

# Root Cause Failure Analysis

## INTRODUCTION

- This Root Cause Failure Analysis highly interactive training seminar addresses a modern approach to problem solving in maintenance management and is based on some of the most recent research in the field. Participants will be enabled to improve the performance of their operation with practical, down-to-earth techniques that are based on first principles.

The following aspects will be addressed:

- Logistics of Continuous Performance Improvement
- Decision Logic and Operational Knowledge Types
- Maturity Indexing
- Relationship Development and Analysis
- Strategic Focus

## OBJECTIVES

Applying the concepts taught in this training course, delegates will be able to:

- Develop and implement a sustainable world-class maintenance strategy
- Perform a systematic Root Cause Failure Analysis
- Develop an improved understanding of numerous maintenance environment variables, and of the relationships between them
- Understand, audit and optimize your maintenance process
- Understand the use and application of generic problem solving techniques
- Cascade the principles and benefits of the program to other employees

## TRAINING METHODOLOGY

- The training methodology is interactive with numerous group exercises and is suitable for all employees involved in maintenance and operations management. The pace and level of the training course is customized to the understanding of the delegates. Ongoing back-up and support is available after the course on request to the supplier, and the training course is also available for in-house presentation as well as for "Competency Transfer" via a site license.

## **ORGANISATIONAL IMPACT**

- Improved Performance
- Informed Decision-making
- Delegations and Productivity
- Focused Activities
- Improved Understanding of the Maintenance Process
- Elimination of Time-Wasting Activities

## **PERSONAL IMPACT**

- Improved decision-making abilities
- Clarity of vision
- Understanding of Consequences (Cause/Effect)
- Improved Maturity
- A new sense of certainty and confidence
- Empowerment and a results driven focus

## **WHO SHOULD ATTEND?**

- Engineering and Technical Professionals and Supervisors from any industry
- Maintenance Planners and Coordinators
- Operations and Manufacturing Professionals and Supervisors
- Foremen and Team Leaders
- Plant Engineers and Maintenance System Professionals
- Section Engineers and Planners

## **Course Outline**

### **Problem Solving - Basic Principles**

- Problem Identification Session
- Terminology of RCFA
- Decision Logic
- Three Knowledge Types
- Maintenance Maturity Indexing
- Six Level Generic Performance Standard
- Continuous Improvement
- Exercises

### **Sustainable Maintenance Performance Improvement 1**

- Introduction to Modern Maintenance Practice
- The SQC Performance Model
- Reverse Risk Analysis
- Maintenance / Operations Objectives and Resource Analysis

## Sustainable Maintenance Performance Improvement 2

- Cross Referencing Operational Variables (Group Exercise)
- “Your Maintenance Costs are too High!”
- Sigma Sets: The Absolute Decision Standard
- Data / Knowledge Base
- Accuracy and Availability of Data / Cost relationship
- The Four Critical Stages of Data Maturity
- Logical Critical Thinking vs. Creative Lateral Divergent Thinking
- Case Studies: Analysis and Exercises

### Root Cause Analysis

- Maintenance Strategy Development and Implementation
- Standard Pitfalls for Maintenance Improvement Initiatives
- Generic Problem Solving Techniques
- Logical Problem Solving Techniques
- Creative Problem Solving Techniques
- Other Problem Solving Techniques
- A Systematic Root Cause Failure Analysis Methodology
- Exercises

### Action Plan Development

- Introduction to TRIZ Methodology
- Review of Most Suitable Techniques
- Development of an “Instant Approach” to Problem Solving
- Application of “Standard Questions”
- Individual Delegate Requirements
- Commercial Programs
- Logistical Requirements for Practical RCFA Implementation
- RCFA Exercises (Analysis of Client Company Specific Problems)