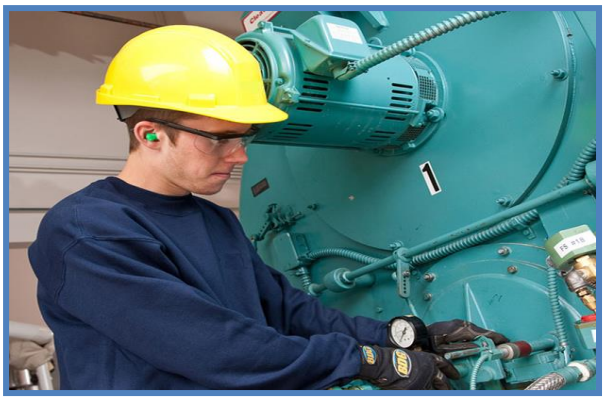
COURSE OVERVIEW ME0180
Boiler & Steam System Management
Performance, Efficiency, Troubleshooting, Tune-Up, Heat Recovery & Optimization

Course Title
Boiler & Steam System Management: *Performance, Efficiency, Troubleshooting, Tune-Up, Heat Recovery & Optimization*



Course Reference
ME0180

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

Course Date/Venue

Session(s)	Date	Venue
1	September 08-12, 2024	Horus Meeting Room, Holiday Inn & Suites Maadi, Cairo, Egypt
2	November 10-14, 2024	
3	January 12-16, 2025	

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 provides practical information that can be readily applied to pinpoint and minimize energy losses in boiler plants and energy distribution systems. Participants will be guided through their plant system component by component, showing exactly where and how performance can be improved. Facts will be given on different fuel types and firing methods, and how modern high-efficiency boiler designs and control systems work.

Following easy-to-implement guidelines and helpful, time-saving diagrams-participants will go over strategies to methodically achieve the maximum utilization of fuel and energy to keep operating costs low and equipment performance high.

In addition to the comprehensive training manual, the course includes an e-book entitled "*Boiler Operator's Guide*", published by McGraw-Hill Professional, which will be given to the participants to help them appreciate the principles presented in the course.

Course Objectives

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

- Apply and gain an in-depth knowledge on boiler and steam system management
- Perform boiler tuning-up and identify its troubleshooting problems
- Discuss waste heat recovery
- Use test instruments and computers to cut costs in an effective manner
- Apply standard plant calculations including boiler plant safety, boiler controls and 60 ways to improve the plant
- Carryout steam distribution systems, steam traps and pollution control

Who Should Attend

This course provides an overview of all significant aspects and considerations of boiler and steam system management for facilities engineers, operating engineers, energy engineers, managers, supervisory personnel, designers, inspectors, consultants and other technical staff who are involved in the performance, efficiency, troubleshooting, tune-up, heat recovery and optimization of boiler and steam system. The course will provide a clear and refreshing examination of boilers and their systems. It covers a range from very large to small boiler systems and is not specifically oriented toward utility plants.

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 + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), 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:-

- 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.

- 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.

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. Hossam Kachwar is a **Senior Engineer** with extensive years of **Onshore** & **Offshore** experience within the **Oil** & **Gas**, **Refinery** and **Petrochemical** industries. His wide expertise covers in the areas of **Process Plant Shutdown**, **Turnaround & Troubleshooting**, **Process Equipment**, **Mechanical Integrity**, **Maintenance** Management, **Reliability** Management, **Reliability** Best Practices, **Maintenance Strategies**, **Rotating Equipment** Failure Analysis, **Reliability** Optimization, **Reliability Centered Maintenance**, **Risk & Reliability** Engineering, **Pump Technology**, **Pump** Construction & Installation, **Pump** Performance, **Mechanical Shaft Seals**, **Petroleum** Engineering, **Subsurface Mapping**, **Geostatistical Modeling** Techniques, Formation Evaluation Measurement, **Drilling Hazards** & **Drilling Bit** Optimization, **Geological & Hydrocarbon** Evaluation, Gas Ratio Analysis & Interpretation, **Reservoir Characterization** (Permeability & Porosity), Structural **Geology**, **Fracture Prediction**, **Fault Seal** Analysis, **Mudlogging & Wireline Operations**, **Coring/Casing**, **Geological** Report, **Drilling** Parameters Monitoring, **Data Analysis** and **Geological** Interpretation. Currently, he is the **Senior Operation & Modeler Geologist** wherein he is responsible in analyzing rocks from the oil and gas wells and involve in geotestical modelling techniques as well as generating and using engineering geological models.

During Mr. Hossam's career life, he has gained his thorough and practical experience through his various positions as the **Contractor Wellsite Geologist**, **Consultant Geologist**, **Mud Logger Geologist**, **Data Engineer**, **Pressure Engineer** and **Instructor/Trainer** for Petro-China, Petro-Canada, Suncor Energy Company, Baker Hugs, Geoservices and PetroServices, just to name a few.

Mr. Hossam has a **Bachelor** degree in **Geology**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, seminars, conferences and workshops globally.

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 – 0900	***How to Tune-up a Boiler***
0900 – 0915	*Break*

0915 – 1115	***How to Tune-up a Boiler (cont'd)***
1115 – 1215	***Troubleshooting Problems***
1215 – 1230	*Break*
1230 – 1420	***Troubleshooting Problems (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0900	***Waste Heat Recovery***
0900 – 0915	*Break*
0915 – 1030	***Waste Heat Recovery (cont'd)***
1030 – 1215	***Use of Test Instruments***
1215 – 1230	*Break*
1230 – 1420	***Use of Test Instruments (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0900	***Using Computers to Cut Costs***
0900 – 0915	*Break*
0915 – 1045	***Using Computers to Cut Costs (cont'd)***
1045 – 1215	***Standard Plant Calculations***
1215 – 1230	*Break*
1230 – 1420	***Standard Plant Calculations (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

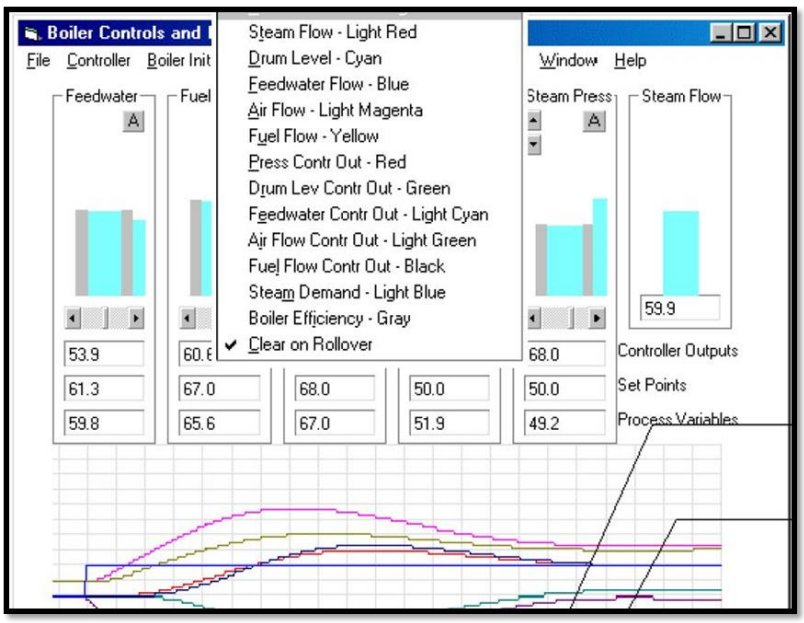
0730 – 0900	***Boiler Plant Safety***
0900 – 0915	*Break*
0915 – 1045	***Boiler Controls***
1045 – 1215	***60 Ways to Improve your Plant***
1215 – 1230	*Break*
1230 – 1420	***Steam Distribution Systems***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0900	***Steam Traps***
0900 – 0915	*Break*
0915 – 1030	***Steam Traps (cont'd)***
1030 – 1215	***Pollution Control***
1215 – 1230	*Break*
1230 – 1345	***Pollution Control (cont'd)***
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

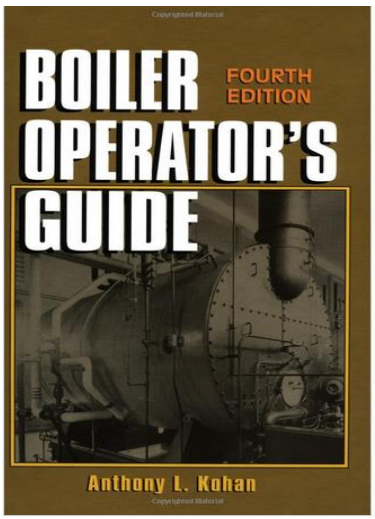
Practical session will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the simulator "Win Boiler Sim".



Win Boiler Sim

Book(s)

As part of the course kit, the following e-book will be given to all participants:



Title : Boiler Operator's Guide
ISBN : 978-0070365742
Author : Anthony Kohan
Publisher : McGraw-Hill Professional

Course Coordinator

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