



## Process Plant Startup and Commissioning Training Course



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## Introduction

Startup and commissioning of new plants and equipment are significant undertakings, encompassing major technical and management challenges. An organization's personnel must be well-acquainted with the new equipment, processes, and modern technologies. Furthermore, the development of appropriate operating and safety procedures is critical.

This process plant commissioning and startup program provides an integrated approach to the crucial activities necessary for the safe, effective, and timely commissioning and startup of a new plant or facility.

## Commissioning Management and Startup Strategies

Understanding commissioning management is crucial for the execution of startup and commissioning activities. This process plant commissioning and startup course dedicates a segment to unraveling the intricacies of managing the commissioning of equipment and ensuring that commissioned equipment meets operational standards.

Special attention is given to equipment commissioning, machinery commissioning, and machine commissioning - all critical components that drive the successful commissioning and startup of process plants. Participants in the process plant commissioning and startup course will learn to navigate the challenges associated with these technical tasks while employing efficient commissioning strategies.

## Targeted Groups

- General Managers are responsible for overseeing Plant Startup and Commissioning.
- Operations and Maintenance Managers are with line responsibility and staff support for effective Plant Startup and Commissioning.
- Plant Startup and Commissioning Managers and Engineers.
- Technical personnel are supporting Plant Startup and Commissioning activities.
- Supervisors and Engineers are involved in Plant Startup and Commissioning.

## Course Objectives

By the end of this process plant commissioning and startup course, participants will be able to:

- Comprehend the six key stages of the commissioning process.
- Formulate an overall strategy for commissioning and plant startup.
- Address commissioning issues specific to machinery and equipment
- Tackle the commissioning of Electrical, Instrumentation, and Utility Systems.
- Establish a commissioning management plan, resource plan, and budget.
- Employ troubleshooting and problem-solving techniques for issues during startup and commissioning.
- Assess and manage risks linked to the commissioning phase.

## Targeted Competencies

Upon the end of this process plant commissioning and startup course, the target audience will be able to evolve:

- Understand the fundamental stages of the commissioning process.
- Balance technical and managerial aspects of commissioning.
- Handle commissioning issues related to specific machinery and equipment.
- Manage risks and address problems likely to occur during commissioning.

## Course Content

### Unit 1: Introduction and Preparation

- Overview of process plant startup and commissioning.
- Organizational structures and roles
- Supplementary topics
- Estimating costs
- Prepare for spare parts.

### Unit 2: Commissioning Strategy

- Develop a commissioning strategy.
- Mechanical completion and integrity checking.
- Understand pre-commissioning and operational testing.
- Learn about startup and initial operation strategies.
- Conduct testing and secure acceptance.

### Unit 3: Process Plant and Machinery-Specific Issues

- What are the Details on process plant and machinery commissioning?
- Understand Considerations for instrumentation and control systems.
- Learn about steps for preparing and isolating process plants for commissioning.

### Unit 4: Management, Planning, and Control

- Plan and control startup and commissioning.
- Adopt short-cut approaches to commissioning planning.
- Learn about techniques for monitoring and controlling progress.
- Implement earned value analysis in commissioning.

### Unit 5: Managing Risks During Commissioning

- Understand strategies for troubleshooting and problem-solving.
- Learn about principles of risk management during commissioning.
- Ensure safety and maintain quality throughout commissioning.
- What are the Final thoughts and conclusions on commissioning?