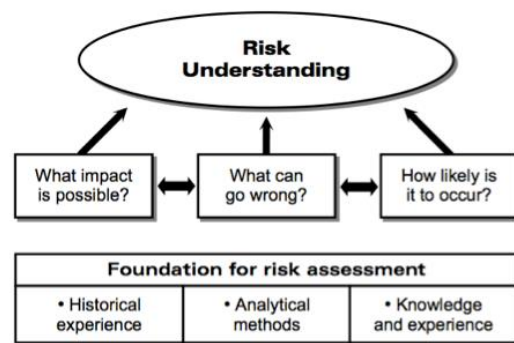




HS278: Risk Studies Using PHA

Training Description:

This intensive training course is designed to provide participants with a detailed and up-to-date overview of process hazard analysis (PHA). It covers the understanding of PHA for management of change for plants modification and category of each modification; evaluating PHA technique and selecting the most suitable methodology of PHA based on AIChE and OSHA; the PSM concept, standard and regulation requirement including risk concept and ALARP; the PHA regulation, PHA team composition, competencies requirements and role and responsibilities; and the general guideline for PHA team, hazard identification, risk assessment and hazard evaluation.

During this interactive course, participants will learn the different techniques of hazard evaluation including all techniques in terms of applicability, resource equipment, team composition and time required; the hazard evaluation techniques; the HAZID, what if, checklist, HAZOP, FMECA, FTA/ETA, LOPA and QRA; the risk-based decision making (RBDM), risk assessment and management; and the impact assessment, cost benefit analysis, risk communication and PHA technique.

Training Objectives:

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

- ✓ Apply and gain an in-depth knowledge on process hazard analysis (PHA)
- ✓ Improve the understanding of PHA for management of change for plants modification and category of each modification
- ✓ Help TRAC evaluate PHA technique and selecting the most suitable methodology of PHA based on AIChE and OSHA
- ✓ Discuss PSM concept, standard and regulation requirement including risk concept and ALARP
- ✓ Identify PHA regulation, PHA team composition, competencies requirements and role and responsibilities
- ✓ Apply the general guideline for PHA team, hazard identification and risk assessment and hazard evaluation
- ✓ Carryout different techniques of hazard evaluation including all techniques in terms of applicability, resource equipment, team composition and time required
- ✓ Select hazard evaluation techniques and discuss HAZID, what if, checklist, HAZOP, FMECA, FTA/ETA, LOPA and QRA
- ✓ Employ risk-based decision making (RBDM) and risk assessment and management
- ✓ Apply impact assessment, cost benefit analysis, risk communication and PHA technique

Training Designed for:

This course is intended for technical risk assessment members including engineers and team leaders' level from different divisions in site.

Training Program:

DAY ONE:

- ❖ PRE-TEST
- ❖ Introduction & Course Objective



- ❖ PSM Concept, Standard & Regulation Requirement
- ❖ Risk Concept – ALARP Introduction
- ❖ PHA Regulation
- ❖ PHA Team Composition, Competencies Requirements & Role & Responsibilities
- ❖ General Guideline for PHA Team
- ❖ Recap

DAY TWO:

- ❖ HIRA (Hazard Identification & Risk Assessment)/HE (Hazard Evaluation)
 - Introduction, Brief History of Evaluation & Overview
- ❖ How to do HIRA/HE or Details
- ❖ Brief Intro of Different Techniques HE
 - Qualitative/Quantitative, Limitation, Applicability etc.
- ❖ Brief Comparison of All Techniques
 - In Terms of Applicability, Resource Equipment, Team Composition, Time Required, etc.
- ❖ Selection of HE Techniques
 - Consideration for HE Technique Selection
- ❖ Brief Introduction of HAZID
 - Introduction, How to Do, Recording of Result & Writing Report
- ❖ Recap

DAY THREE:

- ❖ What if
 - Introduction, Pros & Cons, Applicability Consideration, How to Do & Recommendation Writing, Recording of Result, Writing Report, Work Exercise
- ❖ Checklist
 - Introduction, Pros & Cons, Applicability Consideration, How to Do & Recommendation Writing, Recording of Result, Writing Report, Work Exercise
- ❖ What If - Checklist
 - Brief Work Experience
- ❖ HAZOP
 - Introduction, Pros & Cons, Applicability Consideration, How to Do & Recommendation Writing, Recording of Result, Writing Report, Work Exercise
- ❖ Exercise to Apply the Technique
- ❖ Recap

DAY FOUR:

- ❖ FMECA
 - Introduction, Pros & Cons, Applicability Consideration, How to Do & Recommendation Writing, Recording of Result, Writing Report, Work Exercise
- ❖ FTA/ETA
 - Introduction, Pros & Cons, Applicability Consideration, How to Do & Recommendation Writing, Recording of Result, Writing Report, Work Exercise
- ❖ LOPA

- Introduction, Pros & Cons, Applicability Consideration, How to Do & Recommendation Writing, Recording of Result, Writing Report, Work Exercise
- ❖ QRA
 - Introduction, Pros & Cons, Applicability Consideration, Resource Required, Software Information, Review & Understand QRA Report
- ❖ Exercise to Apply the Technique
- ❖ Recap
- ❖ Practical Sessions
 - This hands-on and includes simulator, real-life case studies and exercise

DAY FIVE:

- ❖ RBDM (Risk Based Decision Making)
 - Concept Introduction & Decision
- ❖ Risk Assessment & Management
 - ALARP- Introduction & Concept
- ❖ Impact Assessment – Cost Benefit Analysis
- ❖ RBDM Work Example/Work Exercise
- ❖ Risk Communication
- ❖ Exercise to Select the Most Suitable PHA Technique & Application
- ❖ 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”.

Practical sessions will be organized during the course for participants to practice the theory learnt. Participants will be provided with an opportunity to carryout various exercises using our state-of-the-art “PHA/HAZOP simulator” and “BlackBox” simulator.

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

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, 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