

COURSE OVERVIEW TE0138(OX1)
Produced Water Treatment

Course Title

Produced Water Treatment

Course Date/Venue

Session 1: February 10-14, 2025/Fujairah
 Meeting Room, Grand Millennium
 Al Wahda Hotel, Abu Dhabi, UAE
 Session 2: September 07-11, 2025/Boardroom
 1, Elite Byblos Hotel Al Barsha, Dubai,
 UAE



Course Reference
 TE0138(OX1)



Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.



This course is designed to provide participants with a detailed and up-to-date overview of produced water treatment for steam re-injection. It covers the SAC-SAC including regeneration and optimization, effective brine distribution, basis of design and limitation, daily surveillance, effective KPI's, process troubleshooting and fault finding; the walnut shell filter and multimedia filter vessels including their design and limitation, daily surveillance, KPI's, process troubleshooting and fault finding; and the type of cleaning for the media.



During this interactive course, participants will learn the warm line softening clarifier including its design and limitation, daily surveillance, KPI's, process troubleshooting and fault finding, chemical dosing optimization and sludge bed quality; and dewatering filter press covering working mechanisms, design and limitation, daily surveillance, KPI's, process troubleshooting and fault finding.

Course Objectives

Upon the successful completion of this course, each participant will be able to: -

- Apply and gain a comprehensive knowledge on produced water treatment for steam injection purposes including ion exchange process covering SAC-SAC, walnut vessels operation, MMFS, clarifier and filter press
- Explain SAC-SAC including regeneration and optimization, effective brine distribution, basis of design and limitation, daily surveillance, effective KPI's, process troubleshooting and fault finding
- Compare and discuss walnut shell filter and multimedia filter vessels including their design and limitation, daily surveillance, KPI's, process troubleshooting and fault finding as well as the type of cleaning for the media
- Determine warm line softening clarifier including its design and limitation, daily surveillance, KPI's, process troubleshooting and fault finding, chemical dosing optimization and sludge bed quality
- Recognize dewatering filter press covering working mechanisms, design and limitation, daily surveillance, KPI's, process troubleshooting and fault finding

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.

Who Should Attend

This intermediate and advanced course is intended for utility engineers, water treatment engineers, chemists, boiler plant engineers, designers responsible for plant utilities; energy conservation and environmental engineers; managers and operators for industrial processes using steam and/or cooling water; managers and operators of combined cycle generating plants; technical representatives for chemical treatment and service companies; technical representatives for companies involved in the manufacture or sales of boilers, heat exchangers, cooling towers and related instruments.

Course Fee

US\$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation


Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course completed a minimum of 80% of the total tuition hours.


Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Kyle Bester is a **Senior Maintenance & Water Engineer** with extensive years of practical experience within the **Oil & Gas, Power & Water Utilities** and other **Energy** sectors. His expertise includes **Condition Monitoring System, Maintenance Planning & Scheduling, Maintenance Planning Process, Maintenance Shutdown & Turnaround, Maintenance Audit Best Practices, Maintenance & Reliability Management, Reliability Engineering, Maintenance & Reliability Best Practices, Reliability, Availability & Maintainability (RAM), Root Cause Analysis, Reliability-Centered Maintenance (RCM), Reliability Engineering Analysis (RE), Root Cause Analysis (RCA), Asset Integrity Management (AIM), Reactive & Proactive Maintenance, Mechanical & Rotating Equipment Troubleshooting & Maintenance, Maintenance Management & Cost Control, Preventive & Predictive Maintenance, Pumps & Troubleshooting, Compressors, Gas & Steam Turbines, Valves, Bearings & Lubrication and Boiler Inspection & Maintenance.** Further, he is also well-versed in **Water Reservoir, Water Tanks, Water Pumping Station, Water Distribution System, Water Network System, Water Pipes & Fittings, Water Hydraulic Modelling, Water Storage Reservoir, Reservoirs & Pumping Stations Design & Operation, Pumping Systems, Interconnecting Pipelines, Water Network Hydraulic Simulation Modelling, Water Supply Design, Water Balance Modelling, Water Distribution Network, Water Network System Analysis, Water Forecasts Demand, Water Pipelines Materials & Fittings, Water Network System Design, Pump Houses & Booster Pumping Stations, Potable Water Transmission, Water Distribution Network, Districts Meters Areas (DMAs), Water Supply & Desalination Plants Rehabilitation, Water Reservoirs & Pumping Stations, Water Network System Extension, Water Network System Replacement & Upgrade, Water Networks Optimization, Water Supply & Distribution Systems Efficiency & Effectiveness, Pipe Materials & Fittings, Service Reservoir Design & Operation, Pipes & Fittings, Water Network System Design & Operation, Supply Water Network Rehabilitation, Water Loss Reduction, Main Water System Construction, Main Water Line Construction, Transmission & Distribution Pipelines, Water Distribution Design & Modelling, Water Supply System, Oilfield Water Treatment, Best Practice in Sewage & Industrial Wastewater Treatment & Environmental Protection, Water Distribution Design & Modelling, Desilting, Treating & Handling Oily Water, Water Chemistry for Power Plant, Water Sector Orientation, Environmental Impact Assessment (EIA).** He is currently the **Part Owner & Manager** of Extreme Water SA wherein he manages, re-designed and commissioned a water and wastewater treatment plants.

During his career life, Mr. Bester has gained his practical and field experience through his various significant positions and dedication as the **Project Manager, Asset Manager, Water Engineer, Maintenance Engineer, Mechanical Engineer, Supervisor, Team Leader, Analyst, Process Technician, Landscape Designer** and **Senior Instructor/Trainer** for various international companies, infrastructures, water and wastewater treatment plants from New Zealand, UK, Samoa, Zimbabwe and South Africa, just to name a few.

Mr. Bester holds a **Diploma in Wastewater Treatment** and a **National Certificate in Wastewater & Water Treatment.** Further, he is a **Certified Instructor/Trainer, an Approved Chemical Handler** and has delivered numerous courses, trainings, conferences, seminars and workshops internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will be always met:-

Day 1

0730 – 0800	<i>Registration & Coffee</i>
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	SAC-SAC <i>SAC-SAC Regeneration and Optimization (1PPM TH) • Effective Brine Distribution (Counter Flow and Co-Current Flow)</i>
0930 – 0945	<i>Break</i>
0945 – 1100	SAC-SAC (cont'd) <i>Basis of Design and Limitation</i>
1100 – 1230	SAC-SAC (cont'd) <i>Effective KPI's</i>
1230 – 1245	<i>Break</i>
1245 – 1420	SAC-SAC (cont'd) <i>Daily Surveillance • Process Troubleshooting and Fault Finding</i>
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0930	Walnut Shell Filter <i>Basis of Design and Limitation</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Walnut Shell Filter (cont'd) <i>Daily Surveillance</i>
1100 – 1230	Walnut Shell Filter (cont'd) <i>Effective KPI's</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Walnut Shell Filter (cont'd) <i>Process Troubleshooting and Fault Finding • Type of Cleaning for the Media</i>
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>



Day 3

0730 – 0930	Multi-Media Filter Vessels Basis of Design and Limitation
0930 – 0945	Break
0945 – 1100	Multi-Media Filter Vessels (cont'd) Daily Surveillance
1100 – 1230	Multi-Media Filter Vessels (cont'd) Effective KPI's
1230 – 1245	Break
1245 – 1420	Multi-Media Filter Vessels (cont'd) Process Troubleshooting and Fault Finding • Type of Cleaning for the Media
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4

0730 – 0930	Warm Lime Softening Clarifier Basis of Design and Limitation • Daily Surveillance and Process Stabilization • Effective KPI's
0930 – 0945	Break
0945 – 1100	Warm Lime Softening Clarifier (cont'd) Process Troubleshooting and Fault Finding
1100 – 1230	Warm Lime Softening Clarifier (cont'd) Chemical Dosing Optimization
1230 – 1245	Break
1245 – 1420	Sludge Bed Quality
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 – 0930	Dewatering Filter Press Working Mechanisms • Basis of Design and Limitation
0930 – 0945	Break
0945 – 1100	Dewatering Filter Press (cont'd) Daily Surveillance
1100 – 1230	Dewatering Filter Press (cont'd) Effective KPI's
1230 – 1245	Break
1245 – 1345	Dewatering Filter Press (cont'd) Process Troubleshooting and Fault Finding
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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