ABI 5011-Process Hazard Analysis

Course Overview

The goal of this course is to develop a basic understanding of the requirements for a Process Hazards Analysis (PHA) and the techniques used to conduct such an analysis. Participants will collaborate in small groups to analyze scenarios using incident videos and case studies. They will use critical thinking skills to predict potential problems.

This training is designed to help people learn how to select and apply Risk Identification skills in Management of Change (MOC) reviews, Design Reviews, Recommendation Management, JSA/JHA Activities, Permit Writing, or any other area where safety needs to be integrated into the facility tasks.

Learning Outcome

In order to accelerate skill development, this course features a problem-based learning approach that provides a collaborative job focused experience. Participants will practice completing parts of the PHA including hazard identification, consequence analysis and hazard evaluation, risk analysis, and development of recommendations; identify and apply procedural requirements to potential job-related safety hazards; and use critical thinking to compare requirements to actual documented hazards.

They will collaboratively build a personal compilation of recommendations to apply back at work; transfer diagnostic strategies to job-related decisions; and demonstrate an understanding of the material in order to participate as a member of the PHA team.

Course Contents

- Planning and Preparing for a PHA - This module covers how to select team members, train them, and develop a charter.
- Hazard Identification - Participants will identify toxic, flammable, explosive, reactive, and mechanical hazards.
- Consequence Analysis -They will also uncover the direct impact of potentially hazardous events.
- Determine Risk Using consequence and frequency, the risk of an event will be estimated during this module.
- Identify Risk Mitigation Needs
- Unconscious Skills - Using Process Hazard Analysis in your everyday life
- PHA Regulatory Requirements
    - Documentation (PSI) Requirements for PHA Studies
    - Preparing for and Organizing PHA Studies
    - Being the "Knowledgeable" one
    - Selecting/preparing a team
- Developing/selecting/using a good Risk Matrix
- Selection of the correct PHA Methods
    - Checklist
    - What-If
    - HAZOP / LOPA
    - FMEA (application not detailed in this course)
    - Fault Tree Analysis (application not detailed in this course)

- Human Factors and Facility Siting in the PHA
- Noding (Subdividing) the Process for Study
- Identifying Deviations
- Understanding LOPA
- Writing useful Recommendations
- PHA Report Preparation
- Leadership Skills for Managing the Team

The course runs for 4 days, and exam is conducted on the last day of the course or the next day.

The assessment will be multiple choice exam paper (closed book) and PHA Project to be submitted no later than 3 weeks after the course completion date.

The course can be delivered in a classroom situation or online

Delegate Category

Facilitators, Operators, and Maintenance Professionals, Engineers and/or Engineers In Training (EITs), Managers, I & C, Mechanical Engineers and Technologists, Safety Professionals responsible for Process Hazards Analysis/HAZOP/ Safeguarding studies. And Anyone interested in expanding their knowledge on process safety