
Maintenance Work Management: Planning, Scheduling and Shutdown Control Training Course

25 April – 6 May 2027
Kuala Lumpur





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Programme Summary

Maintenance work management, planning, scheduling and shutdown control is a two-week training course for maintenance, operations and asset leaders at strategic level, culminating in a work management improvement roadmap for their own site. In many plants, reactive work crowds out planned jobs, technicians wait for parts and permits, and shutdowns overrun. The approach treats work management as one controlled cycle, linking prioritisation, job planning, materials, scheduling, backlog, CMMS data and turnaround control to measured targets. Mars Training Centre UK delivers this programme in maintenance work management.

The Business Case

Planned work is consistently faster, safer and cheaper than unplanned work, yet many organisations lack the discipline to protect it. Without good job packages, frozen schedules and reliable data, crews spend much of the shift waiting, and shutdown scope grows until budgets are exceeded. Leaders who build a disciplined planning function convert the same workforce into more completed work and more predictable turnarounds.

- Labour Productivity: Raises the share of the shift spent on productive work by removing waiting, travel and searching.
- Equipment Availability: Reduces breakdowns and repeat work by protecting preventive and planned corrective maintenance.
- Shutdown Cost and Duration: Limits overruns through scope control, readiness reviews and critical path management.

Principles and Evidence Base

- ISO 55000 Asset Management: Frames work management as the control of maintenance activities within the asset management system in Session 1.
- ISO 14224 Equipment and Failure Data: Supplies the data structure used to improve CMMS records and work history in Session 7.
- EN 15341 Maintenance Key Performance Indicators: Provides the indicator set used for schedule compliance, backlog and productivity measures in Session 9.
- ISO 21502 Project Management Guidance: Guides scope, schedule and readiness control for shutdowns and turnarounds in Session 8.



Intended Participants

- Executives accountable for maintenance productivity and plant availability.
- Senior leaders who set the structure and staffing of planning and scheduling teams.
- Heads of operations who agree schedules and equipment release with maintenance.
- Leaders responsible for shutdown and turnaround scope, budget and execution.
- Asset managers who rely on CMMS data for strategy and investment decisions.

The programme serves maintenance, operations, materials management and asset management functions across oil and gas production, refining, power generation, petrochemicals and utilities.

Learning Outcomes

1. Participants will be able to diagnose weaknesses in an existing work management cycle using flow and performance data.
2. Participants will be able to construct prioritisation rules and job planning standards that reflect asset criticality.
3. Participants will be able to design weekly and daily scheduling processes that protect planned work.
4. Participants will be able to evaluate backlog, materials readiness and CMMS data quality and set corrective actions.
5. Participants will be able to apply scope freeze, readiness and critical path controls to a shutdown or turnaround.
6. Participants will be able to justify a work management improvement roadmap with indicators to an executive committee.

Programme Structure

Day 1: The Maintenance Work Management Cycle

How does work flow from request to close-out, and where is value lost?

- Work Management Cycle From Identification to Analysis
- Planned, Reactive and Emergency Work Defined
- Roles of Planner, Scheduler, Supervisor and Operations
- Work Management Within an ISO 55000 System
- Work Management Maturity Diagnostic

Day 2: Work Identification and Prioritisation

Which work should be done first, and who decides?

- Work Request Quality and Notification Standards
- Asset Criticality Ranking
- Priority Matrix Combining Consequence and Urgency
- Gatekeeping and Work Approval Routines
- Emergency Work Definition and Control



Day 3: Job Planning and Estimating

What makes a job package ready for safe and efficient execution?

- Job Plan Content: Steps, Skills, Tools and Hazards
- Work Estimating Methods and Standard Times
- Job Plan Library and Reuse
- Permit, Isolation and Risk Assessment Requirements
- Planner Feedback Loop From Completed Work

Day 4: Materials, Spares and Kitting

How is every planned job supplied with the right parts at the right time?

- Bill of Materials and Spare Parts Identification
- Kitting and Staging of Materials
- Critical Spares Holding Decisions
- Coordination With Warehouse and Procurement
- Materials Readiness Checks Before Scheduling

Day 5: Weekly and Daily Scheduling

How is capacity matched to ready work and the schedule protected?

- Weekly Schedule Building From Available Hours
- Schedule Freeze and Break-In Work Rules
- Daily Coordination Meeting With Operations
- Equipment Release and Permit Planning
- Schedule Compliance Measurement

Day 6: Backlog and Capacity Management

Is the workload under control, and is the workforce sized correctly?

- Backlog Measurement in Crew-Weeks
- Ready Versus Not-Ready Backlog Analysis
- Backlog Ageing and Cancellation Reviews
- Contractor Use for Peak Workloads
- Workforce Capacity Planning

Day 7: CMMS Data and Work History

How does better work order data support planning and reliability decisions?



- Equipment Hierarchy and Data Structure Under ISO 14224
- Work Order Close-Out and Failure Coding
- CMMS Data Quality Audit
- Work History Analysis for Repeat Jobs
- Planning Dashboards From CMMS Data

Day 8: Shutdown and Turnaround Control

How are major outages scoped, prepared and executed on time and budget?

- Turnaround Scope Challenge and Scope Freeze
- Readiness Reviews and Milestone Gates Using ISO 21502
- Critical Path and Resource Levelling
- Contractor Mobilisation and Shift Control
- Turnaround Cost Tracking and Close-Out Reviews

Day 9: Performance Indicators and Leading the Planning Function

Which measures show that work management is improving, and how is the function led?

- Selecting Indicators From EN 15341
- Wrench Time Studies and Productivity Analysis
- Planned Versus Reactive Ratio Targets
- Planning Organisation Structure and Ratios
- Sustaining Discipline Through Leadership Routines

Day 10: Applying Maintenance Work Management Practice

How are diagnosis, planning, scheduling and shutdown control combined into one roadmap?

- Applying the Maturity Diagnostic to a Participant Site
- Redesigning Prioritisation and Scheduling Rules for the Site
- Testing a Turnaround Plan Against Session 8 Readiness Gates
- Setting Indicator Targets and Review Routines
- Work Management Improvement Roadmap Presentation

Methodology

The programme relies on structured exercises in which participants map, measure and redesign their own work management processes, supported by case analysis from refineries, power stations and gas facilities. Small groups work with sample CMMS data and schedules, peers challenge each redesign, and Session 10 tests every roadmap before a simulated leadership panel.

- Suggested activity: Building a weekly schedule for a refinery maintenance crew from a ready backlog.
- Suggested activity: Auditing work order data from a power station CMMS.



- Suggested activity: Challenging the scope list of a gas plant turnaround.

Capstone Output

Each participant completes a work management improvement roadmap for their own site. It contains a maturity diagnosis, revised prioritisation and scheduling rules, a backlog and materials plan, a CMMS data action list, turnaround control gates and indicator targets, ready to present to plant leadership.

Frequently Asked Questions

Is maintenance work management training suitable for operations leaders as well as maintenance managers?

Yes. It is designed for strategic leaders from both functions, because scheduling and equipment release depend on them working together. It assumes plant management experience but no planning qualification.

Which standards does maintenance planning and scheduling training rest on?

It rests on ISO 55000 for asset management control, ISO 14224 for CMMS data, EN 15341 for maintenance indicators and ISO 21502 for turnaround project control.

How is the roadmap from maintenance work management training used at work?

You can present it to plant leadership as the basis for a planning improvement programme, with clear rules, indicator targets and turnaround gates to adopt over the following year.