Construction, Operations & Maintenance Management

Introduction:

The objective of the course is to provide an integrated program covering the key areas of Operations & Maintenance Management concerned with Planning, Scheduling and Total Productive Maintenance. The program aims to provide an overview of methodology and practice, with a view to enabling delegates to be updated on current approaches, to understand current issues, and to be able to apply the relevant thinking and techniques in the context of their own organizations. This course is an advanced level course building on basic knowledge gained from earlier study and practical experience. It is designed for practicing project managers; construction managers; engineers; surveyors; planners and other professionals who require an in depth knowledge of more complex and sophisticated techniques to enable them to plan, monitor and control contracts with more confidence and deal more effectively with the problems which can occur if things go wrong. The course looks at tried and tested methods of risk analysis to minimize exposure to problems and considers fault avoidance as a necessary part of this.

Over this course will look at the management of a project from start to finish including the all-important "closing the loop" at the end where lessons are discussed and recorded. The interaction of time, cost and quality control will be a major underlying theme throughout together with a detailed study of risk techniques to be applied throughout the

project to minimize problems and maximize client satisfaction and profitability. Fault recognition and avoidance and the maintenance of strict quality guidelines complete the course.

Who Should Attend?

Construction Engineers, Senior Construction Engineers, Construction Supervisors, Construction General Supervisors, Construction Project Managers, Engineering Technologists, Supervision Engineer, Inspection Engineers, Civil Inspectors, Foremen, Design Structural Engineers, Planners, Structural Engineers, Material Specialists, Quality Control and Quality Assurance Experts, Architects, Supervision Engineers, Team Leaders, Site Officers and Managers, Mechanical Engineers, Technical Professionals, Field Production Supervisor, Operation Engineers, Clients Representatives.

Course Objectives:

By the end of this course delegates will be able to:

- Learn the methods to use to deliver a successful project
- Achieve a detailed understanding of where contracts can go wrong and gain an insight into the techniques available to foresee and minimize or remove the causes
- Learn risk strategies and risk control methods
- Obtain a deeper understanding of the position of quality assurance and control as part of a risk containment strategy
- Gain an understanding of how and why disputes arise and the methods of prevention and resolution.

Course Outline:

- Introductions & Overview of the Program
- Delegates interests
- An overview of Operations Management

- Linkages between Operations strategy and corporate strategy
- Practical Operations Management issues
- The roles of Planning, Scheduling and TPM
- Operational Process design and management
- Management for lean operations
- The 5 lean principles and the 7 wastes
- Value Stream Analysis
- Planning and scheduling Operations
- Maintenance management and engineering
- Impact on HSE
- Lifecycle management
- Preventative replacement and maintenance
- Reliability & replacement theory and practice
- Computerized maintenance management
- Planning and Scheduling
- Why projects, plans and schedules fail
- Critical Path Analysis and PERT
- Network diagrams
- Resource Allocation
- Crashing activities to speed up projects
- Meaning and origins of Total Productive Maintenance
- OEE and Lifetime costs
- The 5 pillars of TPM
- Autonomous Maintenance
- Condition Appraisal
- Managing a construction project
- Project Management and Construction Management – are they the same?
- The eternal triangle – Cost, Time and Quality
- Balance

- Picking and managing the right team
- Project Stages and Gates –approvals
- Closure
- Time
- Planning
- Baselines and dynamic monitoring and control
- Resourcing
- The link with cost
- Coping with variances
- Reporting
- Cost
- Procurement Strategies
- Estimating, budgeting and buying
- Cashflow –v- Profitability
- Capital Investment strategies
- Reports and Approvals
- Cost Control
- Cost monitoring and control
- Reporting – what and when?
- Change management
- Payments and valuations
- Final accounts and close out reports
- Specific Problem Areas
- Know the contract
- Start
- Management on site
- Program
- Completion
- Defects liability

- Progress, measurement and payment
- Insurance
- Delays, Disruption and Extension of Time
- What is a delay
- Who is responsible
- Damages for contractors delay
- Extension of Time
- Techniques of calculating impact on program
- The Delay Protocol – The importance of the program
- Delay Costs
- What is allowable
- How to calculate
- Records
- Using the Delay Protocol
- Risk
- Risk and Opportunity
- What is risk?
- The psychology of risk
- Risk Groups
- Identification Strategies and Techniques
- Threat Levels
- Risk Levels
- Insurance
- Specific Techniques
- Qualitative methods
- Quantitative methods
- Probability
- Sensitivity
- Monte Carlo methods

- Response, management and recovery
- Risk/Opportunity Management Systems
- Risk Software
- Fault Avoidance – Maintaining the Quality
- Quality Assurance and Quality Control
- ISO 9000
- Methods and techniques
- Records
- Responsibilities
- Statistical analysis
- Fault Avoidance as part of Risk Strategy
- Probability
- Decision Trees and other methods
- Total Quality Management