PE045: Process Plant Start-Up, Commissioning & Troubleshooting
Training Description:

The aim of this intensive course is to provide participants with a complete and up-to-date overview of the start-up and commissioning of Process plants. The course will also cover the troubleshooting of the start-up process.

Upon the successful completion of this course, each participant will gain enough skills to anticipate and avoid problems associated with such start-up processes. Further, this course will provide participants with a satisfactory understanding of the commissioning strategy, organizational issues, estimation of required resources, CPM planning, mechanical integrity, troubleshooting, start-up operations, technical inspection, instrumentation/control systems, HSE and much other necessary knowledge associated with the process plant start-up and commissioning. Actual case studies from around the world will be demonstrated to highlight the topics discussed.

Training Objective:

By the end of the training, participants will be able to:
✓ Apply proper techniques in process plant start-up, commissioning and troubleshooting
✓ Carry out planning and preparation as well as cost estimation
✓ Discuss health, safety and environment, process plant start-up management and develop process plant commissioning strategy
✓ Conduct mechanical integrity testing and pre-commissioning, technical inspection and dynamic hydraulic testing
✓ Explain construction completion and the importance of machinery commissioning
✓ Apply start-up operations, start-up progress monitoring and control as well as determine instrumentation and control systems in commissioning process
✓ Demonstrate performance trials, troubleshooting and problem solving
✓ Implement change management including operational techniques and post commissioning audit in process plants

Training Designed for:

This course is intended for those supervisors/section heads 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 program elements are of equal importance to Production, Maintenance Engineering and Process Engineering personnel.

Training Program:

DAY ONE:
❖ PRE-TEST
❖ INTRODUCTION AND PREPARATION
  • Introduction to Process Plant Start Up and Commissioning
• Organization, Roles and Leadership
• Cost Estimation
• Spare Parts Planning

❖ COMMISSIONING STRATEGY
• Commissioning Strategy
• Mechanical Completion & Integrity Checking
• Pre-commissioning and Operational Testing
• Start-up/Initial Operation, Testing and Acceptance

DAY TWO:

❖ PROCESS PLANT AND MACHINERY SPECIFIC ISSUES
• Process Plant and Machinery Commissioning
• Instrumentation and Control Systems
• Preparing and Isolating Process Plant

❖ PROJECT MANAGING THE START-UP/COMMISSIONING
• Work Breakdown Structures
• The Critical Path Method of Planning and Control
• Short-Cut Planning Methods
• Budgeting, Progress and Cost Control
• Earned Value Analysis

DAY THREE:

❖ TROUBLESHOOTING, RISK AND HSEQ
• Introduction to Problem Solving and Trouble Shooting
• Problem Solving in Commissioning and Start Up Situations
• Managing Risk
• Managing Health, Safety, Quality and Environment

❖ CONCEPTS
• The nature of process problems affecting performance
• Performance defined in terms of generic variables: Speed, Quality and Cost
• Effort inputs in context – Asset based or Business Process based
• Structured approach – The Operations Process redefined
• Configuration; Operation; and Optimization
• Maturity Indexing: Planning, Control, Congruence, Empowerment
• 6 Big Losses, 7 Wastes

DAY FOUR:

❖ TOOLS AND TECHNIQUES - PRACTICAL EXPERIENCE
• Interactive and Dynamic variable relationships analysis
• Techniques introduction
• Tools introduction
• Problem Analysis
• Practical Use of Tools and Techniques
• Case Studies
• Tools & Techniques – selecting the right one
PEOPLE ISSUES
- Working practices – empowerment or impairment?
- Group dynamics
- Individual motivators
- Developing Troubleshooting and Problem Solving skills
- Managing change

DAY FIVE:
OPERATOR, MAINTAINER, DESIGNER INTERFACE
- Cross functional and Team working
- Introduction to the Theory of Inventive Problem Solving
- Auditing your process to a dynamic standard
- Effect of Maintenance/Operations strategy
- Development of Standards and Key Performance Indicators
- Life Cycle Costing, Design for Operation, Design for Maintenance

Course Conclusion
POST-TEST and EVALUATION

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request”.

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-
- 30% Lectures, Concepts, Role Play
- 30% Workshops & Work Presentations, Techniques
- 20% Based on Case Studies & Practical Exercises
- 20% Videos, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

As per the course location - This rate includes participant’s manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.
Training Timings:

Daily Timings:
- 07:45 - 08:00  Morning Coffee / Tea
- 08:00 - 10:00  First Session
- 10:00 - 10:20  Recess (Coffee/Tea/_snacks)
- 10:20 - 12:20  Second Session
- 12:20 - 13:30  Recess (Prayer Break & Lunch)
- 13:30 - 15:00  Last Session

For training registrations or in-house enquiries, please contact:
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Training & Career Development Department