BTS
Training & Consultancy

HSE

HEALTH SAFETY ENVIRONMENT

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Safety in Process Design

Duration: 5 Days

Introduction:

This course provides an overview of process safety engineering fundamentals for hydrocarbon processing facilities, with emphasis on the upstream oil & gas sector. The focus of this course is on the engineering/design aspects of Process Safety Management. Frequent reference will be made to historical incidents and recurring problem areas. Techniques for analyzing and mitigating process safety hazards applicable to oil and gas processing will be reviewed. Integration of the concepts covered to achieve a measured approach to Process Safety Engineering is a key aim of this course. Exercises and group projects will be utilized throughout the course to emphasize the key learning points.

Methodology

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise

- Videos and General Discussions

Certificate

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Who Should Attend?

Facilities, process and design engineers, supervisory/management personnel, as well as new safety/loss prevention engineers and HSE professionals who require an overview of Process Safety Engineering.

Course Objectives:

YOU WILL LEARN

- Types of equipment and process systems that have historically been problematic in the Upstream oil & gas industry
- Basics of risk analysis
- Thinking in terms of Inherently Safer Design
- Most commonly used process hazards analysis methods and where they are used
- "Layers of Protection" concept - what the different layers are and how they are applied
- Detection and mitigation methods for different types of hazar

Course Outline:

- Historical Incident & Problem Areas
- Risk Analysis Basics
- Process Hazards Analysis Techniques – Overview
- Layers of Protection
- Inherently Safer Design
- Hazards Associated with Process Fluids
- Leakage and Dispersion of Hydrocarbon Releases
- Combustion Behavior of Hydrocarbons
- Sources of Ignition
- Hazards Associated with Specific Plant Systems
- Plant Layout & Equipment Spacing
- Pressure Relief and Disposal Systems
- Corrosion & Materials Selection
- Process Monitoring and Control
- Safety Instrumented Systems
- Fire Protection Principles
- Explosion Protection