



Advanced Reliability Centered Maintenance



Course Description:

Reliability Centred Maintenance is a methodology used to determine the right maintenance tasks to ensure that any physical asset on system containing its uses want it to do, in its present operating context. This course goes through the theory and principles of RCM.

Who Should Attend:

This course is aimed at Maintenance Engineers/Technicians.

Pre-Requisites:

All Attendees should have a sound power generation background.

Course Outcome:

Upon successful completion of the course the candidate will be familiar with:

- The RCM Guide
- RCM Objectives
- RCM Principles and Analysis
- Implement an RCM System

Course Objectives:

To gain a detailed understanding of RCM.

Course Outline:

Day 1

- The RCM Guide
- Definitions
- Objectives
- Focus more on Functional Importance
- Looking at Failure and Repair history
- RCM "Principles" – Part 1
- Business Orientated & Function Orientated
- System Focused
- Investigates how equipment fails
- Defining the best maintenance strategy
- RCM acknowledges designed limitations
- RCM as an ongoing task

Day 2

- RCM "Objectives"

- How to determine optimum maintenance program
- Optimise maintenance efforts
- How to focus on the most important functions of the system
- Evaluating Risks with RCM Program
- How to strive for the required reliability and maintainability
 - ❖ At the lowest cost
 - ❖ Without sacrificing safety
 - ❖ Without sacrificing the environment
- RCM Principles
- Maintenance - Business Orientated
 - ❖ Operations efficiency
 - ❖ Quality
 - ❖ Cost
 - ❖ Safety
 - ❖ Environment

Day 3

- Function Orientated
- How RCM investigates how equipment fails
 - ❖ Failures
 - ❖ Failures Mode
 - ❖ Failure Cause
 - ❖ Failure effect
 - ❖ Failure Patterns
- "RCM Tools"
- Selection & Prioritising tool (Pareto Analysis)

- Failure analysis tool (FMECA)
- Reliability modelling tools (Reliability Block Diagram, Fault Tree)
- Decision Tool (Decision Tree Analysis)

Day 4

- "RCM Analysis"
- Study Preparation
- System Selection & Definition
- System Function Definition
- Functional Failures Definition
- Failure Mode Analysis
- Failure Consequences Assessment
- Selection of Maintenance Actions
- Data Collection & Documentation
- CMMS & RCM Integration

Day 5

- "RCM Implementation"
- Define the scope of objectives of the project
- Establish Review Groups
 - ❖ Facilitator
 - ❖ Project manager
 - ❖ Operations Personnel
 - ❖ Maintenance personnel
- Training the review group
- Schedule for training group
- Plan correctly meetings
- Plan senior management audits

- How to implement the selected task
- How to document the tasks and procedures
- Benefits From Installing RCM
- Cost savings improve
- Rationalisation of certain tasks
- Improved safety... How?
- Improved environmental integrity
- Precise & Comprehensive maintenance database
- Improved teamwork.... How?
- Greater motivation of individuals