

# Maintenance Planning & Work Control in the Oil & Gas

## INTRODUCTION

- Lower revenues due to lower oil and gas prices have placed equipment life-cycle costs under the Maintenance management spotlight like never before. Maintenance Managers are faced with the challenge to deliver the same levels of equipment safety, reliability and availability with smaller budgets. This Maintenance Planning and Work Control in Oil and Gas introduces the practical tools and practices that Oil & Gas Industries need to adopt to drive down their equipment life-cycle costs in practical ways.
- This Maintenance Planning and Work Control training seminar emphasizes the most effective strategies, policies, tactics and practices that are needed to ensure the reliability, integrity and durability of the physical assets through their life-cycle by proper planning and control of the Maintenance activities.

This training seminar will highlight:

- Failure and Degradation characteristics of Oil and Gas assets
- Oil and Gas asset classification into the criticality matrix for work identification
- Failure and degradation of assets
- Prioritization of activities and correlation of Organization Structural Domain with Work Breakdown structure
- Schedule activities
- Proactive Practices and Tools to Reduce Maintenance Costs
- Failure Analysis to Focus Cost Reduction Efforts
- Work Management to Improve Resource Efficiency

## OBJECTIVES

At the end of this training seminar, you will learn to:

- Understand the Failure mechanisms of Oil and Gas Assets
- Identify the necessary work for Assets life maximization
- Apply the correct type of maintenance for each asset
- Schedule work activities
- Control time, budget and scope during maintenance
- Assess performance of Maintenance

## **TRAINING METHODOLOGY**

- This Maintenance Engineering training seminar on Maintenance Planning and Work control is delivered by means of a combination of instructor-led topic areas and class discussions. This training course is further enhanced by the use of case studies, examples and practical exercises. The templates, case studies, examples and exercises are subsequently available to each delegate after the seminar as a reference for further study, research or practice. This ensures a high level of knowledge and skill retention.

## **ORGANISATIONAL IMPACT**

The organisation will:

- Gain an understanding of the sources of maintenance costs
- Be able to focus its resources on the events that contribute most to costs
- Control asset life and performance
- Fully assess Maintenance activities in time, scope and efficiency

## **PERSONAL IMPACT**

The participant will be able to:

- Understand the machine failure and degradation
- Understand how poor reliability is a major factor in the cost equation
- Implement the appropriate maintenance program to improve reliability
- Control Maintenance cost time and scope during execution
- Assess all Maintenance activities with the appropriate indicators

## **WHO SHOULD ATTEND?**

It is highly recommended that maintenance, reliability, engineering and technical support staff including leadership and management to attend this Maintenance Engineering training seminar. Also, including:

- Planners
- Supervisors
- Engineers
- Reliability Engineers
- Maintenance Team Leaders and Managers
- Operations Team Leaders and Managers

## Course Outline

### Maintenance Types and Asset Pairing

- Definitions of Maintenance, Asset Management and Reliability
- Material Failure and Degradation
- Preventive-Predictive Maintenance
- Reliability Centered Maintenance and the Failure Rate Mathematics
- Life Cycle Costs and Maintenance

### Planning –WBS-OBS

- Work Order System (WO) for Planning
- Work Breakdown Structure (WBS)
- Organization Breakdown Structure (OBS)
- Materials Planning
- Workforce Planning

### Scheduling Principles

- Programmed Preventive Maintenance Intervals
- Condition-based Maintenance Intervals
- Optimization of General Overhauls and Maintenance Period in the Life Cycle of Plants
- Critical Path Method (CPM) – PERT Analysis

### Control of Time, Costs and Work Quality

- Monitor Time Domain using Gantt Charts
- Techniques to Keep under Budget
- Contingency and Management Reserve
- Acceptance of Work Scope according to ISO/API Standards

### Maintenance Planning and Work Control Performance Analysis

- Management of Information Flow
- Performance Indicators
- Workload Performance Indicators
- Planning Performance Indicators
- Effectiveness and Cost Performance Indicators