

MAINTENANCE MANAGEMENT EQUIPMENT AVAILABILITY CONTROL

FIELD OPERATIONS
Equipment & Maintenance

E-645

OBJECTIVES

To provide some knowledge regarding the selection and implementation of **adapted maintenance policy**. To establish an optimized path for **turnaround management** within scope, budget and schedule limits. To supply the attendees with some practical tools to achieve **reliability engineering process** on their own site, and relevant **indicators** to measure the improvements made.

On completion of the course participants:

- are familiar with current trends in **maintenance policy** (TPM, RCM, ...) and can decide whether they are applicable to a given case,
- know how to set goals in terms of **overall corporate efficiency** and not only in terms of maintenance budget,
- understand **reliability analysis and improvement techniques**,
- know the conditions for successful management of unit turnarounds,
- are able to implement a **subcontracting policy**.

COURSE CONTENT

MAINTENANCE POLICY AND OBJECTIVES 0.50 day

Maintenance policy and plant policy. Financial, technical and workforce organization, goals
Current trends: criticality analysis TPM, RCM... How they fit a given situation
Condition-based, preventive and corrective maintenance methods and their respective importance.
Conditions for efficient implementation. Advantages of each method and its limitations
Maintenance work management: criticality of equipment, priorities, spare parts inventory management

RELIABILITY PROCESS IMPLEMENTATION AND FOLLOW-UP 0.75 day

Descriptive statistics: reliability and reliability indicators, equipment performance monitoring in terms of availability and maintainability. MTBF, MTTR...
Statistical functions and their applications to preventive maintenance, equipment redundancy studies, standby equipment policy
Pareto law, identification of bad actors

RELIABILITY ANALYSIS AND IMPROVEMENT METHODS 1 day

FMECA. Areas of application, basic techniques, probability estimation, common methodological errors
Failure trees. Purpose of the method. Practical calculation methods
Reliability centred maintenance. Use of decision logic. Detection and elimination of Ridden failures

MAINTENANCE COSTS AND FAILURE COSTS 1 day

Maintenance cost vs overall failure cost. Cost factors. Overall effectiveness index, efficiency concept, adaptation to the petroleum and petrochemical industries. Practical simplified calculation. Performance monitoring
Life cycle cost. Definition and application to the choice of investments. Possible use in estimation of optimum life duration
Spare part management. Cost of inventory. Unsuitability of some conventional calculations. Potential solutions. Decision-making methods

SUBCONTRACTING 0.50 day

Purpose, conditions for efficiency. Why contract work out, how to maintain, how to keep control
Different types of contract. Which type to use
Quality management and safety. Contractors selection, audits, partnerships. Recent experience
Responsibilities and regulatory aspects
Impact of subcontracting for in-house personnel

SHUTDOWN MANAGEMENT 0.50 day

Detailed preparation. Permanent cost control. Planning. Identification of critical operations
Work management. Work site organization. Safety goals
Commissioning and preliminary start-up. Quality management and safety. Procedures
Reports and updates

IMPROVEMENT PLANS 0.75 day

From failure management to equipment management
Lowering the tolerance threshold for minor defects. Operators involvement
Maintenance programs per equipment item and per equipment type
Management of changes
Rationalizing inspection and spacing out turnarounds
Progress plans, key performance indicators. Maintenance audits. Self-rating

▲ Who should attend?

Graduate engineers and supervisory staff from any processing industries who are involved in maintenance.

It is also suited to staff responsible for production costs, and consequently for maintenance costs, and involved in equipment availability control.

▲ Duration

5 days

▲ Dates & Location

Sept. 28 - October 02, 2009
Rueil-Malmaison (Paris)

French session: F-645

▲ Registration

Fees: €2,000

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▲ Course Coordinator

IFP Training

Ref. **OGM / GEMA-E**

The course includes numerous workshops and case studies illustrating the techniques studied and the topics discussed. The teaching method is interactive and based on participants' own experience.

