COURSE OVERVIEW PE0085
Oil & Gas Field Operations

Gas Processing, Hydrates, Dehydration, Sweetening, NGL Recovery & Fractionation, Oil Production, Desalting, Stabilization, Storage Tanks, Mixers, Meter Proving, Cargo Calculations & Flow Measurement

Course Title

Oil & Gas Field Operations: *Gas Processing, Hydrates, Dehydration, Sweetening, NGL Recovery & Fractionation, Oil Production, Desalting, Stabilization, Storage Tanks, Mixers, Meter Proving, Cargo Calculations & Flow Measurement*

Course Reference

PE0085

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	January 28-February 01, 2024	The Mouna Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE
2	February 25-29, 2024	Oryx Meeting Room, Doubletree By Hilton Doha-Al Sadd, Doha, Qatar
3	March 03-07, 2024	Kizkulesi, Crown Plaza Istanbul Asia Hotels & Convention Center, Istanbul, Turkey

Course Description

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

Oil or gas wells produce a mixture of hydrocarbon gas, condensate, or oil; water with dissolved minerals, usually including a large amount of salt; other gases, including nitrogen, carbon dioxide (CO_2), and possibly hydrogen sulphide (H_2S); and solids, including sand from the reservoir, dirt, scale and corrosion products from the tubing.

For the hydrocarbons (gas or liquid) to be sold, they must be separated from the water and solids, measured, sold and transported by pipeline, truck, rail, or ocean tanker to the user. Gas is usually restricted to pipeline transportation but can also be shipped in pressure vessels on ships, trucks, or railroad cars as compressed natural gas or converted to a liquid and sent as a liquefied natural gas (LNG). This course discusses the field processing required before oil and gas can be sold.

This course is designed to provide participants with a detailed and up-to-date overview of oil and gas field operations. It covers the properties of crude oil; crude assay; types and accessories of tanks; operation and inspection guidelines; corrosion and cathodic protection; tank gauging; tank mixers; meter proving and calculations; meter proving; meter factor and calculations; crude tank cleaning; and gas freeing and line pigging.

The course will also discuss the physical properties of gases; gas liquid separation; hydrates and water content of gas; hydrate inhibition and dehydration of gas; NGL recovery; short cycle units; low temperature separation; mechanical refrigeration; and turbo expander; gas sweetening; amine gas sweetening; MEA loading and corrosion; and amine reclaimer.

Course Objectives

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

- Apply and gain an in-depth knowledge on oil and gas field operations including gas processing, hydrates, dehydration, sweetening, NGL recovery & fractionation, oil production, desalting, stabilization, storage tanks, mixers, meter proving, cargo calculations, flow measurement and same safety aspects
- Discuss properties of crude oil, crude assay, types and accessories of tanks, operation and inspection guidelines, corrosion and cathodic protection and tank gauging
- Recognize tank mixers, meter proving and calculations, meter proving, meter factor and calculations
- Apply crude tank cleaning, gas freeing and line pigging
- Describe physical properties of gases, gas liquid separation, hydrates and water content of gas, hydrate inhibition and dehydration of gas
- Discuss NGL recovery, short cycle units, low temperature separation, mechanical refrigeration and turbo expander
- Differentiate between gas sweetening and amine gas sweetening and identify MEA loading and corrosion and amine reclaimer

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, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.*

Who Should Attend

This course is intended for those seeking a complete and detailed overview of the various operations that take place in the oil and gas fields. This includes managers, engineers, supervisors and other technical staff. Further, the course is very useful for new recruits and for those who just started to handle responsibilities related to oil and gas operations.

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. Mohammad Hamami, is a **Senior Process Engineer** with an extensive practical experience within the **Oil**, **Gas**, **Refinery**, **Petrochemical** and **Power** industries. His experience covers **Process Plant** Troubleshooting, **Process Plant Optimization** Technology, **Process Reactors**, **Engineering Problem Solving**, **Process Plant** Performance & Efficiency, **Process Plant** Start-up & Shutdown, **Process Plant** Commissioning, **Process Plant** Turn-around & Shutdown, Process Plant Optimization, Rehabilitation, Revamping & Debottlenecking, **Clean Fuel** Technology & Standards, **Clean Fuel** Specification, Emission Regulation, **Crude Oil** Production, **Propane Recovery**, **Full Crude Oil Assay** Analysis, **Desulphurization**, Synthesis **Gas Production**, **Naphtha** Isomerization, **Diesel Fuel Additives**, **Storage Tanks** Filtration, **Fuel Quality** Inspection, **Process Plant** Troubleshooting & Engineering Problem Solving, **Process Equipment** Operation, **Process Plant** Operation, **Process Plant** Start-up & Commissing, **Process Plant** Optimization, **Oil & Gas Field** Operation, **Oil Movement**, Storage & Troubleshooting, **Petroleum Refinery** Process, **Process Reactor** Operation & Troubleshooting, **LPG Oil & Gas** Operation & Troubleshooting, **Crude Oil & LNG** Storage, **LNG & LPG** Plants Gas Processing, **Refinery Process** Operations Technology, **Liquid Bulk Cargo Handling**, **Gas Conditioning** & Processing Technology, **Distillation Column** Design & Operation and **Gasoline & Diesel Fuel** Technology. Further he is also well-versed in **Refinery** Operational Economics & Profitablity, Aromatics Manufacturing Process, **Hydrogen Production** Operation, **Steam Reforming** Technology, **Gas Treating**, **Hydro-treating & Hydro-Cracking**, **Catalyst** Material Handling, Gas Sweetening & Sulfur Recovery, Hydro Carbon Dew Point (HCDP) Control, **Heat Exchangers** & Fired Heaters, **Amine** Gas Sweetening, **Plastic Additives** Selection & Application, **Crude & Vaccum** Process Technology, **Flare & Pressure Relief Systems**, Stock Management & **Tank Dipping** Calculation, **NGL Recovery & Fractionation**, **Refrigerant & NGL Extraction** and **Catalytic Craking & Reforming.**

During his long professional carreer, Mr. Mohammad worked as a **Refinery Manager**, **Operations Manager**, **Section Head/Superintendent** and **Process Engineer** for **Process Units**, **Utilities & Oil Movement** in various companies. He has been responsible for a number of **technological-driven world-scale hydrocarbon processing projects** from **beginning to successful start-up**.

Mr. Mohammad has a **Bachelor's** degree in **Chemical Engineering**. He is an **active member** of the **American Institute of Chemical Engineers** (**AIChE**) and has presented **technical papers** at its **several national meetings**. He has largely participated in the **start-up of seven world-scale process plants** which made him an **International Expert** in **Process Plant Start-Up** and **Oil Movement** and a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**).

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

Dubai	**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.
Doha	**US$ 6,000** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	**US$ 6,000** 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 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	***Oil Production, Recovery, Dehydration & Desalting***
0900 – 0930	***Properties of Crude Oil***
0930 – 0945	*Break*
0945 – 1030	***Crude Assay***
1030 – 1130	***Types of Tanks***
1130 – 1230	***Accessories of Tanks***
1230 – 1245	*Break*
1245 – 1315	***Operation & Inspection Guidelines***
1315 – 1345	***Corrosion & Cathodic Protection***
1345 – 1420	***Tank Gauging***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0810	***Tank Mixers***
0810 – 0850	***Meter Proving & Calculations***
0850 – 0930	***Meter Proving***
0930 – 0945	*Break*
0945 – 1130	***Meter Factor & Calculations***
1130 – 1230	***Crude Tank Cleaning***
1230 – 1245	*Break*
1245 – 1315	***Gas Freeing & Line Pigging***
1315 – 1345	***Gas Freeing & Pigging***
1345 – 1400	***Case Study***
1400 – 1420	***DVD, Question & Answer***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0810	***Physical Properties of Gases***
0810 – 0930	***Gas Liquid Separation***
0930 – 0945	*Break*
0945 – 1030	***Exercise***
1030 – 1130	***Hydrates & Water Content of Gas***
1130 – 1230	***Hydrate Inhibition***
1230 – 1245	*Break*
1245 – 1315	***Dehydration of Gas***
1315 – 1330	***Exercise***
1330 – 1420	***Question & Answer, DVD***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***NGL Recovery***
0830 – 0900	***Short Cycle Units***
0900 – 0930	***Low Temperature Separation***
0930 – 0945	*Break*
0945 – 1100	***Low Temperature Separation (cont'd)***
1100 – 1230	***Mechanical Refrigeration***
1230 – 1245	*Break*
1245 – 1330	***Turbo Expander***
1330 – 1420	***Question & Answer, DVD***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

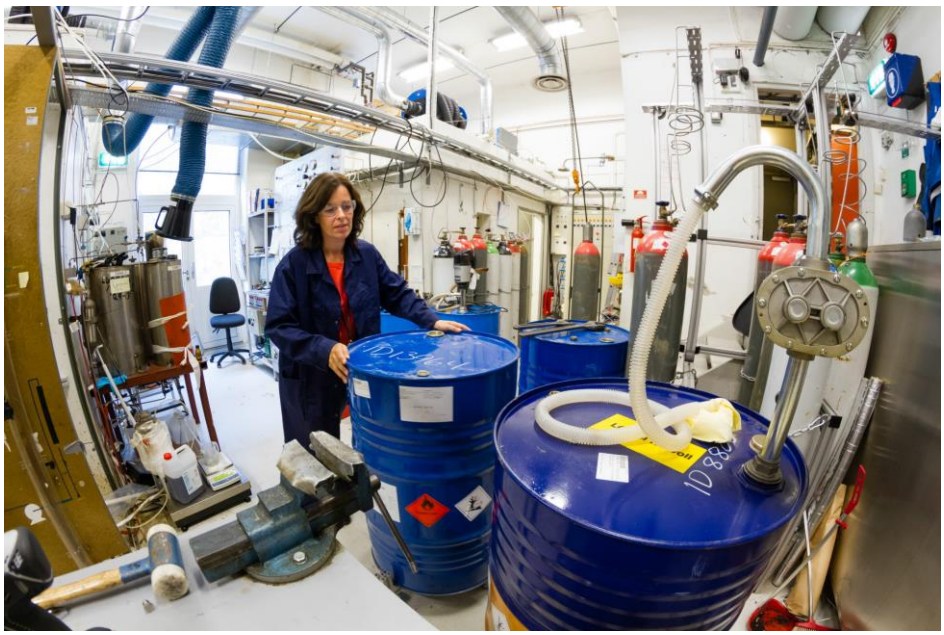
Day 5

0730 – 0830	***Gas Sweetening***
0830 – 0930	***Amine Gas Sweetening***
0930 – 0945	*Break*
0945 – 1145	***MEA Loading & Corrosion***
1145 – 1230	***Amine Reclaimer***
1230 – 1245	*Break*

1245 – 1300	***Question & Answer***
1300 – 1345	***DVD***
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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