

Training - Waste Water Treatment from Refinery and Petrochemical Units



TER-EN-P



Face-to-face only



2 days

This course provides a deeper knowledge of waste water treatment processes

Level

Skilled

Public

- Daily and shift staff in charge of operating waste water treatment units and networks
- Operators of waste units undergoing transformation to waste treatment units
- Laboratory, process, and project engineers and staff

Objectives

Attendees will be able to implement the following skills:

- Specify the regulatory criteria defining pollution in a receiving environment with regard to the various characteristics of the waste water encountered
- Identify the fundamental points of the operation and monitoring of pollution control equipment in relation to the physical and biological principles implemented

Pedagogical & technical resources

Equipment demos (material, pictures and videos)

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsible

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

LOCAL & REGIONAL REGULATIONS

0.25 day

Operating permit: structure, contents, key chapters, elaboration and updating process.
Waste water specifications. Penalties in case of violation (formal requirements, fines).

WASTE WATER CHARACTERISTICS

0.5 day

Natural sources and components. Various uses of water in operating units. Effluent rejection points.
Nature of water pollutants (hydrocarbons, acidity, suspended matters, phenols, sulfides, mercaptans).

Analytical methods used in the laboratory and through on-line analyzers. BOD, COD, TOC.
Pollution mechanisms, impact on environment (insoluble, organic carbon, eutrophization, sludge).
Measurement of pollution: pollutant concentrations, quantities by unit of time. Typical.

PHYSICO-CHEMICAL WATER TREATMENT PROCESSES

0.5 day

Process water stripping: typical process scheme, optimum operating conditions.
Settling of insoluble hydrocarbons and sludge. Settling velocity. Settler design types and improvements.
Dissolved air floatation: equipment, flocculation additives, additive mix and operating parameter optimization.
Filtration: various equipment, sand, active carbon beds, other filtration media.

BIOLOGICAL TREATMENT OF WASTE WATER

0.5 day

Growth of bacteria colonies. Required feed and nutrients. Biofiltration of process water.
Biological treatment technology: bacteria filters, activated sludge basins. Operating conditions.

BIOLOGICAL SLUDGE TREATMENT

0.25 day

Sludge physio-chemical properties
Thickening methods: settling, press filtration, flocculation-floatation, centrifugation.
Analytical test methods: dry matter, heat value, volatile fractions, heavy metals.
Treatment processes: digester, wet oxidation, thermal hydrolysis, incineration, smell control.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com