



**MAESTRO**  
CONSULTANTS

# ROOT CAUSE ANALYSIS

## COURSE OUTLINE 2024

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**TRAINING TITLE**

ROOT CAUSE ANALYSIS

**VENUE**

Dubai, UAE

**DURATION**

5 Days

**DATES**

04 - 08 March 2024

**PRICE**

\$5,250 per attendee including training material/handouts, morning/afternoon coffee breaks and Lunch buffet.

**TRAINING INTRODUCTION**

This Root Cause Analysis training course will enable delegates to remain abreast of the latest researched trends, techniques and strategies to improve the condition and performance of their operational process. This hands-on intervention will equip you with the necessary basic knowledge and skills to optimize the function, daily running, and maintenance of the five main aspects of the process.

Delegates will be exposed to and learn the core competencies required for successful problem solving and solution implementation of an effective operations process against the background of the current global economic downturn. They will complete several in-course assignments, which will enhance their problem-solving skills and which will serve as an action plan for improvement. Setting the correct priorities and doing the right thing, makes all the difference to your performance.

**This training will highlight:**

1. Terminologies - 112 Tools and Techniques for RCFA
2. A modern holistic approach to understanding the operational process
3. Process Maturity Indexing, Planning and Protocols
4. Exact performance measurement and performance management modeling
5. More than one hundred "Human Factors" as a Source of Error

**TRAINING OBJECTIVES****At the end of this training, participants will learn to:**

- Gain a broad understanding and appreciation of the core functional aspects of how to perform an effective Root Cause and Failure Analysis
- Be able to review the six standard maintenance improvement tactics and their selection technique to ensure reliable process plant & equipment

- Learn how to develop a comprehensive operational process resource and support system analysis
- Understand the principles of an operational audit, develop your own process standard
- Gain insight and understanding into the unique leadership and motivation principles required for technical process operation and management

### **TRAINING AUDIENCE**

- Engineering and Technical Managers and Supervisors from any industry
- Maintenance Planners and Coordinators
- Operations and Manufacturing Managers and Supervisors
- Foremen and Team leaders
- Plant Engineers and Process System Managers
- Section Engineers and Planners

### **TRAINING OUTLINE**

#### **Day 1: RCA versus RCFA – Review of Principles**

- Problem identification and definition of problems
- Defining your Operational Process
- Terminologies in current use: Integration, Agility, Deviation from Standard
- What is World Class Operations?
- Three knowledge types
- 20 Baseline aspects to consider with RCA as Prime Causes
- Generic Performance Measurement Model of a complex issue – 6 levels
- Single Task performance measurement
- The 10-point Planning Standard and the role of the Planning Department

#### **Day 2: Basic Cause / Effect Dynamics Tools**

- Variability Analysis of Causes
- Application of effective Variability Analysis in order to rate and classify Causes
- Selecting the Optimum maintenance tactic distribution
- Run to Failure (RTF)
- Condition Based Maintenance (CBM)
- Time Based Maintenance (TBM)
- Skills Level Upgrade (SLU)
- Design Out Maintenance (DOM)
- Process Maturity Indexing

### **Day 3: Advanced Cause / Effect Analysis**

- A range of simple Cause / Effect relationships
- Seven generic relationships between two variables
- More complex modelling techniques
- A “Blueprint” for effective operational practice
- Leadership Development and Motivation of Operations employees
- Maintenance/Operations Process Standards based on regular audits with variable frequencies
- Principles of Information Management
- Definition; Difficulty and Commitment combined to assess Probability of Success

### **Day 4: Problem Solving in the Operations Environment**

- Problem Solving Techniques and application
- Risk identification, assessment and control
- IERIC-PDI Technique
- RCM – 7 key questions
- Consequence of Functional Failure
- 8 “D’s” and ALARP
- Exercises and Facilitation

### **Day 5: Scenario Analysis and Action Plan Development**

- Theory of Inventive Problem Solving
- Commercial programs: Pro’s and Con’s
- Addressing delegate problems
- Understanding the complexity - Putting it all together
- Assessment Assignment and program evaluation

### **TRAINING CERTIFICATE**

**MAESTRO CONSULTANTS** Certificate of Completion for delegates who attend and complete the training course

### **METHODOLOGY**

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of “real life” issues in their organizations. The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.