement, supply chain, and project controls.

Particular attention is given to the coordination of operations, maintenance, engineering, procurement, warehouse, inspection, quality, health and safety, and contractor teams. The program addresses practical challenges such as incomplete work, additional scope, resource constraints, contractor performance issues, schedule slippage, simultaneous activities, technical problems, and unexpected events during execution. Participants will develop structured approaches for identifying deviations early and implementing corrective actions before they affect the planned restart date.

Through practical exercises, case studies, workshops, and turnaround scenarios, participants will learn how to develop an integrated turnaround plan, prioritize critical activities, manage resources, control schedule performance, monitor productivity, manage risks and changes, and prepare for safe and controlled plant restart. The Turnaround, Shutdown & Outage Management Training

Course supports organizations in improving turnaround readiness, execution discipline, asset availability, operational reliability, and the overall effectiveness of major maintenance windows.

Objectives

- Analyze the complete turnaround, shutdown, and outage management lifecycle and identify the major stages, activities, deliverables, and decision points throughout the training program.
- Develop an integrated turnaround strategy aligned with operational requirements, maintenance objectives, safety expectations, production priorities, and budget constraints.
- Evaluate turnaround scope and prioritize work based on operational importance, equipment condition, risk, regulatory requirements, and business needs.
- Apply structured methods for developing detailed turnaround schedules, work sequences, dependencies, milestones, and critical activities.
- Design practical resource plans covering labor, contractors, equipment, materials, spare parts, specialist services, and site support requirements.
- Improve coordination between operations, maintenance, engineering, projects, procurement, warehouse, inspection, quality, safety, and contractor organizations.
- Strengthen turnaround risk management by identifying execution risks, simultaneous operations, critical interfaces, and potential causes of delay.
- Implement effective methods for monitoring turnaround progress, productivity, schedule performance, work completion, and execution quality.
- Assess the impact of scope changes, additional work, delays, resource constraints, and technical issues and develop appropriate recovery actions.
- Apply practical approaches to reduce avoidable turnaround duration while maintaining safety, quality, technical integrity, and operational requirements.
- Develop structured restart and readiness plans to verify that equipment, systems, procedures, and operational teams are prepared for safe return to service.
- Evaluate turnaround performance after completion and develop lessons learned and improvement actions for future shutdown and outage programs.

Who Should Attend

This course is designed for turnaround managers, shutdown managers, maintenance managers, operations managers, project managers, engineering managers, maintenance engineers, planning engineers, project engineers, reliability engineers, operations engineers, maintenance supervisors, turnaround planners, schedulers, work pack coordinators, and professionals responsible for preparing and executing major shutdown and maintenance activities. It is particularly suitable for professionals working in oil and gas facilities, petrochemical plants, power generation, utilities, process plants, manufacturing facilities, and other asset-intensive industrial environments.

The program is also suitable for procurement and supply chain professionals, warehouse and materials personnel, contractor managers, quality professionals, inspection specialists, health and safety professionals, asset management specialists, project controls professionals, and discipline leads involved in turnaround preparation and execution. It provides particular value to managers and decision makers who are responsible for controlling scope, cost, schedule, resources, risk, contractor performance, and restart readiness.

Government entities, ministries, public sector organizations, energy companies, oil and gas organizations, utilities, industrial corporations, and large manufacturing organizations can benefit from this training when planning major planned shutdowns, maintenance campaigns, inspections, equipment overhauls, plant upgrades, or major outage programs. The course supports organizations seeking a structured and integrated approach to managing complex maintenance windows and achieving safe, timely, and controlled return to operations.

Learning Outcomes

- By the end of the course, participants will be able to:
- Explain the key principles, phases, and management requirements of turnaround, shutdown, and outage activities.
- Develop an integrated turnaround strategy covering scope, schedule, resources, risks, responsibilities, and execution controls.
- Identify, validate, and prioritize turnaround work according to operational, technical, safety, reliability, and business requirements.
- Develop detailed turnaround schedules and establish activity dependencies, milestones, critical paths, and resource requirements.

- Prepare resource and contractor plans covering labor, materials, equipment, specialist services, and site requirements.
- Evaluate turnaround readiness and identify gaps that must be addressed before mobilization and execution.
- Use performance monitoring methods to track work progress, productivity, schedule adherence, and completion status.
- Identify schedule deviations, resource constraints, and execution problems and assess their potential impact on the planned restart.
- Apply structured methods for managing scope changes, additional work, technical issues, and corrective actions during turnaround execution.
- Coordinate operations, maintenance, engineering, contractors, procurement, materials, quality, inspection, and safety activities during complex turnaround work.
- Develop a structured restart plan and verify equipment and system readiness before returning the facility to operation.
- Evaluate turnaround performance against scope, schedule, cost, quality, safety, and operational objectives and identify opportunities for improvement.

Course Outline

DAY 01

Turnaround Management Fundamentals and Strategic Planning

- Fundamentals of turnaround, shutdown, outage, and major maintenance management
- The role of turnarounds within the asset lifecycle and operational strategy
- Turnaround strategy development and business objectives
- Defining turnaround scope and identifying major work categories
- Identifying mandatory, corrective, preventive, inspection, and improvement activities
- Work prioritization and identification of critical activities
- Turnaround organization structure, roles, and responsibilities
- Coordination between operations, maintenance, engineering, and project teams
- Turnaround readiness requirements and preparation milestones

DAY 01 — CONTINUED

> **PRACTICAL APPLICATION**
> Developing an initial turnaround strategy for a major industrial facility

DAY 02

Detailed Planning, Scheduling, and Resource Readiness

- Developing and validating the turnaround work list
- Work breakdown structure and work package development
- Detailed scheduling and activity sequencing
- Activity relationships, dependencies, milestones, and critical path management
- Labor planning and resource loading
- Contractor planning and contractor scope management
- Materials, spare parts, tools, equipment, and logistics readiness
- Site preparation, mobilization, and temporary facilities
- Readiness reviews and pre-turnaround verification

> **PRACTICAL APPLICATION**
> Developing a detailed turnaround schedule and identifying critical activities and resource requirements

DAY 03

Turnaround Execution and Performance Control

- Managing the field execution phase
- Coordinating multidisciplinary and simultaneous activities
- Permit-to-work, isolation, and safe work requirements
- Monitoring work progress and productivity
- Tracking schedule performance and key turnaround indicators
- Managing critical path activities and recovery opportunities
- Handling delays, resource shortages, technical constraints, and execution problems

DAY 03 — CONTINUED

- Managing scope changes and additional work during execution
- Quality control, inspection, testing, and work completion verification

CASE STUDY

Analyzing a delayed turnaround and developing schedule recovery actions

DAY 04

Risk, Cost, Contractor, and Restart Management

- Turnaround risk identification and assessment
- Managing safety risks and simultaneous operations
- Cost monitoring and turnaround budget control
- Contractor performance management and execution accountability
- Managing unexpected events and critical technical problems
- Decision-making during schedule and execution disruptions
- Verification of completed maintenance, inspection, testing, and repair activities
- Developing restart readiness requirements
- Restart sequencing and coordination between maintenance and operations

PRACTICAL APPLICATION

Developing a recovery and restart plan for a turnaround affected by major execution delays

DAY 05

Safe Restart, Performance Evaluation, and Continuous Improvement

- Principles of safe and controlled plant restart
- Verification of equipment, systems, and operational readiness
- Review of inspection, testing, maintenance, and repair results
- Monitoring equipment and process performance during early restart
- Closing outstanding work and final documentation

DAY 05 — CONTINUED

- Preparation of turnaround completion and performance reports
- Evaluating performance against scope, schedule, cost, quality, safety, and reliability objectives
- Root cause analysis of turnaround problems and delays
- Lessons learned and knowledge capture
- Developing improvement actions for future turnaround programs
- Best practices for improving turnaround planning, execution, and restart performance

FINAL WORKSHOP

Developing a complete Turnaround, Shutdown & Outage Management Plan covering scope, scheduling, resources, contractors, risk management, execution control, restart readiness, performance evaluation, and continuous improvement

Register or Request More Information

Course page: https://quest-training.com/courses/turnaround-shutdown-outage-management-training-course
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