

PD619
Risk and Reliability Strategies for Optimizing Performance

Day One

- The Production and Distribution Process Introduction to Root Cause Analysis (RCA)
 - Process Efficiency
 - Work and its Value
 - Manufacturing and Service Industries
 - The Systems Approach
 - The Impact of Efficiencies on Resources
 - Maintenance: The Questions to Address
- Process Functions
 - The Functional Approach
 - The Functional Block Diagrams (FBD)
 - Failure Mode and Effect Analysis (FMEA)
 - Effective Planning
 - Prevention of Failure or Mitigation of Consequences
- Case Studies & Hands-on Activity
- Reliability Engineering for the Maintenance Practitioner
 - Failure Histogram
 - Probability Density Function
 - Mortality
 - Hazard Rates and Failure Pattern
 - Availability and Mean Availability
 - The Weibull Distribution
 - Deterministic and Probabilistic Distributions
- Case Study & Group Activity
- Failure, Its Nature and Characteristics
 - A Word About Failure
 - The Operating Context
 - The Feedback Control Model
 - Capability and Expectation
 - Incipency
 - System Level Failure
 - Human Failures

Day Two

- Lifecycle Aspects of Risks in Process Plants
 - Design Quality
 - Risks During Construction
 - Planning of Maintenance Work
 - The Operational Phase
 - Modifications to Plant and Change Control
 - Maintenance Costs
 - End of Life Activities
- Process Plant Shutdowns
 - Factors Affecting Operating Run Lengths
 - Loss of Integrity
 - Loss of Efficiency
 - Incorporation of Plant Changes
 - Risk related to Planned Shutdowns
 - Planning
 - Safety and Environmental Hazards
 - Traffic Safety
 - Waste Management
 - Hazardous Material Management
 - Fire and Evacuation Drills
 - Tool Box Meetings and Training
 - Rescue Planning
- Case Study & Hands-on Activity
- Facets of Risk
 - Understanding Risk
 - Descriptive or Qualitative Risk
 - The Quantitative Aspects of Risk
- Case Study & Hands-on Activity
- The Escalation of Events
 - Learning from Disasters
 - Event Escalation Model
 - Damage Limitation Model
 - Evaluating Test Frequencies
 - Incipency Period

Day Three

- Maintenance
 - Maintenance at the Activity Level
 - The Continuous Improvement Cycle
 - System Effectiveness and Maintenance
- Reliability-Centered Maintenance
 - Frequency or Severity
 - Reliability Block Diagrams and Mathematical Modeling
 - Fault Tree Analysis (FTA)
 - Root Cause Analysis (RCA)
 - Total Productive Maintenance
 - Reliability-Centered Maintenance
 - Compliance and Risks
- Case Study & Hands-on Activity
- Information for Decision Making
 - Data Collection
 - The Collection of Quantitative Data
 - The Collection of Qualitative Data
 - Errors in Data Collection
 - Business Process Management
- Case Study & Hands-on Activity
- Improving Systems Effectiveness
 - System Effectiveness
 - Integrity and System Effectiveness
 - Managing Hazards
 - Reducing Risks
 - Communicating Risk Reduction Plans
 - Maintenance as an Investment