Produced Water Treatment and Management in Oil Fields Training Course

OGT-1093 · 5 days · 15 CPD hours · English

OVERVIEW

Produced water treatment is a critical aspect of oil and gas operations, supporting efficient hydrocarbon production, environmental protection, water conservation and responsible resource management. Produced water is generated alongside oil and gas during extraction and may contain hydrocarbons, dissolved salts, suspended solids, production chemicals, metals and other contaminants. Its composition and volume vary according to reservoir characteristics, production conditions, field age and operational practices. Managing this water effectively requires technical expertise, reliable treatment equipment, sound operational decisions and a comprehensive understanding of environmental requirements.

The **Produced Water Treatment and Management in Oil Fields Training Course** provides participants with the technical knowledge and practical skills required to manage produced water throughout oilfield operations. Delivered within the **Water Treatment and Management for Oil & Gas** training category, this programme explores the fundamental principles, technologies, operational practices and management strategies used to treat, reuse, reinject or safely dispose of produced water in accordance with applicable requirements.

The course examines the complete produced water treatment process, from initial water characterisation and oil-water separation to advanced treatment, water quality monitoring and final water management. Participants explore the operating principles and applications of oil-water separation equipment, hydrocyclones, flotation units, filtration systems, chemical treatment processes and other treatment technologies commonly used in oilfield facilities. The programme also examines how these technologies can be integrated into treatment trains to address varying water quality conditions and operational requirements.

A major focus of the training is the selection, operation and optimisation of produced water treatment systems. Participants learn how water characteristics influence treatment performance, how operating conditions affect separation efficiency and how equipment limitations can contribute to oil carryover, solids contamination, scaling, corrosion and process instability. Through technical discussions and practical exercises, learners develop the ability to evaluate treatment systems, identify operational problems and recommend appropriate improvement measures.

The course also addresses water reinjection, produced water recycling, discharge regulations, environmental management and the economic considerations associated with oilfield water handling. Participants examine the relationship between treatment performance, reservoir compatibility, injection requirements, environmental compliance and operating costs. This knowledge helps professionals assess water management alternatives and support responsible decisions throughout the lifecycle of oil and gas production facilities.

The Oil & Gas Training Institute delivers this professional programme with a practical, industry-focused approach, helping participants connect engineering principles, process operations and water management strategies with real-world oilfield challenges. The course supports professionals responsible for production facilities, process engineering,

water treatment, environmental compliance, maintenance, operations and asset management.

By completing the training, participants will be better equipped to evaluate produced water treatment systems, optimise operational performance, contribute to water management planning and support more efficient and environmentally responsible oilfield operations.

OBJECTIVES

By the end of this five-day training course, participants will be able to:

1. Explain the sources, composition, characteristics and operational significance of produced water generated during oil and gas production.
2. Identify and analyse key produced water contaminants, including dispersed oil, suspended solids, dissolved salts, chemical residues and other impurities.
3. Assess produced water quality parameters and establish appropriate treatment requirements for discharge, reinjection or reuse.
4. Explain and evaluate the operating principles of oil-water separation equipment, hydrocyclones, flotation units, filtration systems and chemical treatment technologies.
5. Analyse produced water treatment process configurations and recommend suitable treatment combinations based on water quality, operating conditions and intended water use.
6. Identify common produced water treatment problems, including oil carryover, scaling, corrosion, fouling, solids accumulation and equipment performance deterioration.
7. Apply practical troubleshooting approaches to improve treatment efficiency, operational stability and equipment reliability.
8. Evaluate water reinjection and produced water reuse strategies against technical, environmental, reservoir and operational requirements.
9. Interpret relevant discharge regulations, environmental monitoring requirements and water quality criteria applicable to oilfield water management.
10. Develop practical produced water management improvement strategies that support operational efficiency, risk reduction, environmental responsibility and cost control.

TRAINING METHODOLOGY

The Produced Water Treatment and Management in Oil Fields Training Course uses a practical, technical and interactive learning approach to help participants understand the engineering principles behind produced water systems and apply them to oilfield operating environments.

The programme combines instructor-led learning with technical discussions, process analysis, case studies, practical exercises and collaborative problem-solving activities.

- **Interactive presentations and technical discussions:** Participants explore produced water chemistry, treatment fundamentals, process configurations, separation technologies and management practices through structured presentations and instructor-led discussions.

- **Process equipment analysis:** Participants examine the operating principles, applications, limitations and performance considerations of hydrocyclones, flotation units, separators, filtration equipment and other produced water treatment technologies.

- **Practical treatment system exercises:** Learners work through treatment scenarios involving water quality parameters, separation efficiency, treatment selection, process performance and operating conditions.

- **Real-world oilfield case studies:** Participants analyse practical situations involving oil carryover, poor separation performance, injection water quality problems, treatment equipment failures and environmental compliance challenges.

- **Scenario-based troubleshooting:** Training exercises simulate operational challenges such as unstable oil-water separation, excessive solids loading, scaling, chemical dosing issues, filtration problems and equipment inefficiencies.

- **Collaborative workshops:** Participants work in groups to evaluate treatment configurations, compare alternative treatment technologies, identify improvement opportunities and develop practical water management strategies.

- **Water management planning activities:** Participants explore the development of produced water handling, treatment, reinjection, reuse and disposal strategies based on facility constraints and water quality requirements.

- **Experience sharing and professional discussions:** Learners exchange operational experiences, discuss field challenges and explore approaches for improving produced water treatment performance across different oilfield environments.

The training methodology emphasises practical application, technical understanding and decision-making skills that participants can transfer to their operational responsibilities.

ORGANISATIONAL IMPACT

Effective produced water treatment and management can contribute significantly to oilfield operational efficiency, environmental performance, production reliability and cost optimisation. Organisations that strengthen their water treatment capabilities can improve the performance of production facilities while reducing risks associated with inefficient water handling, inadequate treatment and uncontrolled disposal.

The course supports organisational development in the following areas:

Improved Oilfield Operational Efficiency

Participants develop a better understanding of produced water treatment equipment, process configurations and operating conditions. This can help organisations improve separation performance, reduce avoidable operational disruptions, optimise treatment processes and support more reliable production facilities.

Better Water Management and Resource Utilisation

The training helps organisations evaluate opportunities for water recovery, recycling, reuse and reinjection. Improved water management strategies can reduce dependence on freshwater resources where technically and economically feasible, while supporting more efficient utilisation of water generated during production.

Reduced Operational Costs

Understanding treatment system performance, equipment limitations, chemical requirements and maintenance considerations enables organisations to identify opportunities for reducing unnecessary chemical consumption, equipment downtime, water disposal expenses and inefficient operating practices.

Strengthened Environmental Compliance

Participants develop an understanding of environmental considerations associated with produced water discharge, handling, treatment and disposal. This knowledge supports better monitoring, more informed compliance planning and the implementation of appropriate operational controls aligned with applicable regulations and site-specific requirements.

Improved Risk Management

Produced water systems can present operational, environmental and equipment-related risks. The course helps organisations strengthen their ability to identify treatment failures, assess water management risks, recognise process limitations and implement appropriate corrective actions.

Enhanced Equipment Reliability and Maintenance Planning

Improved knowledge of scaling, corrosion, fouling, solids accumulation, chemical compatibility and treatment equipment performance can support maintenance planning, equipment inspection and reliability improvement initiatives.

More Effective Technical Decision-Making

Professionals gain the knowledge required to evaluate treatment technologies, compare process alternatives, assess operational constraints and contribute to engineering decisions concerning produced water systems, treatment upgrades and facility improvements.

Stronger Cross-Functional Collaboration

Produced water management requires coordination between production operations, process engineering, environmental management, maintenance, reservoir engineering and facility teams. The course encourages a more integrated understanding of water treatment responsibilities, supporting effective communication and collaborative problem-solving.

Support for Sustainable Oilfield Operations

By strengthening produced water recovery, treatment, reuse and management practices, organisations can contribute to more responsible water resource management, improved environmental performance and the long-term sustainability of oilfield operations.

PERSONAL IMPACT

Attending the Produced Water Treatment and Management in Oil Fields Training Course enables participants to strengthen their technical knowledge, improve their operational judgement and develop practical skills relevant to oilfield water treatment responsibilities.

The course offers several professional benefits:

Enhanced Technical Expertise

Participants develop a comprehensive understanding of produced water characteristics, treatment processes, separation technologies, filtration, chemical treatment and water management systems. This knowledge strengthens their ability to understand treatment operations and evaluate technical challenges.

Improved Troubleshooting and Problem-Solving Skills

Participants learn to recognise common treatment system problems, assess their possible causes and identify practical solutions. This supports more confident responses to operational challenges such as oil carryover, solids contamination, scaling, fouling and inconsistent treatment performance.

Greater Confidence in Operational Decisions

A stronger understanding of treatment technologies, water quality requirements and equipment limitations enables professionals to contribute more effectively to operational discussions, treatment system reviews and process improvement decisions.

Better Understanding of Water Reinjection and Reuse

Participants gain insight into the requirements associated with reinjection and reuse, including water quality considerations, reservoir compatibility, filtration requirements, scaling risks, corrosion concerns and the importance of application-specific specifications.

Improved Environmental and Compliance Awareness

The course helps professionals understand the environmental implications of produced water handling and the importance of discharge regulations, monitoring, treatment performance and responsible water management.

Stronger Professional Communication

Participants improve their ability to communicate technical concerns, explain treatment system limitations, discuss water quality results and contribute to coordinated decision-making involving production, engineering, maintenance and environmental teams.

Career Development and Professional Growth

The programme supports professional development for individuals working in oilfield operations, water treatment, production engineering, process engineering, environmental management and facility management. Its practical focus can help participants strengthen their technical capabilities and prepare for greater responsibilities in water treatment and production facility management.

WHO SHOULD ATTEND

The Produced Water Treatment and Management in Oil Fields Training Course is designed for professionals involved in oilfield production, water treatment, facility operations, environmental management and water resource planning.

The programme is particularly suitable for:

- **Production Engineers:** Professionals responsible for oil and gas production systems who need to understand produced water treatment, separation performance and water management requirements.
- **Process Engineers:** Engineers involved in designing, analysing, optimising and troubleshooting produced water treatment systems and process facilities.
- **Oilfield Operations Managers:** Managers responsible for production facility performance, operational efficiency, water handling systems and treatment plant management.
- **Production Operators and Field Supervisors:** Personnel responsible for operating separators, hydrocyclones, flotation units, filtration systems and other produced water treatment equipment.
- **Water Treatment Engineers and Specialists:** Professionals involved in produced water treatment technology selection, system optimisation, water quality assessment and treatment process improvement.
- **Environmental Engineers and Environmental Managers:** Professionals responsible for environmental compliance, discharge management, monitoring programmes and produced water handling practices.
- **Maintenance and Reliability Engineers:** Specialists responsible for equipment reliability, inspection, maintenance planning and identifying causes of treatment system deterioration.
- **Reservoir Engineers:** Professionals involved in evaluating water injection requirements, reservoir compatibility, injection water quality and water management strategies.
- **Chemical Engineers and Oilfield Chemical Specialists:** Professionals involved in chemical treatment programmes, demulsifier selection, corrosion inhibitors, scale inhibitors and treatment process optimisation.

- **Facility Engineers and Asset Managers:** Personnel involved in facility planning, treatment system upgrades, operating performance reviews and asset improvement programmes.
- **HSE Professionals:** Specialists responsible for environmental risk management, operational safety, water disposal practices and compliance-related responsibilities.
- **Technical Consultants and Oilfield Service Professionals:** Consultants and service providers involved in produced water treatment solutions, process equipment, technical assessments and water management projects.

The course is also suitable for technical professionals transitioning into produced water management responsibilities and individuals seeking to strengthen their understanding of oilfield water treatment systems.

COURSE OUTLINE

Produced Water Fundamentals, Characterisation and Oilfield Water Management

Oil-Water Separation Technologies and Primary Produced Water Treatment

Advanced Produced Water Treatment, Filtration and Process Optimisation

Water Reinjection, Reuse, Discharge Regulations and Environmental Management

Troubleshooting, Operational Reliability and Produced Water Management Planning

SCHEDULED DATES

Dates	Venue	Format	Fee
18 - 22 Jan 2027	Abu Dhabi, United Arab Emirates	In person	On request
18 - 22 Jan 2027	Abuja, Nigeria	In person	On request
18 - 22 Jan 2027	Accra, Ghana	In person	On request
18 - 22 Jan 2027	Addis Ababa, Ethiopia	In person	On request
18 - 22 Jan 2027	Al Ain, United Arab Emirates	In person	On request
18 - 22 Jan 2027	Al Khobar, Saudi Arabia	In person	On request
18 - 22 Jan 2027	Alberta, Canada	In person	On request
18 - 22 Jan 2027	AlUla, Saudi Arabia	In person	On request

Dates	Venue	Format	Fee
18 - 22 Jan 2027	Amman, Jordan	In person	On request
18 - 22 Jan 2027	Amsterdam, The Netherlands	In person	On request
18 - 22 Jan 2027	Athens, Greece	In person	On request
18 - 22 Jan 2027	Baku, Azerbaijan	In person	On request
18 - 22 Jan 2027	Barcelona, Spain	In person	On request
18 - 22 Jan 2027	Berlin, Germany	In person	On request
18 - 22 Jan 2027	Boston, USA	In person	On request
18 - 22 Jan 2027	Brussels, Belgium	In person	On request
18 - 22 Jan 2027	Budapest, Hungary	In person	On request
18 - 22 Jan 2027	Cairo, Egypt	In person	On request
18 - 22 Jan 2027	Cape Town, South Africa	In person	On request
18 - 22 Jan 2027	Casablanca, Morocco	In person	On request
18 - 22 Jan 2027	Dammam, Saudi Arabia	In person	On request
18 - 22 Jan 2027	Dhahran, Saudi Arabia	In person	On request
18 - 22 Jan 2027	Doha, Qatar	In person	On request
18 - 22 Jan 2027	Dubai, United Arab Emirates	In person	On request
18 - 22 Jan 2027	Edinburgh, United Kingdom	In person	On request
18 - 22 Jan 2027	Edmonton, Canada	In person	On request
18 - 22 Jan 2027	Frankfurt, Germany	In person	On request
18 - 22 Jan 2027	Geneva, Switzerland	In person	On request
18 - 22 Jan 2027	Houston, USA	In person	On request
18 - 22 Jan 2027	Istanbul, Turkey	In person	On request
18 - 22 Jan 2027	Jakarta, Indonesia	In person	On request
18 - 22 Jan 2027	Jeddah, Saudi Arabia	In person	On request
18 - 22 Jan 2027	Jubail, Saudi Arabia	In person	On request
18 - 22 Jan 2027	Khamis Mushait, Saudi Arabia	In person	On request

Dates	Venue	Format	Fee
18 - 22 Jan 2027	Kigali, Rwanda	In person	On request
18 - 22 Jan 2027	Kuala Lumpur, Malaysia	In person	On request
18 - 22 Jan 2027	Lisbon, Portugal	In person	On request
18 - 22 Jan 2027	Liverpool, United Kingdom	In person	On request
18 - 22 Jan 2027	London, United Kingdom	In person	On request
18 - 22 Jan 2027	Los Angeles, USA	In person	On request
18 - 22 Jan 2027	Luanda, Angola	In person	On request
18 - 22 Jan 2027	Madrid, Spain	In person	On request
18 - 22 Jan 2027	Manama, Bahrain	In person	On request
18 - 22 Jan 2027	Marbella, Spain	In person	On request
18 - 22 Jan 2027	Marrakech, Morocco	In person	On request
18 - 22 Jan 2027	Miami, USA	In person	On request
18 - 22 Jan 2027	Milan, Italy	In person	On request
18 - 22 Jan 2027	Munich, Germany	In person	On request
18 - 22 Jan 2027	Muscat, Oman	In person	On request
18 - 22 Jan 2027	Nairobi, Kenya	In person	On request
18 - 22 Jan 2027	New York, USA	In person	On request
18 - 22 Jan 2027	Nice, France	In person	On request
18 - 22 Jan 2027	Oslo, Norway	In person	On request
18 - 22 Jan 2027	Paris, France	In person	On request
18 - 22 Jan 2027	Port Louis, Mauritius	In person	On request
18 - 22 Jan 2027	Prague, Czech Republic	In person	On request
18 - 22 Jan 2027	Pretoria, South Africa	In person	On request
18 - 22 Jan 2027	Riyadh, Saudi Arabia	In person	On request
18 - 22 Jan 2027	Rome, Italy	In person	On request
18 - 22 Jan 2027	Sarajevo, Bosnia and Herzegovina	In person	On request

Dates	Venue	Format	Fee
18 - 22 Jan 2027	Sharm El Sheikh, Egypt	In person	On request
18 - 22 Jan 2027	Singapore, Singapore	In person	On request
18 - 22 Jan 2027	Stockholm, Sweden	In person	On request
18 - 22 Jan 2027	Tokyo, Japan	In person	On request
18 - 22 Jan 2027	Toronto, Canada	In person	On request
18 - 22 Jan 2027	Tromso, Norway	In person	On request
18 - 22 Jan 2027	Vienna, Austria	In person	On request
18 - 22 Jan 2027	Zagreb, Croatia	In person	On request
18 - 22 Jan 2027	Zurich, Switzerland	In person	On request
18 - 22 Jan 2027	Online, Virtual	Online	On request

CERTIFICATE