CCPS Risk-Based Process Safety (RBPS)

INTRODUCTION

- Formal Process Safety Management (PSM) systems are now mandated in most parts of the world as a way of achieving process safety and improving practices. PSM systems have therefore been implemented in most companies for many years. However, incident investigations continue to identify inadequate management system performance as a key contributor to the incident and audits reveal a history of repeat findings indicating chronic problems whose symptoms are fixed again and again without effectively addressing the technical and cultural root causes.
- The Center for Chemical Process Safety (CCPS) created the next generation process safety management framework RBPS, recognizing that all hazards and risks in an operation or facility are not equal, consequently apportioning resources in a manner that focuses effort on greater hazards and higher risks as appropriate. This risk-based approach reduces the potential for assigning an undue amount of resources to managing lower-risk activities, thereby freeing up resources for tasks that address higher-risk activities.

Participants attending CCPS Risk-Based Process Safety training course will develop the following competencies:

- Understand hazards and risks
- Commit to process safety and the way of working
- Learn to assess and manage risk in design, operation and maintenance
- Willingness and ability to learn from their own and others' experiences

PROGRAMME OBJECTIVES

CCPS Risk-Based Process Safety training seminar aims to enable participants to achieve the following objectives:

- Develop / enhance the Risk Based Process Safety knowledge of employees
- Improve the overall organisational capability and performance through a competent workforce
- Improve overall process safety by considering organisational culture

WHO SHOULD ATTEND?

- Operations, Maintenance, Technical Service Personnel and Management Team

TRAINING METHODOLOGY

- The CCPS Risk-Based Process Safety training course will combine presentations with interactive practical exercises, supported by pre and post-test activities plus videos. Delegates will be encouraged to participate actively in group discussions and analysis of real-life case studies.

PROGRAMME SUMMARY

- CCPS Risk-Based Process Safety training course will raise the awareness and understanding of employees to recognize the importance of process safety and how it influences day-to-day work activities. Using the CCPS RBPS approach will provide the foundation to achieving a proactive risk based process safety culture which is essential to operations and work ethics. Aimed at Operations, Maintenance and Technical Services engineers as well as their management, this training is expected to improve the competency of the engineers and managers in all process safety aspects that affect their daily work.

PROGRAM OUTLINE

Introduction to Safety; Understanding Hazards and Risk

- Introduction
- Good safety is good business
- What is Process Safety?
- Accident Pyramid and Swiss Cheese Model
- Major Incidents as Learning Events
- Why we fail to learn
- Understanding hazard and risk
- Risk matrix and ALARP
- Risk tolerability
- Workshop Session
- Case studies

Risk Analysis Techniques

- Consequences
- Risk Assessments and Hazard Studies
- Bow-Tie model
- Hazards & Risk Registers
- P&ID’s
- Hazard identification and risk analysis (HIRA) techniques
- HAZOP
- LOPA

Operational Considerations

- Asset integrity
- Causes of overpressure
- Overpressure protection philosophy
- Operational characteristics
- Causes of improper performance
- Preventative Maintenance
- Hazop and Risk-Based Safety Management
- Emergency Response
- CCPS risk based process safety.
- 4 pillars
- 20 elements
- Workshop Session
- Case studies

Culture

- Metrics & Process Safety Performance
- Management of Change
- Management systems
- Risk-based inspection and testing
- Records
- Human factors
- Leadership and Safety Culture
- National and Regulatory Culture
- Corporate Culture and Black Swans
- DuPont and ICI

Learning from Events

- Learning from accidents
- Behavioural safety
- ISC 6 pillars
- Energy Institute PSM framework
- OECD Corporate Governance for Process Safety
- Process Safety Leadership Checklist (CIA)
- Workshop Session
- Case studies