

# Business Driven Maintenance Management



## Course Duration

The duration is 3 days.

## Audience Profile

Asset Owners, Managers, Finance Managers and all those who contribute in their roles as operators and maintainers, engineering, designers, logistics, admin, workshops, etc to asset management and who are eager to achieve sustainable improvement in productivity and return on investment.

## Course Objectives

To equip those active in the management of productive and infrastructure assets with the knowledge, skills and attitudes needed at the various stages in the life of an asset for optimising the quality and quantity of asset outputs, minimising risk and use of inputs, as required by the business plan.

The course will combine theoretical concepts and practical considerations to refine the understanding of:

- the role of maintenance management as a vital business driver;
- the essential tools required for effective and efficient management of assets, in the light of economics, safety, health and environment;
- the importance of accurate asset performance data and analysis and of decision making based on facts and life cycle costs.

## What makes this course different?

We approach maintenance in the meaning of 'maintaining function at the required performance level'. This has two implications:

- operators affect the performance of a function as much as maintainers, hence we cover operational and maintenance tasks and introduce operators performing minor maintenance to address any performance deterioration as soon as possible, reducing costs; and
- we perform maintenance when the facility or service asset requires it to perform its function

at the required performance level. This means that we do not perform maintenance to 'make an item look good'. This also reduces costs.

We address all issues that contribute to the maximisation of revenue and minimisation of costs and risk over all stages of the life of a facility or service asset. We emphasise that existing assets may benefit from a one-off modification to its design or to changes to the operational or maintenance procedures, hence the material in the manual applies equally to existing and new assets

## Main Topics – Day 1

- **Maintenance Management Explained**
  - Towards most appropriate maintenance management practice
  - What is maintenance management?
  - What are the objectives and goals of maintenance management?
  - Definitions and acronyms
  - What are the benefits of achieving most appropriate maintenance management
  - Why should you consider improving maintenance management?
  - What is the maintenance management process?
  - How should you implement improved maintenance management?
- **What Is Needs Driven Maintenance Management?**
  - What are needs, assets, facilities and asset management?
  - What are the client and business needs?
  - What are physical assets?
  - What are facilities?
  - What is maintenance management?
  - How do business and maintenance management interact?
  - What are the business performance drivers?
  - What are the business vision, mission, objectives, goals and values?
  - How do you maintain the balance between revenue, cost and risk?



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- What are the maintenance management objectives and enablers?
  - How to develop business strategies?
  - Group exercise (Vision, mission, cascading objectives, select a function and determine required assets in type and quantity)
  - **How to Optimise Asset or Facility Design?**
    - How to match assets or facilities to needs?
    - What is involved in facility site selection?
    - What is involved in building and service asset design?
    - How to design for changing demand?
    - How to design facilities for energy conservation
    - Design for accessibility by disabled persons
    - Design for buildability
    - How to design for operability, safety, reliability, maintainability, availability, transportability and compatibility?
    - Finalising asset configuration
    - How important is an accurate asset register?
    - How do you design for supportability?
    - How to Design for optimum life cycle profit?
    - What is capital planning?
    - Chapter three for existing assets or facilities
    - Group exercise (develop functions and performance levels, configuration and indicate operability, maintainability and reliability issues)
- ### Main Topics – Day 2
- **How Do We Develop the Maintenance Management Reference Plan?**
    - What is the Maintenance Management Reference Plan
    - What are the objectives of the Maintenance Management Reference Plan?
    - What are the benefits of the Maintenance Management Reference Plan?
    - Which asset or facility to cover first?
    - What tools exist for selecting tasks?
    - How to select operational tasks?
    - What is operational tasks and Asset/Facility Operations Optimisation?
    - What Are the Six Big Losses?
    - How Do You Eliminate the Six Big Losses?
    - How to Reduce Waste with Facility/Asset Operations Optimisation?
    - How do you select maintenance tasks?
    - How to select maintenance tasks with Reliability Driven Maintenance?
    - Tasks and Total Quality Management
    - Are there other sources of output maintenance tasks?
  - How do you manage risk?
  - How do you optimise Life Cycle Costs?
  - Chapter four for existing assets
  - Dynamic Maintenance Management Reference Plan
  - Group exercise (for selected function develop operational tasks, perform loss analysis and an RCM analysis, compare the techniques, how do you perform these tasks currently, what info is available, what gaps exist?)
  - **How to Determine Resources and Specification?**
    - How to develop the work schedules?
    - How do you develop human resource needs?
    - How to estimate materials and spares needs?
    - How to estimate need for tools and equipment
    - How to estimate need for workshops?
    - How to finalise asset or facility configuration and verify capability?
    - How do you optimise life cycle costs and budget forecasts?
    - How do you develop technical and performance specifications?
    - How to develop asset performance indicators?
    - How to set-up service contracts?
    - How to establish legal and contractual needs?
    - Secure resources for the project
    - Chapter five for existing assets
    - Group discussion regarding method of budget provisioning and how to improve
  - **How to Procure Assets, Facilities and Resources?**
    - What are reliability audits and reviews, hazards and operability analysis?
    - How to procure the asset or facility?
    - Develop manuals and test plans
    - Obtain the right personnel
    - Build the asset or facility
    - How do you commission the asset or facility?
    - Update documentation
    - Chapter six for existing assets or facilities
    - Group Discussion regarding assessing of existing assets and the development of a commissioning plan
- ### Main Topics – Day 3
- **What Do You Need to Know About Computerised Maintenance Management?**
    - Do you need computerised maintenance management?
    - What is computerised maintenance management?
    - How does computerised work flow management work?



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- What happens during work planning?
- How does computerised inventory management work?
- How Should You Reorder Stock Items?
- How does computerised performance monitoring work?
- How does computerised computerised management reporting and analysis work?
- Decision support analysis
- Document control
- What is E-commerce and Bar Coding?
- How do you implement a Computerised Maintenance Management System?
- Chapter seven for existing assets or facilities
- Group Discussion regarding CAMS and GIS/GPS experiences
- **How to Improve Daily Maintenance Management?**
  - Maintain the best condition
  - Monitor output performance
  - What is involved in daily asset or facility maintenance?
  - Calculate Overall Asset Effectiveness, Overall Asset Output and Total Earning Capacity
  - How can you improve employee productivity and the Overall Trade Effectiveness?
  - What is the Benefit of Improving Wrench Time?
  - Plant Safety and Integrity
  - Operability and hazard analysis
  - How do you manage an asset or facility configuration change?
  - Life cycle cost management
  - How to decide on asset or facility replacement and disposal?
  - Chapter Eight for existing assets or facilities
  - How to Assess the Condition of Existing Assets or Facilities?
  - Group exercise regarding asset replacement decision flow chart development
- **How to Change an Existing Maintenance Management System?**
  - How to analyse current maintenance management practices?
  - What is a maintenance management audit?
  - How to compare current maintenance management practices against a 'world best or most appropriate practices' chart?
  - How to compare current maintenance management practices against a 'world best or most appropriate practices' matrix?
  - How to establish improvement opportunities?
  - How do you implement change?
- Develop or Change a Maintenance Management Reference Plan
- Change Roles, Responsibilities, Authorities, Knowledge, Skills and Attitudes
- Change Organisational Structure
- Group exercise regarding a change management plan
- **How to Write a Maintenance Management Reference Plan?**
  - Executive summary
  - Part 1 Objectives and background
  - Part 2 Load or demand forecasting
  - Part 3 Asset or facility analysis and task forecasting
  - Part 4 Life Cycle Cost estimates
  - Part 5 Asset management plan implementation
  - Conclusions

All delegates will receive a textbook that sets new standards for industrial training materials that will reinforce the training experience for many years to come.

### Seminar Leader – Emile Eerens

Emile Eerens holds a doctoral degree in Engineering and a Grad.Diploma in Business Management. Emile has experience in planning and managing shutdowns in power stations and mines in Australia and is extensively involved in “training for excellence” in the wider business of asset maintenance and management.

Emile has over 22 years experience as an Asset Maintenance and Management Engineer, Trainer and Consultant. In his career he worked in the Power Generation, Electricity Distribution, Mining, Health Facilities, Construction and Petrochemical Industries and has experience in Supervision, Design, Engineering, Research & Development, Training and Management.

He is in demand as a developer and presenter of various public and in-house Asset Maintenance and Management courses.

