COURSE OVERVIEW TE0154(PA4)
Operations Engineering
Cooling & Potable Water Systems

Course Title
Operations Engineering: Cooling & Potable Water Systems

Course Date/Venue
Session 1: January 27-31, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: August 24-28, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
TE0154(PA4)

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is essential for maintaining safe and efficient operations across upstream, midstream, and downstream facilities. Cooling water systems play a crucial role in regulating temperatures in heat exchangers, condensers, compressors and other critical equipment, preventing overheating and ensuring optimal performance.

These systems often use seawater, freshwater, or treated industrial water in once-through or closed-loop configurations, with proper treatment to prevent scaling, fouling and corrosion. Potable water systems supply clean, safe drinking water for personnel and process applications, requiring filtration, disinfection and continuous quality monitoring to meet health and safety standards.

Effective water treatment, flow regulation, and routine maintenance are vital to optimizing energy efficiency, reducing environmental impact and ensuring uninterrupted operations in offshore platforms, refineries and petrochemical plants.

Course Objectives

The objective of this course is to provide the basic operation and maintenance principles of potable water and to present the technical approaches/best practices that need to be implemented in the applicable fields and its subcontracted O&M. Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a basic knowledge on the operation and maintenance principles of the potable water
- Determine the basics of network function and operation
- Acquire basic maintenance
- Establish the importance of water quality operations
- Get an overview of O&M contract

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 course provides an overview of all significant aspects and considerations of operations engineering: cooling and potable water systems for operations engineers, facility managers, environmental engineers, maintenance technicians, water treatment plant operators, HVAC technicians and engineers, students in environmental science or engineering programs, sustainability consultants and managers and those who are involved in operation, maintenance, or design of water and cooling systems.

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 Fee

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

Course Certificate(s)

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

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- 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.

- 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.

Accommodation

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

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 Water Engineer** with extensive years of practical experience within the **Oil & Gas**, **Power & Water Utilities** and other **Energy** sectors. His expertise includes **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**), **Potable Water**, **Reverse Osmosis** Treatment Technology and **Chlorination** System, **Well** Inventory, Monitoring & Conservation, **Qualitative Analysis** of Soil & Ground Water, **Water** Networking, **Hydraulic Modelling** Systems, **Pumping** Stations, **Centrifugal Pumps**, **Pipelines & Pumping**, **Water Reservoirs**, **Water Storage Tanks**, Extended Activated **Sludge** Treatment, **Sewage & Industrial Wastewater** Treatment & Environmental Protection, Supervising & Monitoring **Sewage Works**, **Water Desalination** Technologies, **Water Distribution & Pump** Station, Best **Water Equipment** Selection & Inspection, **Hydraulic Modelling** for Water Network Design, **Water Utility** Industry, **Water Desalination** Technologies & New Development, **Water Hydrology**, **Water Conveyors**, **Water Networks** Rehabilitation. 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**, **Manager**, **Water 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.

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 always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Basics of Network Function***
0930 – 0945	*Break*
0945 – 1100	***Basics of Network Function (cont'd)***
1100 – 1230	***Basics of Network Function (cont'd)***
1230 – 1245	*Break*
1245 – 1430	***Basics of Network Function (cont'd)***
1430	*Lunch & End of Day One*

Day 2

0730 – 0900	***Basics of Network Operation***
0900 – 0915	*Break*
0915 – 1100	***Basics of Network Operation (cont'd)***
1100 – 1230	***Basics of Network Operation (cont'd)***
1230 – 1245	*Break*
1245 – 1430	***Basics of Network Operation (cont'd)***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Maintenance Basics***
0930 – 0945	*Break*
0945 – 1100	***Maintenance Basics (cont'd)***
1100 – 1215	***Maintenance Basics (cont'd)***
1215 – 1230	*Break*
1230 – 1430	***Maintenance Basics (cont'd)***
1430	*Lunch & End of Day Three*

Day 4

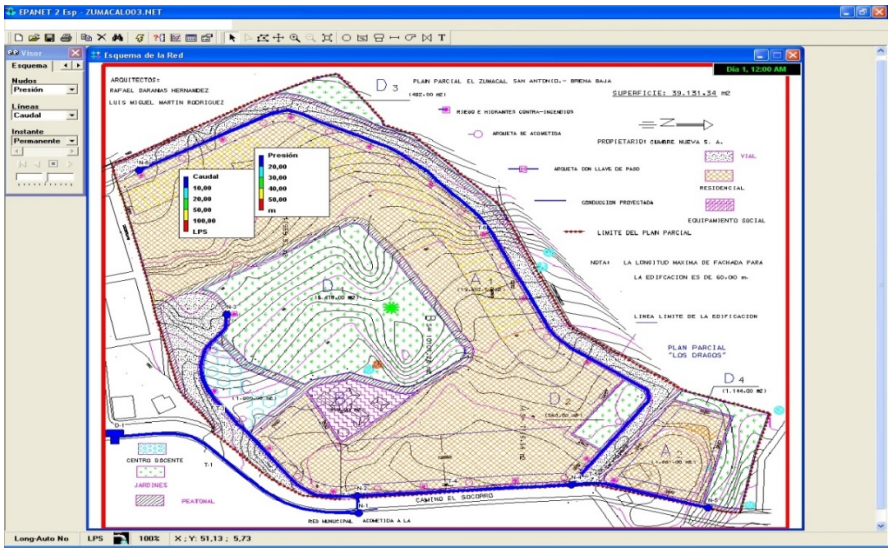
0730 – 0930	***Importance of Water Quality Operations***
0930 – 0945	*Break*
0945 – 1100	***Importance of Water Quality Operations (cont'd)***
1100 – 1215	***Importance of Water Quality Operations (cont'd)***
1215 – 1230	*Break*
1230 – 1430	***Importance of Water Quality Operations (cont'd)***
1430	*Lunch & End of Day Four*

Day 5

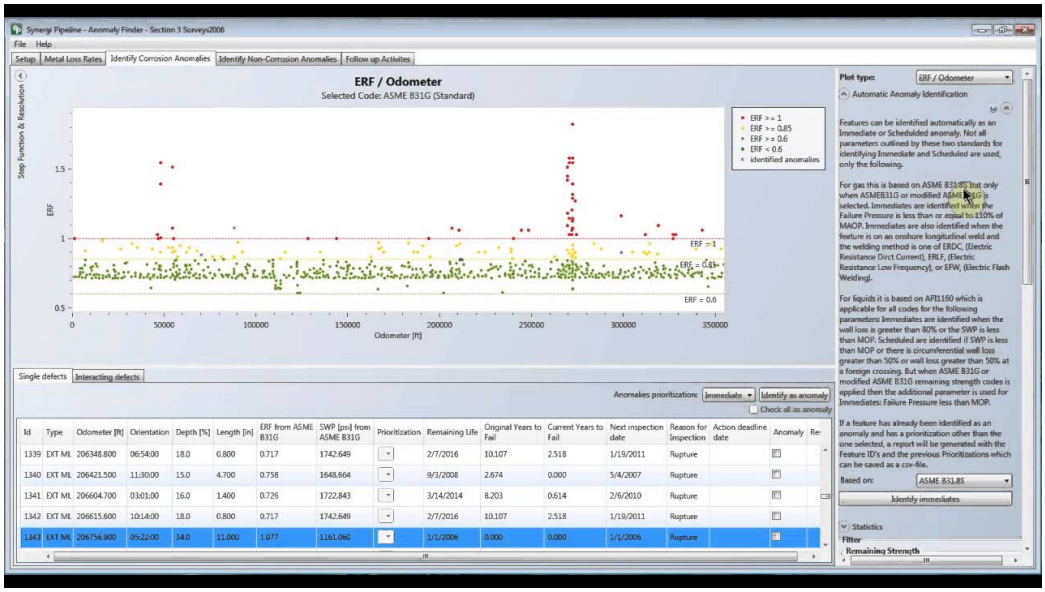
0730 – 0930	***Overview of O&M Contract***
0930 – 0945	*Break*
0945 – 1100	***Overview of O&M Contract (cont'd)***
1100 – 1215	***Overview of O&M Contract (cont'd)***
1215 – 1230	*Break*
1230 – 1400	***Overview of O&M Contract (cont'd)***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

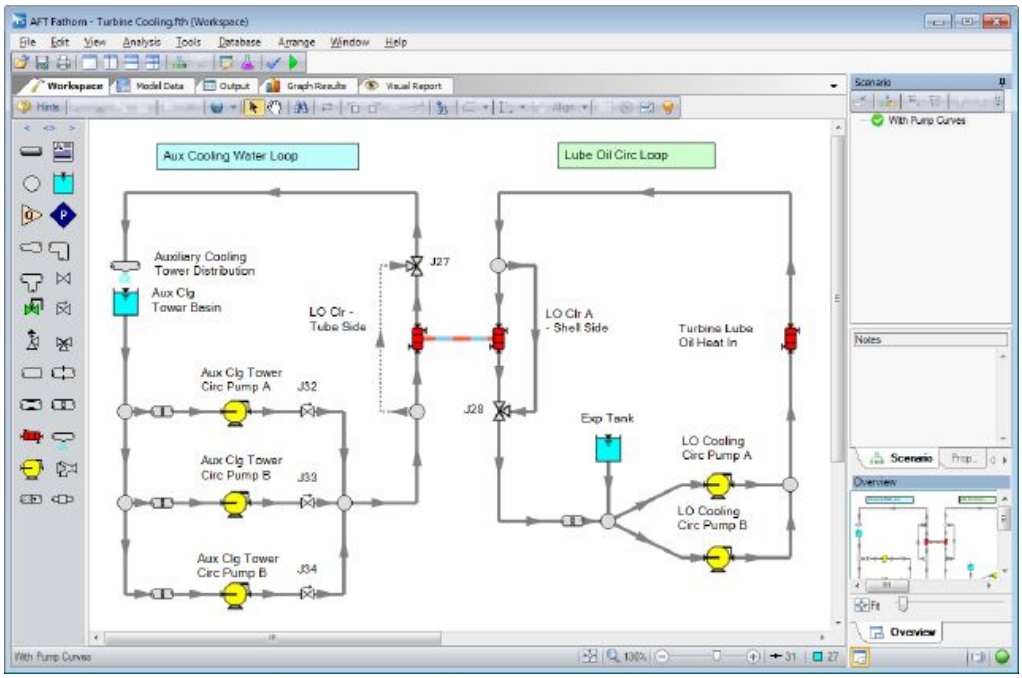
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the latest revision of "EPANET", "Synergi Pipeline", "AFT Fathom" and "WaterGEMS" simulators.



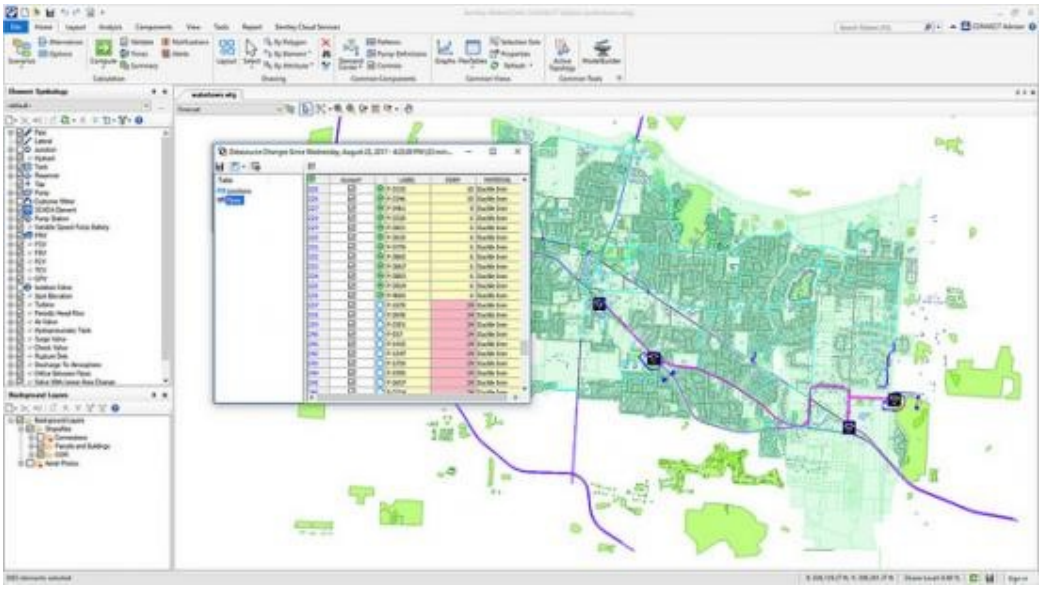
EPANET Simulator



Synergi Pipeline



AFT Fathom



WaterGEMS

Course Coordinator
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