Produced Water Treatment Fundamentals

MODULE

About the Skill Module

This eLearning course introduces the technologies which govern the design and performance of Produced Water Treatment (PWT) systems. An important objective is to provide information and knowledge which a petroleum engineer needs to select and operate effective water treatment equipment. The eLearning course provides the engineer with both fundamental and practical knowledge that is needed to understand how and why specific technologies are included in a water treatment system and to evaluate or improve their performance. An overview of generic onshore and offshore PWT processes provides the focus for summarizing the configuration of “typical” water treatment systems.

Target Audience

Process/facilities engineers and senior operating personnel involved with the design and operation of oil and produced water processing facilities.

You Will Learn

- Explain the technologies that govern the design and performance of produced water treatment systems
- Explain the basic chemistry and unique characteristics of produced water, dissolved gases, dissolved minerals, dissolved and dispersed hydrocarbons, extraneous chemicals, etc.
- Define retention time, fluid velocity, nozzle sizing, inlet device design (cyclonic inlets), and outlet nozzle vortex control for primary separators
- Identify where, why, and how deoiling hydrocyclones are used for produced water treatment
- Define the designs, operating principles, capabilities, and weaknesses of dissolved gas flotation, induced gas flotation, and mechanical flotation
- Explain the operating principles for nutshell media bed filtration
- Describe the basics of membrane filtration technology
- Define the common methods for oilfield water disposal or injection
- Explain how to use Silt Density Index (SDI), NACE TMO-173 filtration tests, TOG measurements, and/or TSS measurements to define water quality
- Discuss the purposes and capabilities for the seawater injection system’s front-end technologies
- Identify the basic configuration of the media bed filter’s internals and the operating parameters for multi-media and nutshell media filters

Product Details

Categories: Energy Transition

Disciplines: Net Zero & Renewables

Levels: Foundation

Product Type: Individual Skill Module

Format: On-Demand , Online

Duration: 5 hours (approx.)

$795.00