



HSE209

Managing Complex Environmental Problems

Course Introduction:

This course deals with the subject of managing environmental problems associated with Petroleum and other Industries. It will deal with complex problems including air pollution, ground and groundwater pollution, noise and water pollution, and will also enable the attendees to develop disaster management and prevention plans as well as emergency response plans.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- ✓ Evaluate the current and anticipated environmental problems associated with plant operations and planned expansions
- ✓ Develop spill control, air incident and emergency response plans and what is required to implement those plans
- ✓ Manage complex environmental problems and advise management on risks and balance risks against costs for environmental problems

Who Should Attend?

This course is intended for engineers, senior engineers, environmental managers, supervisors, senior plant personnel and financial managers involved in risk management and operations control.

Course Outline:

Day 1:

- Introduction
- Pre Test
- Scope of the challenge in today's Industry.
- Case Studies: Bhopal, Texas City, Sevesto, Buncefield, Donora, Deepwater Horizons, and others
- Group Discussion on problems and scope and costs
- Introduction to legislative states of environmental control and disaster planning
- What is your Risk Profile and exposure?
 - Air Problems
 - Water Problems
 - Solid Waste Problems

- Groundwater and Ground Contamination
- Disasters
- Spills & Ruptures
- Leaks and Releases
- Fire and Explosion
- What is required for Response?
 - Incident Command System (US System)
 - Competent Authority (UK System)
 - EU's Emergency Management System
 - What is ISO 14000 Anyway and what does it do?

Day 2:

- The Environmental Regulations and their details in both the EU, US, and UAE
 - Air Pollution and Control
 - Water Pollution Control
 - Solid and Hazardous Wastes
 - Groundwater and Ground Contamination
 - Fundamentals of Shipping & Transportation Control
- Community Relations- How to manage

Day 3:

- Security and Plant Operations
 - A detailed look at security and how it fits in with plant security
 - What you can do about improving plant security by looking after the environment
- How to Analyze and Present Environmental Risk
 - Fault & Event Tree
 - Bayesian Analysis
 - Process Hazard Assessment and HAZOPS
 - The Colored Books
 - Quantitative Risk Assessment
 - Failure Modes Effect Analysis
 - Software Evaluation Tools for Impacts
 - Fishbone Analysis
- Group Exercise: - Project Planning - Identification of Aspects and Impacts, Prioritization of Significant Aspects with examples
- How to Display and Prioritize Risks
 - Graphical/Table displays
 - Power and Cost Functions
 - Other Quantitative Methods

Day 4:

- How to set tests and indicators for early detection
- How to Draft Management Performance Standards
- Organizing for Environmental Management
 - Revisiting the Incident Command System
 - Employee Protection Requirements
 - The Community and the LEPC
 - The Law Enforcement and Security Planning
- Security and Environmental Management

Day 5:

- Other environmental topics
- Managing Radiation & Radioactive Materials
- Group Discussion: How to improve your company's environmental Profile
- ISO 14000 Environmental Management Standard
- ISO 18001 Occupational Health and Safety Management
- ISO 45001 Occupational Health and Safety Management Systems (ANSI Z10)
- Discussion of available resources
- Post Test
- Award of Certificates

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

- Discussion
- Presentation

Course Fees:

To be advised as per the course location. This rate includes participant's manual, Hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 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

