

Area Classification & Control of Ignition Sources

Classified Areas Definition & Management

3.00 days

HSE/AREACLASSGB

Overview

AUDIENCE

Engineers, technicians and staff, not familiar with the concepts of safety engineering, involved in operating Oil & Gas field processing facilities or in designing Oil & Gas project architecture.

PURPOSE

This course aims to explain the flammability hazards associated to production of Oil & Gas and to describe how to define a hazardous area and the applicable operating procedures.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:

- explain the flammability hazards associated with production facilities,
- describe a scenario of loss of containment and to identify the most common hydrocarbon release points,
- identify the regulatory framework of the hazardous area classification,
- carry out the process to establish the hazardous area classification distances,
- describe the management of hot works in a process area.

WAYS AND MEANS

Several applications and illustrations.
Several case studies and teamwork sessions.

Agenda

FLAMMABILITY HAZARDS OF HYDROCARBON PROCESSING

0.75 d

Hazards and risks incurred - Consequences.
Flammability: flame ignition and propagation principles. Types of combustibles, oxidizers and most common ignition sources in process facilities.
Concept of loss of containment. Loss of containment scenario definition.
Introduction to plant layout. Identification of fired and non-fired process area. Fire zones.

PREVENTION OF HYDROCARBON IGNITION

1.25 d

Introduction to hazardous area classification methodology.
Regulatory framework. Recommended practice API RP 500. EU ATEX directive 2014/34/EU.
Classification of releases and their vicinity.
Identification of loss of containment potential points. Register.
Strategies to define classified area distances. Direct example method. Consequence analysis simulation method.
Electrical equipment and suitability with regard to hazardous area classification. Identification, labeling, maintenance and inspection.

CONTROL OF IGNITION SOURCES IN OPERATION

0.50 d

Concept of hot work. Hot work permit.
Gas testing procedure.
Exercise: risk assessment of a hot work.

CASE STUDY

Group exercise for the definition of the classified areas of a plant in a drawing.

0.50 d