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Risk Assessment within Production Operations

27 October - 7 Novemb

Sha m El-Sheikh (Egypt)

Risk Assessment within Production Operations

course code: C8032 From: 27 October - 7 November 2024 Venue: Sharm El-Sheikh (Egypt) - Maritim Jolie Ville course Fees: 3700 Euro

INTRODUCTION

Health, Safety and Environmental Management Systems are based on a proactive process for incidents prevention as well as reactive monitoring of performance. Risk assessment is required to be applied to all activities that impacts on health & Safety, production, asset, environment and the Company reputation. In this seminar you will learn how to:

- Improve your practical skills in applying advanced risk assessment techniques relevant to the process industry
- Effectively balance risk against cost in order to optimize risk reduction measures
- Motivate your people for improved safety culture
- Appreciate the role of Quantified Risk Assessment and major hazards
- Apply root-cause analysis to incident investigation and analysis

PRE-REQUISITES

- Previous experience in the application of general risk assessment is preferred

CONFERENCE OBJECTIVES

- Recognise the difference between hazard, risk and risk assessment
- Learn how to evaluate different types of risk
- Develop the skills of applying advanced risk assessment techniques relevant to the process industry
- Develop a strategy for planning and implementing risk reduction action plans
- Appreciate the contribution of human error to accidents
- Be able to apply advanced techniques for root-cause analysis for incidents

TRAINING METHODOLOGY

Participants will learn by active participation during the programme through the use of exercises, syndicate and group discussion, training videos and discussions on relevant types of accidents and "real life" issues in their organisations.

CONFERENCE SUMMARY

The conference aims to provide hands-on experience in the application of advanced risk assessment techniques to all aspects of the process industry. It includes analysis of the consequences of major hazards, in terms of fire, explosion and toxic releases. These are modelled using advanced commercial software. Aspects of human error in relation to accidents are analysed and included in methods for promoting a positive safety culture in your organisation.

This training session also explores the role of analytical investigation and root-cause analysis based on Fault Tree Analysis.

Participants will be able to apply skills learnt from this training at a practical level to implement the

Company’s HSE Management System. In addition to your professional development, your organisation should be able to implement, monitor and review HSE action plans.

CONFERENCE OUTLINE

Advanced Risk Assessment Techniques 1: HAZOP

- Introduction to hazards identification and analysis techniques
- Techniques for hazard identification and analysis- HAZOP
- Syndicate exercise- application of HAZOP to batch and continuous processes
- Integrating HAZOP within the risk management system
- Review of commercial HAZOP software

The role of Quantified Risk Assessment ‘QRA’

- Failure Modes & Effects Analysis ‘FMEA’
- Decision trees and Event Tree Analysis ‘ETA’
- Sources of failure data
- Fault Tree Analysis ‘FTA’
- Quantification of ETA and FTA
- Evaluation of Individual and Societal Risks

Mechanics of Fire, Explosion and Toxic Releases

- The role of consequence analysis in QRA
- Types of Fires: Jet flame, pool fire, flash fire, BLEVE
- Types of Explosion: VCE, UVCE, pressure burst, dust explosion
- Vulnerability analysis
- Commercial software for modelling releases, fire, explosion and toxic releases

Advanced Incidents Investigation Techniques

- Human contribution to accidents
- The role of root cause Analysis in identifying management system failures
- Accident investigation techniques
- Latent failure and root causes for incidents
- Techniques for root-cause analysis

Promoting a positive safety culture

- Introduction to Safety Culture
- Techniques for improving safety culture
- Measuring improvements in safety culture
- Integrating safety culture within the HSE Management System