

## **PROCESS SAFETY MANAGEMENT – (P S M)**

### **Overview and Awareness Course**

#### **Course Overview:**

Unexpected releases of toxic, reactive, or flammable liquids and gases in processes involving highly hazardous chemicals have been reported for many years. Incidents continue to occur in various industries that use highly hazardous chemicals which may be toxic, reactive, flammable, or explosive, or may exhibit a combination of these properties. Regardless of the industry that uses these highly hazardous chemicals, there is a potential for an accidental release any time they are not properly controlled. This, in turn, creates the possibility of disaster.

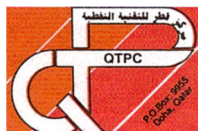
“Process Safety Management of Highly Hazardous Chemicals”—containing requirements for the management of hazards associated with processes using highly hazardous chemicals to help assure safe and healthful workplaces. This emphasized the management of hazards associated with highly hazardous chemicals and established a comprehensive management program that integrated technologies, procedures, and management practices.

#### **Classification of the Course:**

**The course is presented in two levels of awareness:**

Level - 1 Management Overview Training for Chief Officers, Department Managers, Heads of Sections of Operations & Technical Divisions

Level - 2 Awareness Training for Practitioners for Engineers and Supervisors of Operations & Technical Divisions



## **Course Outcomes/ Objectives:**

### ***By the end of the program, participant/s will be able to:-***

- Understand the relevance and importance under the context of Process Safety Management
- Awareness of relevant standard of PSM and monitoring requirements
- Understand the typical implementation path in the organization and the bottlenecks in achieving PSM maturity

## **Targeted Audience:**

**The client has targeted the following audience for the Level-1 and Level-2 Programs:**

### **Level – 1                      Management Overview Training**

- Chief Officers, Department Managers, Heads of Sections of Operations & Technical Divisions of the Organization.

•

### **Level – 2                      Practitioners' Awareness Course**

- Engineers of operations and Technical division
- Supervisors of Operation and technical division

## **COURSE CONTENT**

**NOTE:** This is a Draft Course Content. The course will be further tailored/ customized to meet the exact requirements of the end user's corporate company. For this purpose, the Trainer needs to know/ see/ read/ understand the following and believes that; end user will supply the relevant information/ documents beforehand if such information/ documents is/ are not confidential. Or will give the Trainer access to its Site for a couple of days; so that; the Trainer can study/ understand the following, to name a few and can have discussions with the Company's PSM Professionals and Production Plant Heads.

- ▶ Company's Procedures related to PSM
- ▶ Company's Leading Indicator Reporting System
- ▶ Company's Management Systems to correlate the relevance of the Company's PSM to its Management System and to understand how the PSM elements are addressed in its Management Systems.
- ▶ Company's operations in order to assess how the Leading Indicators that are encoded in the Company's Leading Indicator Reporting System can be used to assess integrity of the Company's operations.



## **Content of MANAGEMENT OVERVIEW TRAINING – 2 Hours Session**

### **Process Safety Management Overview and how these are addressed in the end user's company's Management Systems**

- Definition of a Process Safety Event – case study
- Objective, Benefits & Purposes
- Process Safety Management Overview and its Relevance to company's management system
- PSM Elements as per OSHA 3132 – How asset integrity is covered in this

### **Performing Monitoring and Review**

- Guiding principles in selection of performance indicators as per API RP 754  
Leading and Lagging Performance Indicators
- T-1 to T-4 Process Safety Events
- End user's Leading Indicator Reporting System
- Reporting Systems Prevalent – data for PSEs

## **Content of AWARENESS TRAINING FOR PRACTITIONERS – 1 Day duration Session**

### **Process Safety management overview**

- Definition of a Process Safety Event
- Case studies – Two major Events
- Explanation of 14 elements of PSM
- Relevance to company's management system

### **Assessing Process Safety Management in the Organization**

- Hazards of materials
- Process design and equipment design basis
- PSM auditing

### **Performing Monitoring**

- T-1 to T-4 Process safety events and leading and lagging process  
Safety performance indicators as per API RP 754
- Company's leading indicator reporting system
- Guiding principles for selection of indicators

### **Review**

Objectives, Purposes and Benefits

Roles of Organization in PSM



## **Instructor's Profile**

### **Mr. PradyutMitra:**

- Has expertise in Process Safety Management and has been training the Chemical Organizations to achieve Process Safety Excellence.
- Has acquired a good amount of experience using Leading Indicators.
- Has designed & delivered Advanced Safety training over a number of batches in **Qatar Petroleum (QP)**. This training included at least **10 Elements of PSM**.
- Has conducted Process Safety Management Training Course for Cairn Energy (*an Oil & Gas Extrusion Company in India*) and Alkyl Amines Chemicals in India during the year 2013 and 2014 respectively.
- Has carried out Process Hazard Analysis for complete ShriramAlkalies Plant at Jhagadia, Gujarat, India.
- Since the past 8 years he has delivered training courses in Safety in Oil & Gas, Improvement areas of Quality, HSE, Energy, Hazard Identification & Risk Assessment, HAZOP, QRA, ConsequenceAnalysis of Hazardous Processes.
- He has completed more than 5000 hours of training in Qatar, Kuwait and UAE.
- Throughout his professional career of about 25 years, he held several positions in Oil & Gas, Petrochemical industries as Plant Manager for Praxair Ltd & others such as BOC, Pfizer etc.

He has graduated with a Degree in Chemical Engineering from Indian Institute of Technology and Masters in Business Administration from Indian Institute of Management. He is a:

- Life Member of the Indian Institute Of Chemical Engineers
- Member of the Institute of Engineers (India)
- Chartered Chemical Engineer as Conferred by Institute Of Engineers' (India)
- Lead auditor in Environment Management System