



HSE161

Advanced Fire Fighting Systems & Rescue in Process Plants

Course Introduction:

The course will introduce the key principles of safety, security and fire management, prevention and control at a primary management level and make delegates aware of and understand the vast range of topics involved in fire, safety and security by reviewing:

Application of risk management to the three elements of fire, safety and security. What needs to be considered in managing fire, safety and security it is important that the three elements are managed in a holistic and coordinated manner? The course will be presented by professionals from the disciplines of Fire, Safety and Security management.

Many organizations fail to learn from their mistakes and near misses, some organizations even fail to learn from their fire accidents. Often, one can see the same fire accidents happening over and over again. There are many reasons why organizations do not learn to prevent the recurrence of fire accidents. When an accident occurs, it is important that it be investigated thoroughly. The results of a comprehensive fire accident report can help organizations pinpoint the cause of the accident. This information can then be used to prevent future accidents, which is the primary purpose of accident investigation.

Also, this course teaches how to lead fire investigations and root cause analyses using various techniques such as Fault Tree Analysis and Root Cause Charts. This is a "How To" course designed to teach skills.

Course Objectives:

Participants attending the course will look at:

- Management: review of operations, maintenance, engineering, inspection, fire safety and security;
- Procedures: examination of work permits, emergency plans, plant modification controls, emergency shutdown testing and engineering standards;
- Plant: assessment of standards of design and construction, layout, process controls, plant condition and housekeeping; and Protection Hardware: on-site inspection of, for example:
 - Process Units
 - Tankage
 - Utilities
 - Control Room
 - Jetty/Truck/Rail Loading
 - Firefighting Equipment
 - Security Systems

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

- Understand the moral, business and possible legal reasons for putting fire, safety and security as a core activity
- Understand the main concepts of fire, safety and security management
- Obtain a thorough understanding of risk management and how it can be applied to fire, safety and security management
- Know the effectiveness and limitations of various controls
- Understand the hierarchy of control
- Understand what a management system is and how they are key to management of fire, safety and security
- Obtain an understanding of the control measures that can be used in the management of fire, safety and security
- Understand how to encourage continuous improvement in the management of fire, safety and security

Who Should Attend?

This course is intended for all firefighters, fire safety officers, senior crews and for those who require advanced training to work on board a sea going vessel.

Course Outline:

Day 1:

Pre-Test

Overview of the Concepts of Fire, Safety & Security Management

- Fire and safety procedures whilst on the course
- Basic fire awareness
 - The fire triangle
 - Fire travel
 - Classification of fires (flashpoint, Self-ignition Temperature and products of combustion)
- Reasons for managing fire, safety and security
- Discuss why managing fire, safety and security makes good business sense
- Overview of the concepts of risk management and how they can be used as a tool in the management of fire, safety and security

Day 2:

Fire Management in High Risk Environments

- Provide an introduction into hazards associated with fire
- Nature and causes of fire
- Arson and terrorism
- Insurance
- The fire hazards and safe handling of LPG and other flammable products
- Fire spread and its control
- The effects of water on enclosed spaces (Steam, humidity, reduced visibility and stability)
- Fire detection and prevention
- Fixed installations- Co2, sprinkler, drencher, inert gas, foam, dry powder

Day 3:

Fire Management – Insight into the Principals

- Fire safety engineering
- The role of the fire authority
- Passive fire safety principles and practice
- Fire risk management and control
- Current and proposed best practice
- Practical fire-fighting- fire blanket, extinguishers ö dry powder, foam, Co2, water.
- Fire Parties and Muster Groups.
- Psychology of respiration, CABA and BA control
- Search and rescue techniques.
- Exercises in light smoke and live fire conditions

Day 4:

Fire Management - Prevention & Protection

- Detection and alarm systems
- Emergency lighting systems
- Smoke movement and control
- Sprinklers
- Means of escape
- Portable firefighting equipment
- Fire risk assessment
- Design exercise

Day 5:

Common Hazards

- Fire
- Electricity
- Work equipment
- Movement of people
- Vehicles
- Poor housekeeping
- Manual handling
- Display screen equipment
- Noise
- Chemicals and substances

Post Test

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	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

