



## Fundamental and Practical Aspects of Produced Water Treating - PF-23

### COURSE

#### About the Course

This course covers topics related to Produced Water Treatment in upstream oil and gas operations. Produced water composition and physical properties are covered. Water quality requirements for various disposal methods are addressed, including onshore surface discharge, offshore discharge to sea, and reinjection for disposal or waterflood. Regulatory requirements and analytical methods used to monitor and ensure regulatory compliance are discussed. Treatment technology is presented along with practical considerations for selecting and operating typical water treatment equipment. Representative process flow diagrams illustrate equipment selection, design features, layout, and processes. Chemical treatment options are also considered.

*"Entire course was full of useful information that can be easily translated to the field."* - Facilities Engineer, United States

*"It was a great course! Sizing of 3-phase separators as well as all of the example problems. So practical!"* - Process Engineer, United States

#### Target Audience

Managers, engineers, chemists, and senior operations personnel responsible for designing, operating, and maintaining facilities that process and manage produced water. This course will provide participants with an understanding of the technical aspects required to select, design, maintain, and troubleshoot produced water equipment.

#### You Will Learn

- How produced water compositions affect water treatment system design and performance
- How to interpret produced water analytical data and calculate common Scale Indices
- How emulsions form and contribute to water treatment challenges
- How Total Suspended Solids (TSS) affects water quality and what to do about it
- What water quality is required for surface or overboard disposal, for injection disposal, or for beneficial use
- The regulatory requirements for offshore water disposal and what is in an NPDES Permit
- What analytical methods actually measure and how to select an appropriate method
- How separators, clarifier tanks, CPIs, hydrocyclones, flotation cells, and bed filtration work and how to improve their performance

- The most common causes of water treating problems and how to diagnose and resolve them
- Typical PFDs used to illustrate operational issues

## Course Content

- Introduction to water treatment technology and issues
- Produced water chemistry and characterization
- Defining and characterizing emulsions that impact water quality and treatment
- Water quality requirements for injection or surface disposal, NPDES permits, analytical methods
- Primary water treatment technologies - separators, hydrocyclones, and CPIs
- Secondary water treatment - induced gas flotation
- Tertiary water treatment technologies - media and membrane filtration
- Chemicals and chemical treatment
- Diagnostic testing and in-field observations
- Diagnosing and resolving water treatment issues based on actual field experiences

## Product Details

Categories: [Midstream](#)

Disciplines: [Process Facilities](#)

Levels: [Foundation](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

Instructors: [Theodore \(Ted\) Frankiewicz](#)

## In-Classroom Format

14 Oct '24	18 Oct '24	-		Course		In-Classroom (in Houston)	\$4,710.00
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