



# WE099: Water Treatment Fundamentals in Industry





## Training Objectives:

By the end of the training, participants will be able to:

- ✓ Gain a basic understanding of the overview of water
- ✓ Identify the seawater use in a refinery
- ✓ Determine the seawater use for reservoir injection
- ✓ Acquire knowledge about aquifer water for onshore facilities
- ✓ Understand the water produced with crude oil well water for desalting
- ✓ Gain an in-depth knowledge about domestic sewage treatment

## Training Designed for:

This course is intended for Engineers, Operators and Lab Chemists who deals with water treatment in industry.

## Training Program:

### DAY ONE:

- ❖ Pre-test
- ❖ Overview of Water
  - Sources and important properties of water available in general facilities
  - Types of impurities in water and problems caused by the impurities
  - Water uses, disposal, and treatment as related to deferent facilities
  - Importance of sampling and analyzing water in water treatment

### DAY TWO:

- ❖ Seawater Use in a Refinery
  - Problems that impurities in seawater cause in steam generating systems
  - Multiple flash evaporator systems
  - Water treatment requirements for a steam generating system

### DAY THREE:

- ❖ Seawater Use for Reservoir Injection
  - Injection water specifications and seawater impurities
  - Treatment for prevention of biological fouling
  - Removal of suspended solids by media filters
  - Corrosion control by removal of oxygen from seawater
  - Injection water pipeline scraping

### DAY FOUR:

- ❖ Aquifer Water for Onshore Facilities
  - Problems that impurities in water cause in treatment processes and uses
  - Electrodialysis system
  - Ion exchange resin softening
  - Forced draft de-gasifier and vacuum deaerators



- Production of potable water
- Ion exchange resin demineralization
- Cooling water systems

#### DAY FIVE:

- ❖ **Water Produced with Crude Oil Well Water for Desalting**
  - Equipment used to separate produced water and salt from wet crude oil
  - Prevention of water-related problems in desalting operations
- ❖ **Domestic Sewage Treatment**
  - Domestic sewage
  - Primary wastewater treatment
  - Secondary wastewater treatment
  - Tertiary wastewater treatment
- ❖ **Course Conclusion**
- ❖ **Post-test and Evaluation**

#### Training Requirements:

“Hands-on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

#### Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

#### Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

#### Training Fees:

**As per the course location** - This rate includes participant’s manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01<sup>st</sup> of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.





## Training Timings:

### Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

### For training registrations or in-house enquiries, please contact:

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Training & Career Development Department

