



PE055: Process Plant Optimisation & Energy Conservation

Training Description:

This course will feature the importance and relevance of the constant need to monitor and adjust Process Plant operation to maintain the optimum mode that produces the most efficient results, consistent with safe and reliable operation.

Plant integrity and reliability is the cornerstone of process plant optimisation. For optimisation benefits to be sustainable, production interruptions must be kept to a minimum which requires effective management of degradation processes that affect equipment and systems and effective inspection and maintenance strategies, plans and methods. Plant optimisation can be an effective way to achieve improved profitability without the large investment associated with building a new plant.

This course will discuss:

- Risk Based Integrity Principles
- Process Plant Economics
- Industrial Energy Management Best Practises
- Implications of Plant Optimisation Activities
- Energy Conservation Opportunities

Training Objectives:

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

- ✓ Recognize and understand what plant optimisation and energy conservation is
- ✓ Apply the business focus and equip them to make sustainable plant profitability
- ✓ Appraise the most attractive opportunities to identify energy savings
- ✓ Describe the managerial tools needed to effectively optimise plant operations

Training Designed for:

This course is intended for all levels of personnel in a process plant environment. It will enable them to understand the design considerations, construction details and operational parameters associated with process heat exchangers. This course is also suitable to a wide range of process plant professionals; Process Supervisors, Plant Operators, Operations Engineers, Engineering and Technical personnel involved in improving process plant, petrochemical plant and refinery profitability and energy efficiency.

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.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ Pre-Test
- ❖ Introduction

❖ **Process Plant Operation, Integrity and Reliability - Overview**

- Asset Integrity Management (AIM)
- Plant Integrity and Reliability
- Risk Based Integrity (RBI) Approach
- Operation and Maintenance Impacts on Plant Integrity and Reliability
- Asset Management and Maintenance Management: Process Improvement
- Process Plant Economics

DAY TWO:

❖ **Process Plant Optimisation**

- Process Control Basics
- Elements of Process Plant Optimisation
- Components Required to Optimise Industrial Processes
- Process or Mathematical Model of Process and Process Variables
- Application of Simulation Technology to Plant and Control
- The Basics of Heat Integration

DAY THREE:

❖ **Industrial Energy Management – Energy Efficiency: Good for Business and for The Environment**

- Energy Use and in Process Industry
- Energy Management Standard: Details
- Energy Management Standard: Features
- Obstacles for Energy Management Programs

DAY FOUR:

❖ **Energy Conservation Opportunities**

- Energy Audit
- Energy Audit Types
- Benchmarking Energy Intensity and Usage
- Technology Options – New Energy Efficient Technologies
- Technical and Economic Evaluation of Potential Opportunities: Renewable Energy

DAY FIVE:

❖ **Implications of Plant Optimisation Activities**

- Implications of Plant Optimisation Activities
- Impact of Optimisation Activities and Technological Modifications to the Plant
- Technology Licenses
- Impact on Human Resources
- Good Safety - Good Business
- Safety Costs: Costs of Injuries

❖ **Course Conclusion**

❖ **POST-ASSESSMENT and EVALUATION**

Training Certificate(s):

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

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Fees:

TBA 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 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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