

## A 4 Day Course Of

# Advanced Maintenance Planning, Scheduling, Auditing & Benchmarking

By

**LDI Instructor**

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### **COURSE OBJECTIVE**

The maintenance of physical assets can no longer be treated as an 'engineering problem'. The competitive environment in which business operates requires an approach that integrates the operational objectives of the business and the life-cycle objectives of the physical assets. Leading industrial organizations are evolving away from reactive ("fix-it-when-it-breaks") management into predictive, productive management ("anticipating, planning, and fix-it-before-it-breaks"). This evolution requires well-planned and executed actions on several fronts.

Organizations increasingly need to make improvement a key part of their culture in order to remain cost competitive. The same is true of Maintenance Organizations. Maintenance Departments are increasingly under pressure to improve performance and reduce costs. This program looks at Maintenance Auditing and Benchmarking as two key tools that can be used as the basis for driving the improvement process in maintenance, by identifying best practices, gaps with current practices and assist with the formulation of strategies to bridge such gaps. In addition, we address how Auditing and Benchmarking can become an integral part of a maintenance management strategy by integrating such activities into maintenance performance measures, key performance indicators and objective setting.

### **COURSE CONTENTS**

1. Modern Maintenance Management Practice in Perspective
  - 1.1 Maintenance Practice in Perspective
    - Maintenance in the Business Process
    - Evolution in Maintenance Management
    - The Contribution of Maintenance to the achievement of the Business Objectives
    - Business, Operations and Maintenance Key Performance Area
    - The Maintenance Objective
    - Roles and Accountability
2. Maintenance Policies and Logistics Planning

- 2.1 Equipment Classification and Identification
  - Functional Location
  - Equipment Type Classification
  - Equipment Identification
  - Part Number and Bill of Material
  - Documentation Structures
  - Document Identification and Classification
- 2.2 Maintenance Management Policies
  - a. Equipment Criticality Grading
  - b. JOB Record Policy
  - c. JOB Information Requirements
  - d. Principles of Work Order Design
  - e. Maintenance Work Prioritisation
- 2.3 Maintenance Logistics Planning
  - a. Logistic Support Analysis
  - b. Maintenance Task Detail Planning
  - c. Maintenance Work Estimating
  - d. Maintenance Levels
  - e. Support Documentation
  - f. Support Equipment
  - g. Personnel and Organisation
- 3 Failure Management Programme Development
  - 3.1 Failure Modes, Effects and Consequences
    - a. Equipment Functions and Performance Standards
    - b. Functional Failures
    - c. Failure Modes
    - d. Failure Effects
    - e. Consequences of Failure
  - 3.2 Failure Management Policies
    - a. Age Related Failure Patterns
    - b. Random Failure Patterns
    - c. Routine Restoration and Discard Task
    - d. Routine Condition-based Tasks
    - e. Failure-finding Tasks
    - f. The application of RCM in the Development of Failure Management Policies
  - 3.3 Implementing Failure Management Policies
    - a. Proposed Routine Maintenance Tasks
    - b. Categorising and structuring Routine Maintenance Tasks
    - c. Corrective Maintenance Planning
    - d. Logistic Requirements Planning
- 4 Work Planning, Scheduling and Control
  - 4.1 Definition of Notifications, Defects, Deviations
  - 4.2 Notification Process, Roles and Principles
  - 4.3 Prioritising Notifications
  - 4.4 Weekly Master Schedule
    - a. Master Schedule Objectives
    - b. Categorise the Outstanding Workload

- c. Determine Resource Availability
  - d. Determine Equipment Non-utilisation Profile
  - e. Develop Draft Master Schedule
  - f. Conduct Master Schedule Review Meeting
  - g. Final Master Schedule and Implementation
  - h. Backlog Management
- 5 Introduction and Foundation Concepts
    - 5.1 Introduction to Auditing and Benchmarking
    - 5.2 Introduction to Maintenance Processes
    - 5.3 Approaches to Maintenance Management and Improvement
    - 5.4 Introduction to Maintenance Management Benchmarking Frameworks
  - 6 Maintenance Auditing
    - 6.1 Maintenance Performance Measures and Metrics
    - 6.2 The Maintenance Auditing Process
    - 6.3 Maintenance Auditing Methodology
    - 6.4 Conducting a Maintenance Audit
    - 6.5 Maintenance Audit Simulation Case Study
  - 7 Maintenance Auditing and Benchmarking
    - 7.1 Maintenance Audit Simulation Case Study
    - 7.2 Using Maintenance Audit Results to Plan Improvement Strategies
    - 7.3 Introduction to Benchmarking
    - 7.4 The Maintenance Benchmarking Process
    - 7.5 Maintenance Benchmarking Methodology
    - 7.6 Benchmarking Tools and Techniques
  - 8 Maintenance Benchmarking and Performance Measurement
    - 8.1 Benchmarking Tools and Techniques (continued)
    - 8.2 Designing and Preparing for a Benchmarking Study
    - 8.3 Selecting Benchmarking Partners
    - 8.4 Preparing for an conducting the benchmarking visit
    - 8.5 Reporting results of Benchmarking and Auditing Studies
    - 8.6 The DMG Analysis – Advanced Benchmarking Conducting a Maintenance Benchmarking Study
  - 9 Auditing, Benchmarking and Maintenance Improvement
    - 9.1 Benchmarking Simulation Case Study
    - 9.2 Integrating Benchmarking resulting into improvement and objective setting processes
    - 9.3 Integrating Maintenance Auditing and Benchmarking into the Performance Measurement System to establish improvement objectives and strategies
    - 9.4 Review of Best Practice Benchmarks and Case Studies
    - 9.5 Conclusion

**THIS COURSE IS DESIGNED FOR :**

- Managers who have oversight responsibility for Maintenance Management and Maintenance organizational units
- Operations and Maintenance Managers with direct line responsibility as well as staff support responsibility for Maintenance

- Maintenance Supervisors, Maintenance Engineers and Maintenance Planners and Schedulers

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