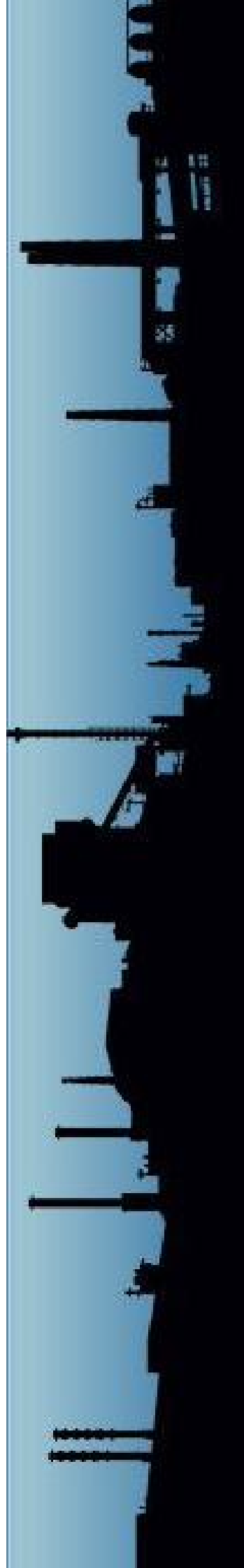




Our Business is Knowledge Transfer

Process Safety

A Eurotek training course



ERS Process Safety

An introduction:

The ERS Process Safety course covers in detail:

- The key design safety features of process equipment
- The key operational and maintenance procedures which are important in preventing process safety incidents being repeated

Learning objectives:

Upon completion of this course, participants will:

- Have an awareness of what Hazards exist in Refineries and how these hazards can be controlled
- Have an appreciation for the different types of incidents that can occur in refineries by highlighting various past industrial incidents



Who should attend?

This is a comprehensive core skills course for professionals dealing with all aspects of safety. The course will be highly valuable to all engineers involved in the operation and design of refinery facilities.

Managers – Operations, Safety, and Executive
Engineers – Process, Safety, and Mechanical
Process Safety Management
Implementation Team Members –
Anyone involved with implementation, including operators and maintenance personnel

Description:

This course provides an in-depth study of Process Safety Management. It details what can go wrong within the refinery processes and what hazards exist within the refinery environment. It details the safe limits of the individual refinery equipment in terms of pressure and temperature including the operational safety of piping systems. The key process safety design features of onsite process equipment, such as furnaces, pumps, compressors and heat exchangers, are covered, as well as offsite facilities including atmospheric tankage, pressure storage, flare and blowdown facilities.

The course then expands into operational safety covering the key aspects of operational and maintenance procedures which are important in preventing process safety incidents. Activities such as opening process equipment and bringing equipment back into service are covered in detail focussing on preventing uncontrolled releases of hydrocarbons and reducing exposure of personnel to dangerous gases such as nitrogen and hydrogen sulphide. Other operational safety topics include the safe operation of tanks, including slop operations, controlling pipeline surge, controlling brittle fracture from low temperatures and the control and prevention of static electricity.



Course Presenter

Bill Bridgens has 35 years experience in the petrochemical industry. Bill graduated with a B.Sc. in Chemical Engineering from Imperial College, London and his initial career was with Exxon Fawley refinery as process engineer, then supervisor & manager of operating plants, including two major turnarounds. In the last 25 years he worked in process safety advising refineries, chemical plants and fuels terminals around the world on both operational and technical safety issues as well as fire protection

Bill has participated in more than 30 company external assessments of operations integrity management systems at different refineries all over the world. He has conducted various Operational and Technical safety courses, including Handling Fires and Emergencies course and developed global training modules on Refinery and Chemical Plant Operational Safety topics aimed at sustaining knowledge of historical incidents in the workforce.

Particular areas of interest and expertise include operations integrity management systems, operational safety, vapour cloud explosions, blast protection, static electricity, qualitative risk assessments, fire protection, emergency response and historical incidents.



Course programme

Day 1

What Hazards Exist in a Refinery and What Can go wrong
 What is a Hazard
 What Hazards Exist
 What Can Go Wrong
 Design of Safe Process Equipment
 Design Pressure
 Design Temperature
 Operational Safety of Piping
 Thermal Expansion
 Control valves
 Utility connections
 Furnaces
 Compressors
 Heat Exchangers
 Tankage
 LPG Storage
 Pressure Relief
 Blowdown and Flare System
 Emergency Shutdown And Isolation

Day 2

Operational Safety
 Hydrogen Sulphide
 Nitrogen
 Opening-Up Process Equipment
 Taking Packed Towers Out of Service
 Bringing Equipment Back into Service
 Controlling Brittle Fracture
 Tank Operations
 Slop Operations

Day 3

Operational Safety (contd.)
 BLEVE's
 Controlling Piping Surge
 Sampling
 Furnace Flooding
 Safety Critical Equipment
 Controlling Static Electricity