Process Plant Start-up, Commissioning and Troubleshooting

INTRODUCTION

- There is an alarming trend in industry to discount the potential contribution of the Technical / Operations function to productivity improvement, product quality and gains in market share. Principles taught in this Process Plant Start-up, Commissioning and Troubleshooting training course will help you to understand the true nature and different techniques of problem solving and problem prevention in the operational / process environment.
- Excellent Troubleshooting skills are considered a core competency for 'Best-in-Class' industrial companies. If your company's goals include minimizing downtime then this training event is a must because it delivers rapid, safe Troubleshooting.

PROGRAMME OBJECTIVES

- How to become a 'Top Gun' Troubleshooter by acquiring new skills
- To develop a structured approach to Troubleshooting and Problem Solving which uses a common terminology and shared understanding
- To point the way to Continuous Improvement in the way you run your processes and make incremental efficiency gains
- To understand the difference between having a techniques manual on the bookshelf – and actually making it work
- To identify the "motivated" people who should be the champions of Troubleshooting and Problem Solving – and who should just follow
- To understand work practices which "allow" success in Troubleshooting and Problem Solving thought reducing the variability of your process

WHO SHOULD ATTEND?

- This training course is directed at those Supervisors who are involved in the operations function and who are responsible for leading and directing people to achieve and improve productivity levels
- Those faced with the challenge of actually using the various techniques of Troubleshooting and Problem Solving to reduce downtime and waste and improve run efficiencies will benefit
- The Process Plant Start-up, Commissioning and Troubleshooting training course elements are of equal importance to Production, Maintenance Engineering and Process Engineering personnel

TRAINING METHODOLOGY

- The Process Plant Start-up, Commissioning and Troubleshooting training course will be conducted in a facilitative style with a combination of lecture and practical exercises in the use of techniques, case studies and a high level of lively debate and sharing of ideas. Delegates will be encouraged to introduce problems of their own for discussion and analysis. Copies of all lecture materials, case studies and workbooks will be provided.

PROGRAMME SUMMARY

- This training course aims to develop employees to build a “cadre”□ of knowledgeable and skilled team who will be able to add value through their contributions to any situations involving plant start-up and commissioning. They will be able to contribute in leadership or operational roles, both with knowledge and skills to ensure such projects are effectively and efficiently managed in a manner consistent with recognized best practices.
- The training course also covers the essential basic skills required for problem identification; analysis and resolution. This approach will allow delegates to understand how to change the culture of the organization from “REACTIVE” to “PRO-ACTIVE”. The advantages of moving towards World Class performance standards are undeniable in terms of Safety; Cost Reduction; Quality; and Increased Output.

PROGRAM OUTLINE

Introduction and Preparation for Start Up and Commissioning

- Introduction to Process Plant Start Up and Commissioning
- Organisation, Roles and Leadership
- Support Functions
- Cost Estimation
- Spare Parts Planning

Commissioning Strategy and Process

- Commissioning Strategy
- Commissioning Strategy Case Study
- Mechanical Completion and Integrity Checking
- Pre-commissioning and Operational Testing
- Start-up / Initial Operation, Testing and Acceptance

Process Plant and Machinery Specific Issues

- Process Plant and Machinery Commissioning
- Instrumentation and Control Systems
- Preparing and Isolating Process Plant

Project Managing Start-Up / Commissioning Projects

- Work Breakdown Structures
- The Critical Path Method of Planning and Control
- Short-Cut Planning Methods
- Budgeting, Progress and Cost Control
- Earned Value Analysis

Problem Solving, Risk and Safety Management

- Introduction to Problem Solving and Troubleshooting
- Troubleshooting in Commissioning and Start Up Situations
- Safety and Environment Management
- Managing Risk

Post Commissioning Activities

- Asset Classes – A holistic Analysis
- Pro-Active vs. Reactive Problem Solving
- Modelling of the Operational Process to simplify operations
- Single Task Performance measurement defined in terms of generic variables: Speed; Quality; and Cost
- Complexity and Complex Systems Performance measurement
- Pyramid of Excellence - The Operations Process redefined
- Configuration, Operation and Optimization
- Maturity Indexing: Planning; Control, Congruence, Empowerment
- A World Class Operations Case Study

Tools and Techniques – Practical Experience

- Interactive and Dynamic Variable Relationships Analysis
- Techniques Introduction
- Tools Introduction
- Problem Analysis
- Practical Use of Tools and Techniques
- Tools & Techniques - selecting the right one

People Issues – The Glue that holds everything together

- Risk Management
- Group Dynamics
- Individual Motivators
- Developing Troubleshooting and Problem-Solving skills
- Managing Change – Transition Matrix
- Leadership Attributes

Operator, Maintainer, Designer Interface

- Cross Functional and Team working
- Introduction to the Theory of Inventive Problem Solving (TRIZ)
- Auditing your process to a dynamic standard (Discussion session)
- Effect of Maintenance / Operations Strategy
- Development of Standards and Key Performance Indicators
- Life Cycle Costing, Design for Operation, Design for Maintenance

Open Forum

- Six Primary and Four Secondary Maintenance Tactics
- Outsourcing of Operational Functions
- Revisit Concepts, Tools and Techniques
- Your Problems - Case Studies
- Your Action Plan