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Starting-up Plant (SC & GC)

INTRODUCTION

- Start-up occurs once in the lifetime span of any solid or gas control process plant (SC and GC). Therefore, start-up poses some special problems. Lack of experience in dealing with these problems has frequently resulted in prolonged and costly startup. A trouble-free start-up is the first step towards a profitable production cycle. Start-up needs close attention to their equipment and their catalysts, and it is also important to focus on how different parts of the plant interact.
- Starting-up Plant training course will help participants to prepare and execute start-ups more efficiently and safely. The training course covers all what participants need to consider prior to plant start-up. Participants on this training course will be able to contribute confidently to the planning and execution of effective strategies for plant and start-up in their own specific work and process plant situations.

Participants attending Starting-up Plant training course will develop the following competencies:

- Understand the benefit of correct startup
- Efficient and effective planning of shut down / start up
- Hazard analysis
- Completing plant records
- Prepare for risks and maximize the safety during operation

PROGRAMME OBJECTIVES

Upon completion of Starting-up Plant training course, participants will learn how to:

- Start up a process plant correctly
- Solve problems that can happen during the restart up stage
- Know about commissioning and its management
- Plan for the process safety
- Build solid skills about process control operation

WHO SHOULD ATTEND?

Starting-up Plant training course is most suitable for:

- Operations staff with 5+ years of experience who have been assigned to a new build project to represent operations
- Experienced process engineers
- Facilities Engineers who want to learn more about how processes are started and operated

TRAINING METHODOLOGY

- Starting-up Plant training course combines presentations with instructor-guided interactive discussions between participants relating to their individual interests. Practical exercises, video material and case studies aiming at stimulating these discussions and providing maximum benefit to the participants will support the formal presentation sessions. Above all, the course leader will make extensive use of case examples and case studies of issues in which he has been personally involved.

PROGRAMME SUMMARY

- Starting-up Plant training course covers critical areas of process control, instrumentation, safety and risk management. The focus of this course is on the actions required to achieve effective start-up of the plant and leading-edge approaches to risk management, instrumentation, system integration and sub-system functions.

PROGRAM OUTLINE

Process Plant Start-up

- The benefits of a proper start-up
- Knowledge of how to execute a safe, effective plant start-up
- Understanding of different ways to start a plant, and their respective advantages and disadvantages
- How to optimize start-up procedures and avoid potential pitfalls
- Scope and objectives of initial startup
- Regulatory requirements
- Data collection plan

Technical Instrumentation Skills

- Process Control Background
- Sub-processes and Integration
- Scada System
- Hierarchy of Control
- P&ID Diagrams

Troubleshooting Skills

- PLC Control
- Control System Evaluation
- Valves Sizing
- Loop Tuning
- Loop Checking
- Fault Tree Analysis (FTA)
- Accident Reporting and Root Cause Failure Analysis (RCFA)

Troubleshooting Skills

- Alarm Management
- Abnormal Situation Management (ASM)
- Operator Training
- Communication e.g. computer, paper, permissions / authorities
- Competency Assessment

Quality, Maintenance and Safety Preparation

- Process Safety
- Risk Management
- LOP Analysis
- Failure modes and critically analysis (FMECA)
- Risk based Maintenance
- Quality Management

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