MAINTENANCE AND OPERATION PLANNING



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Introduction

Planned maintenance costs a fraction of breakdown repair, yet many plants still run on breakdown. The gap is rarely equipment quality; it is planning. Without a work order backlog that is triaged, a spare parts list that matches the schedule, and a shutdown plan agreed with operations, maintenance crews spend their shifts reacting. This Maintenance and Operation Planning Training Course gives maintenance planners, engineers, and supervisors a complete working method for that discipline. Participants learn work order management, planning and scheduling, preventive and predictive strategy, resource and spares planning, and performance measurement. Furthermore, the course connects planning quality to equipment availability and cost.

Maintenance and Operation Planning Course Objectives

- Apply maintenance strategy types: corrective, preventive, and predictive.
- Build and manage work order systems with clear priorities.
- Plan and schedule work with backlog control and capacity levelling.
- Apply criticality analysis to decide where planning effort goes.
- Set preventive maintenance routines and inspection intervals.
- Apply condition monitoring techniques to major equipment.
- Plan spare parts, materials, and tools for scheduled work.
- Coordinate shutdown and turnaround planning with operations.
- Apply planning KPIs: schedule compliance, backlog, and wrench time.
- Use CMMS data to improve planning accuracy and cost control.

Course Methodology

- Facilitated sessions built on real work orders, CMMS data, and shutdown plans.

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- Case workshops on schedule slippage, parts shortages, and repeat failures.
- Planning and scheduling exercises using live backlog and capacity data.
- Criticality and preventive interval setting practice sessions.
- Group exercise on a maintenance planning improvement plan with targets.

Who Should Take This Course

- Maintenance planners and schedulers.
- Maintenance and reliability engineers.
- Maintenance supervisors and team leaders.
- Plant and facility asset managers.
- Operations staff involved in shutdown coordination.
- Stores and spare parts controllers.

Maintenance and Operation Planning Course Outlines

Day 1: Maintenance Strategy and Planning Foundations

- Maintenance strategy types and where each fits.
- Cost of reactive versus planned maintenance.
- Asset registers, equipment hierarchy, and naming discipline.
- Criticality analysis to prioritise planning effort.
- Maintenance policy, standards, and responsibilities.
- Work order lifecycle from request to closure.
- Maintenance budget structure and cost codes.

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Day 2: Planning, Scheduling, and Backlog Control

- Principles of planning: scope, method, time, and resources.
- Job scoping, work packages, and task lists.
- Estimating labour hours and material needs.
- Scheduling rules and priority setting.
- Weekly and daily scheduling with capacity levelling.
- Backlog management: age, size, and prioritisation.
- Schedule compliance measurement and corrective action.

Day 3: Preventive and Predictive Maintenance

- Preventive maintenance task selection methods.
- Setting intervals from failure data and OEM guidance.
- Inspection routes and operator basic care.
- Condition monitoring: vibration, thermography, oil, and ultrasound.
- Setting alarm and action limits.
- Predictive work order generation and follow-up.
- Reviewing PM effectiveness and removing unnecessary tasks.

Day 4: Spares, Shutdowns, and Coordination

- Spare parts classification and criticality-based stockholding.
- Min-max levels, lead time, and obsolescence control.
- Kitting and staging for scheduled jobs.
- Shutdown and turnaround planning steps.
- Scope freeze, resource loading, and contractor coordination.

- Coordination with operations and production scheduling.
- Post-shutdown review and lessons learned.

Day 5: Performance, CMMS, and Improvement

- Planning KPIs: schedule compliance, wrench time, and backlog age.
- Equipment KPIs: availability, MTBF, and MTTR.
- Cost per maintained unit and budget variance analysis.
- CMMS data quality and planning system hygiene.
- Failure analysis and repeat failure investigation.
- Continuous improvement in maintenance planning.
- Building a maintenance planning improvement roadmap.

Conclusion

By successfully completing the Maintenance and Operation Planning Training Course, participants will have acquired a thorough working knowledge of maintenance strategy selection, work order management, planning and scheduling with backlog control, preventive and predictive maintenance routines, spare parts and shutdown planning, and the performance measurement that improves planning accuracy. They will leave able to convert reactive maintenance into planned work, hold schedules they set, and show the availability and cost effect with evidence. Gentex Training Center delivers this programme with maintenance and reliability practitioners working on live plant.

FAQs for the Maintenance and Operation Planning course

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Q1 What is the "Maintenance and Operation Planning" course about?

It is a five-day programme on replacing reactive maintenance with planned, scheduled work. It covers maintenance strategy, work order management, planning and scheduling, preventive and predictive routines, spares and shutdown planning, and planning performance measurement.

Q2 What are the key benefits of the "Maintenance and Operation Planning" course?

Participants raise equipment availability by converting breakdown work into planned jobs, control backlog instead of accumulating it, and reduce parts shortages by staging materials before the job starts. They also prove planning quality with schedule compliance and wrench time rather than opinion.

Q3 What skills will I gain from the "Maintenance and Operation Planning" course?

You will gain maintenance strategy selection and criticality analysis, work order and backlog management, planning, scheduling, and shutdown coordination, and preventive, predictive, and spare parts planning with performance measurement.

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Q4 What tools, methods, or standards are covered in the "Maintenance and Operation Planning" course?

The course works with maintenance strategy types covering corrective, preventive and predictive work, asset registers and equipment hierarchies, criticality analysis, the work order lifecycle from request to closure, job scoping and work packages, labour hour and material estimation, weekly and daily scheduling with capacity levelling, backlog age and size management, schedule compliance measurement, PM task selection and interval setting from failure data and OEM guidance, inspection routes and operator basic care, condition monitoring using vibration analysis, thermography, oil analysis and ultrasound, alarm and action limit setting, predictive work order generation, spare parts classification and criticality-based stockholding, min-max levels, lead time and obsolescence control, kitting and staging, shutdown and turnaround planning with scope freeze, resource loading and contractor coordination, CMMS data management, failure analysis methods, and KPIs covering schedule compliance, wrench time, backlog age, availability, MTBF and MTTR.

Q5 How is the "Maintenance and Operation Planning" course applied in real-world practice?

Teams apply it when planning a weekly maintenance schedule, triaging an ageing backlog before it grows, setting PM intervals for a critical pump, staging parts before a shutdown, reviewing schedule compliance at a planning meeting, and investigating a repeated failure with root cause analysis.