

# PROCESS PLANT START-UP COMMISSIONING AND TROUBLESHOOTING PRE006

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## COURSE DESCRIPTION

The initial start-up of any plant, irrespective of size, type, or industry, is a unique occurrence, therefore, start-up poses some special problems. Lack of experience in dealing with these problems has frequently resulted in prolonged and costly start-ups.

The course covers estimating of start-up costs, personnel requirements, and resources. It defines the vital role of project management and plant personnel in the preparation and planning for successful start-up of any process plant. Emphasis is on effective planning and use of available resources, both material and manpower.

Troubleshooting performed during the actual start-up can be very expensive and must be done as effectively as possible. This course demonstrate how effective troubleshooting can minimize the time and cost of going from the initial start-up to full production. The last day will provide a review of techniques and discussion of numerous examples to develop skills in troubleshooting.

## COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary to anticipate and avoid financial, technical, operational, and organizational problems associated with start-up.

## COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Become a troubleshooter.
- Develop a structured approach to troubleshooting and problem solving which uses a common terminology and shared understanding.
- Point the way to continuous improvement in the way you run your processes and make incremental efficiency gains.
- Understand the difference between having a techniques manual on the bookshelf - and actually making it work.
- Identify the "motivated" people who should be the champions of troubleshooting and problem solving - and who should just follow.
- Understand work practices which "allow" success in troubleshooting and problem solving thought reducing the variability of your process.

## WHO SHOULD ATTEND

- Project Managers.
- Plant Managers.
- Plant Supervisors.
- Technical Staff.
- Contractor personnel involved in project execution and plant start-up in any process industry.

## COURSE DURATION

5 Working Days

## COURSE OUTLINES

### 1. Process Plant Start up and Commissioning: An Introduction

- Organization and roles.
- Supplementary topics.
- Cost estimation.
- Spare parts planning.

### 2. Commissioning Strategy

- Mechanical completion & integrity checking.
- Pre-commissioning and operational testing.
- Start-up/Initial operation, testing and acceptance.

### 3. Process Plant and Machinery Specific Issues

- Process Plant and machinery commissioning.
- Instrumentation and control systems.
- Preparing and isolating process plant.

### 4. Risks Management during Commissioning

- Trouble shooting and problem solving.
- Risk management.
- Managing safety and quality.
- Conclusion.

### 5. Main Concepts

- The nature of process problems affecting performance.
- Performance defined in terms of generic variables: speed, quality and cost.
- Working practices - empowerment or impairment?
- Developing troubleshooting and problem solving skills.
- Managing change.