Environmental Pollution & Waste Management

Overview

LEVEL
Skilled

PURPOSE
This course provides a thorough and applied knowledge of efficient techniques, industry standards and best practices for managing waste and environmental pollution.

LEARNING OBJECTIVES
Upon completion of the course, participants will be able to:
understand the stakes for the Oil & Gas industry for environmental management,
understand contents of environmental impact assessments and mitigations (treatments),
identify mitigation measures, air treatment techniques, waste water treatment, wastes treatment, soil remediation,
implement an oil spill contingency plan, including the combating strategy,
select key performance indicators and set up monitoring with environmental management plans.

WAYS AND MEANS
Highly interactive training by industry-specialist lecturers.
Numerous applications and illustrations, case studies and teamwork sessions.

LEARNING ASSESSMENT
Continuous assessments all-along the program.

PREREQUISITES
No prerequisites for this course.

Agenda

INTRODUCTION TO WASTE & POLLUTION MANAGEMENT
Environmental stakes of Oil & Gas companies and projects.
Environmental mitigation measures principles.

ATMOSPHERIC POLLUTION & TREATMENT
Air emission and pollutant inventory. Greenhouse gases.
Flare emissions reduction techniques.
Case studies:
Gas injection and gas lift.
Gas valorization strategies.
Process emissions reduction. Control of fugitive emissions.
Reduction of emissions related to power generation:
Electrification.
Energy efficiency strategies.
Logistics management to reduce emissions.
WASTE EFFLUENT POLLUTION & TREATMENT
Waste effluent inventory (production water, cooling water), pollutants.
Production water treatment and disposal:
Primary: API tanks, plate separators.
Secondary: flotation, coalescent filters, hydrocyclones.
Tertiary: membranes, biological treatments.
Chemicals and chemical treatments.
Water injection.
Drilling fluids treatment:
Water base mud recovery and cuttings treatment.
Oil base mud recovery and cuttings treatment.
Domestic effluents treatment:
Isolated camps treatment options.
Permanent camps treatment options.

OIL SPILL RESPONSE AT SEA - TECHNOLOGIES
Content of an oil spill contingency plan.
Offshore spill treatment (dispersants, booms and recovery…).
Onshore spill treatment (pumping, skimming, bioremediation, thermal desorption…).

SOLID WASTE TREATMENT TECHNOLOGIES
Chemical treatments.
Physical treatments.
Disposal methods: advantages/drawbacks.

POLLUTION & REMEDIATION TECHNIQUES
Treatment selection: in-situ, onsite, ex-situ.
When and how applying technologies: physical, chemical, biological treatments.
Case study.

MONITORING & REPORTING
Main key performance indicators related to pollution control and waste treatment.