Safe Process Units Start-up/Shutdown and Development of Equipment Handling Over Commissioning Procedures

Why Choose this Training Course?

Start Up and Commissioning of new plant and equipment presents both a major technical and management challenge. The overall goal of mechanical completion and commissioning is to verify and document that the system is designed and constructed to fulfill its purpose and specified requirements. Life cycle cost principles and safety should govern all decisions and actions during this critical period.

Early establishment of commissioning packages is essential for an orderly and effective project completion. The commissioning plan shall have maximum priority to enable reversed planning in all project phases. All fabrication and installation planning shall be system oriented. Mechanical completion, commissioning, FAT, Preservation and suppliers assistance requirements shall be identified with this program

The initial start-up of any plant, irrespective of size, type, or industry, is a unique occurrence. The necessity of building a commissioning plan is derived from Cost wise, as this will minimize the budget for commissioning activities that will be allocated for contractor. All Companies operation staff is normally involved from day one in engineering phase. If, however, the same team is also taking part in any phase of the commissioning, it will result in a successful project and a reduction in unexpected startup troubles.

This intensive training course gives the participants a full picture of how to prepare themselves to have influential involvement in the commissioning & start up phases. The training course declares the key roles & responsibilities of the commissioning manager & disciplines team leaders to overcome the combination of technical & management challenges existing in those critical phases.

In this training course, participants will learn:

- The key stages of the commissioning process
- How to balance the technical and management challenges of commissioning & start up.
- How to deal with machinery and equipment specific commissioning issues
- How to Manage Risks and solve the types of problems likely to occur during commissioning
- How to enhance the company's turnaround management capabilities, and to ensure a team approach in the planning and execution of plant shutdowns and turnarounds
- To provide a comprehensive understanding of effective Shut down management techniques and implementation

What are the Goals?

An organization's personnel must familiarize themselves with the new equipment, processes and technologies, and develop the relevant operating and safety procedures. Successful commissioning of new facilities involves all the activities of: preparation and planning; mechanical completion and integrity checking; P&ID checking and verification; pre-commissioning and operational testing; commissioning; start-up; initial operation; performance testing and acceptance and post commissioning. This training course will support to create awareness of planning methods and an integrated organizational approach in the execution of successful turnarounds

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

- Do a successful commissioning & start Up Operations
- Learn the technical strategy for bringing the plant from being a construction site to an operating plant
- Manage the shutdown, outage & turnaround for the plant facilities
- Develop a good plan for any critical isolation activities

Who should attend this training course?

This training course addresses the needs of a diverse audience with an interest in Commission, Plant Start-up and Shut down, including:

- Operation Engineers who have oversight responsibility for Plant Commissioning, Start-up and shut down
- Maintenance Engineers with direct line responsibility as well as staff support responsibility for delivering on effective Plant Start-up & shutdown
- Plant Start-up and Commissioning Managers and Engineers
- Technical personnel & supervisors involved in supporting Plant Start-up & shutdown

How will this Training Course be Presented?

This interactive training course will be highly interactive with opportunities to advance your opinions and ideas and will include:

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Day 1: Introduction to Start Up & Shutdown Operation and Methodology

- The startup Universal Process definition
- Terminology & Definitions
- Project life cycle
- Contracting Strategy
- Why to Effectively Manage Start-Up
- Avoiding start up delays & problems
- Start Up key dates
- Commissioning & start up flow process
- What Makes Commissioning and Plant Startup Difficult

Day 2: Pre-commissioning & Mechanical Completion

- Organization & Roles
- Commissioning & start up team organization & structure.
- Startup task force responsibilities
- Commissioning & start up manger role
- Project planning & work breakdown structure
- The critical path method CPM
- Spare parts management process
- What is startup check list? & how to prepare a check list? Punch list preparation & filtering
- Inspecting pipe lines & plant facilities
- Commissioning tests & recommended practices

Day 3: Shutdown / Turnaround Operations

- Introduction to Shut down and Turnaround Management
- The Shutdown Management Process
- Organization and Roles
- Plant Shutdown and Preparation for Maintenance
- Scope of Work Development and Work Breakdown Structures
- Preparation and Execution Issues
- Logistics, infrastructure and materials management
- Developing Shutdown and Turnaround Plans
- The Critical Path Planning Method
- Developing the overall Shutdown Plan
- Shut down Progress Monitoring and Control

Day 4: Isolation & Critical Activities

- Types of Isolation
- Mechanical & Electrical isolation
- Isolation standards & techniques
- Documents necessary prior starting the plant isolation
- Confined space Entry requirements
- Pigging & smart pigging prior plant start up.

Day 5: Start-up & Initial Operation

- Utilities start up
- Process units start up
- Sources of problems during the startup operations
- Hazards associated with the startup operation
- Risks or Startup Faults
- Performance & acceptance testing
- Closed-Out Certificates
- Lining up the Plant facilities
- Coordination and Supervision during Start-up
