COURSE OVERVIEW PE0010
Oil Movement, Storage & Troubleshooting

Course Title
Oil Movement, Storage & Troubleshooting

Course Date/Venue
November 10-14, 2024/Boardroom, DoubleTree By Hilton Doha-Al Sadd, Doha, Qatar

Course Reference
PE0010

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 designed to provide participants with a complete and up-to-date overview of the oil movement, storage and troubleshooting in modern refineries, process plants, oil/gas fields and marine terminals. It covers oil and gas transportation from the production fields to the refinery, process plant or the exporting facilities through land or sea.

Participants of the course will be able to identify the different types of tank; review and improve the operation of a tank farm; illustrate the process of gas freeing of tanks and vessels; determine the various methods of gauging tanks; and employ crude oil processing in modern refineries, marine terminals and oil plants.

The course will also cover LPG refrigeration; handling and bulk storage; terminal custody transfer, tank calibration and strapping, tank gauging technique, pulse radar and continuous wave radar and temperature compensation; leak detection system, the correct system, reliability, sensitivity, leak localization, pipeline observer and leakage classifier; production losses and the types of leaks; fatigue crack, stress corrosion cracking, surged induced vibration and meter performance; marine terminal and SPM operations; various product specifications; blending; tank mixing; meters and meter proving; crude oil and leaded gasoline tanks cleaning; and static electricity including its importance in oil movement, storage and troubleshooting.

Finally, the course will identify the oil spill emergencies; review the operation and cathodic protection of gas transmission lines; explain the pigging of crude and gas pipelines; demonstrate the process of ship loading; recognize the role and the importance of quality assurance, control and work permit system; discuss the ship shore interface; and apply the supervision, control and communication as well as the discussion prior to cargo transfer, ship shore check list and firefighting.

Course Objectives

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

- Apply a comprehensive overview of the oil movement and storage operations in refineries, process plants, oil/gas fields and marine terminals
- Acquire knowledge on oil production, recovery, dehydration and desalting and understand the description and installation of a tank farm
- Identify the different types of tank and review and improve the operation of a tank farm
- Illustrate the process of gas freeing of tanks and vessels and determine the various methods of gauging tanks
- Employ crude oil processing in modern refineries, marine terminals and oil plants and discuss LPG refrigeration, handling and bulk storage
- Implement terminal custody transfer and carryout tank calibration and strapping, tank gauging technique, pulse radar and continuous wave radar and temperature compensation
- Carryout leak detection system, find the correct system and recognize reliability, sensitivity, leak localisation, pipeline observer and leakage classifier
- Monitor and control production losses and identify the types of leaks
- Define fatigue crack, stress corrosion cracking, surged induced vibration and meter performance
- Describe marine terminal and SPM operations and explain the various product specifications
- Perform blending, tank mixing, meters and meter proving and cleaning of crude oil and leaded gasoline tanks
- Discuss static electricity and recognize its importance in oil movement, storage and troubleshooting
- Identify oil spill emergencies and review the operation and cathodic protection of gas transmission lines
- Increase knowledge on pigging of crude and gas pipelines and demonstrate the process of ship loading
- Recognize the role and importance of quality assurance, control and work permit system
- Discuss ship shore interface and apply supervision, control and communication as well as discussion prior to cargo transfer, ship shore check list and firefighting

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 oil movement, storage and troubleshooting for process, production, operation, oil movement and storage engineers, managers, supervisors and other technical staff dealing with oil movement and storage in refineries, process plants, oil/gas fields, marine terminals and other exporting facilities.

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$ 6,000 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 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.

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:

Dr. Faysal Eliyan, PhD, MSc, BSc, is a **Senior Engineer** with extensive years of experience within the **Oil & Gas**, **Petroleum** and **Refinery** industries. His expertise widely covers in the areas of **De-Sulfurization Technology**, **Process Plant** Equipment, **Process Equipment Design**, Sizing, Selection, Applications & Troubleshooting, **Process Plant Optimization** Technology & Continuous Improvement, **Plant Operation**, **Troubleshooting & Optimization**, **Gas Conditioning & Processing**, **Plant Layout Optimization**, **Concrete Structural Design**, **Concrete Maintenance & Reliability Analysis**, **Civil Engineering** Drawings, Standards & Codes, **Civil Engineering** Design, Petrochemical Plant Structure Design & Remediation, Elements of **Applied Civil Engineering**, **Dynamic Analysis of Rotating Equipment** Foundations **& Structural Steel Piperacks**, **Concrete & Structural Steel Design**, **Steel Structure Design**, Advanced **Building Construction Technology**, **Structural Engineering** Techniques, **Structural Renovation of Buildings**, **Earthwork & Structural Maintenance**, **Surface Drainage**, **Drainage System**, **Building Envelopes & Finishes**, **Landscaping & Roofing** System, **Seismic Design** for Buildings, **AutoCAD**, Advanced **Seismic & Wind Design of Reinforced Concrete**, **Structural** Systems & Components, Design of **Concrete Columns & Beam Frames**, Design of **Foundations & Equipment Footings**, **Maintenance of Concrete Structure**s, **Structural Reliability Assessment**, **Codes & Structural Reliability**, Probabilistic Evaluation of Existing Structures, **Structural Steel**, **Precast Concrete** and **Reinforced Polymer Layered Steel**. Further, he is also well-versed in **Gas Turbines**, **Steam Turbines, Heat Exchangers** Inspection, Testing & Overhaul Cleaning, Heating, Ventilation & Air Conditioning (**HVAC**), **Fans & Blowers**, **Heaters** & **Boilers**, **Compressors**, **Maintenance Planning & Scheduling**, **Pumps & Compressors** Operation & Maintenance, **Valves Technology** Selection, Installation & Troubleshooting, **Cooling Towers**, **Rotating Equipment**, **Turbomachinery**, **Condition Monitoring** & **Diagnostics**, **Hydraulic** & **Pneumatic Systems** Maintenance & Troubleshooting, **Piping Systems**, **Corrosion Control** & **Materials Selection** in Oil and Gas and Water Systems, **Machinery Alignment** & **Balancing**, **Maintenance Management**, **Operational Problems & Failure Analysis**, **Energy Performance Assessment** of **Powerplants**, **Plant Operations**, **Project Management**, **Six Sigma** and **Health**, **Safety** & **Environment**.

During his career life, Dr. Faysal has gained his practical and field experience through his various significant positions and dedication as the **Assistant Professor**, **Senior Consultant**, **Laboratory Instructor**, **Lecturer**, **Tutor**, **Mentor**, **Advisor**, **Trainer**, **Engineering Manager**, **Senior Engineer**, **Senior Project Engineer**, **Engineer** and **Adjudicator** from various institutions and universities such as the Community College of Qatar, American University of the Middle East, McMaster University, The University of British Columbia, The University of British Columbia, Qatar University and General Electric, just to name a few.

Dr. Faysal has **PhD**, **Master** and **Bachelor** degrees in **Engineering** from the **University of British Columbia** (**Canada**). He is a **Certified Instructor/Trainer**, a member of the **Chamber of Civil Engineers**, **Structural Stability Research Council**, **American Institute of Steel Construction** and **American Society of Civil Engineers** (**ASCE**), **USA**. He also **published numerous books**, **researches** and **scientific papers** and received several awards and recognitions for **Journal of Materials Engineering and Performance** and has further delivered numerous trainings, courses, seminars, workshops and conferences 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: ***Sunday, 10th of November 2024***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Oil Production, Recovery, Dehydration & Desalting***
0930 – 0945	*Break*
0945 – 1130	***General Description & Installation of a Tank Farm***
1130 – 1300	***Types of Tank***
1300 – 1315	*Break*
1315 – 1420	***General Operation of a Tank Farm***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: ***Monday, 11th of November 2024***

0730 – 0930	***Gas Freeing of Tanks & Vessels***
0930 – 0945	*Break*
0945 – 1045	***Methods of Gauging Tanks***
1045 – 1300	***Crude Oil Processing***
1300 – 1315	*Break*
1315 – 1345	***LPG Refrigeration, Handling & Bulk Storage***
1345 – 1420	***Terminal Custody Transfer*** *Tank Calibration & Strapping • Tank Gauging Technique • Pulse Radar & Continuous Wave Radar • Temperature Compensation*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: ***Tuesday, 12th of November 2024***

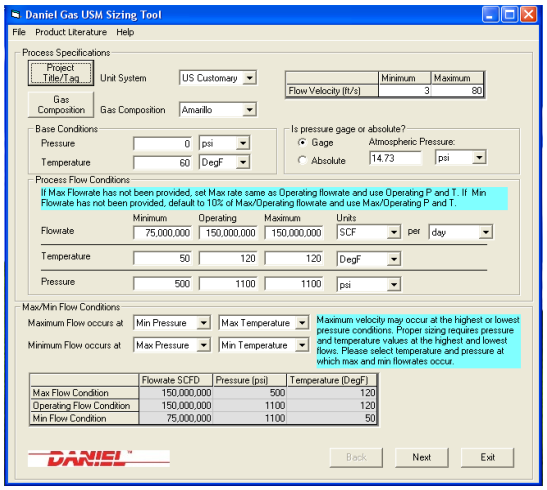
0730 – 0900	***Leak Detection System*** *Finding the Correct System • Reliability • Sensitivity • Leak Localisation • Pipeline Observer • Leakage Classifier*
0900 – 0915	*Break*
0915 – 1100	***Monitoring & Controlling Production Losses*** *Types of Leakes • Fatigue Crack • Stress Corrosion Cracking • Surged Induced Vibration • Meter Performance*
1100 – 1230	***Marine Terminal & SPM Operations***
1230 – 1245	*Break*
1245 – 1345	***Product Specifications***
1345 – 1420	***Blending***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4:	Wednesday, 13th of November 2024
0730 – 0815	***Tank Mixing***
0815 - 0900	***Meters & Meter Proving***
0900 – 0915	*Break*
0915 – 1100	***Cleaning of Crude Oil & Leaded Gasoline Tanks***
1100 – 1230	***Static Electricity***
1230 – 1245	*Break*
1245 – 1420	***Oil Spill Emergencies***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

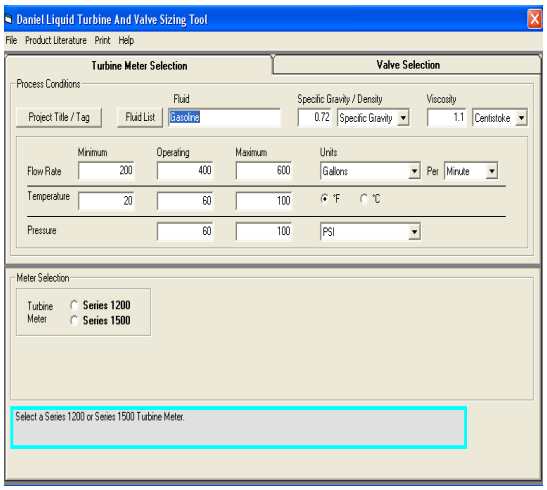
Day 5:	Thursday, 14th of November 2024
0730 – 0900	***Gas Transmission Lines: Operation & Cathodic Protection***
0900 – 0915	*Break*
0915 – 1100	***Pigging of Crude & Gas Pipelines***
1100 – 1230	***Ship Loading***
1230 – 1245	*Break*
1245 – 1315	***Quality Assurance, Control & Work Permit System***
1315 - 1345	***The Ship Shore Interface*** *Supervision & Control • Communications • Discussion Prior to Cargo Transfer • Ship-Shore Check List • Fire Fighting*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulators (Hands-on Practical Sessions)

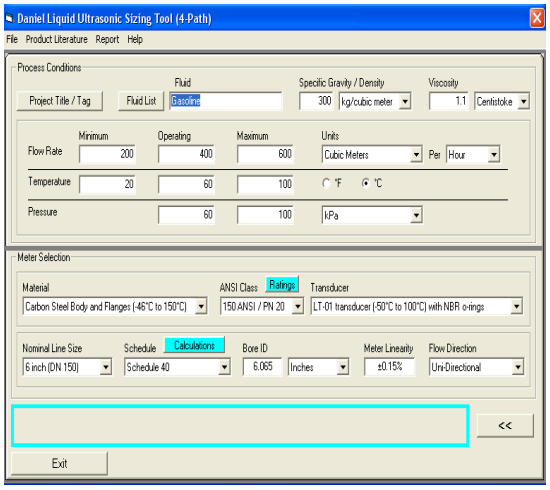
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art simulators “Gas Ultrasonic Meter Sizing Tool”, “Liquid Turbine Meter and Control Valve Sizing Tool”, “Liquid Ultrasonic Meter Sizing Tool”, “Orifice Flow Calculator” and “ASPEN HYSYS” simulator.



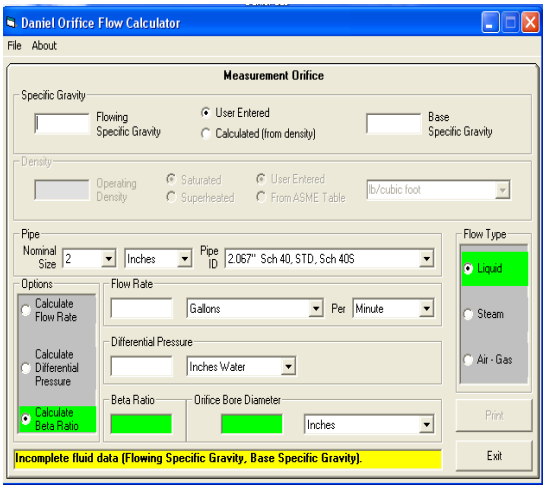
Gas Ultrasonic Meter (USM) Sizing Tool Software



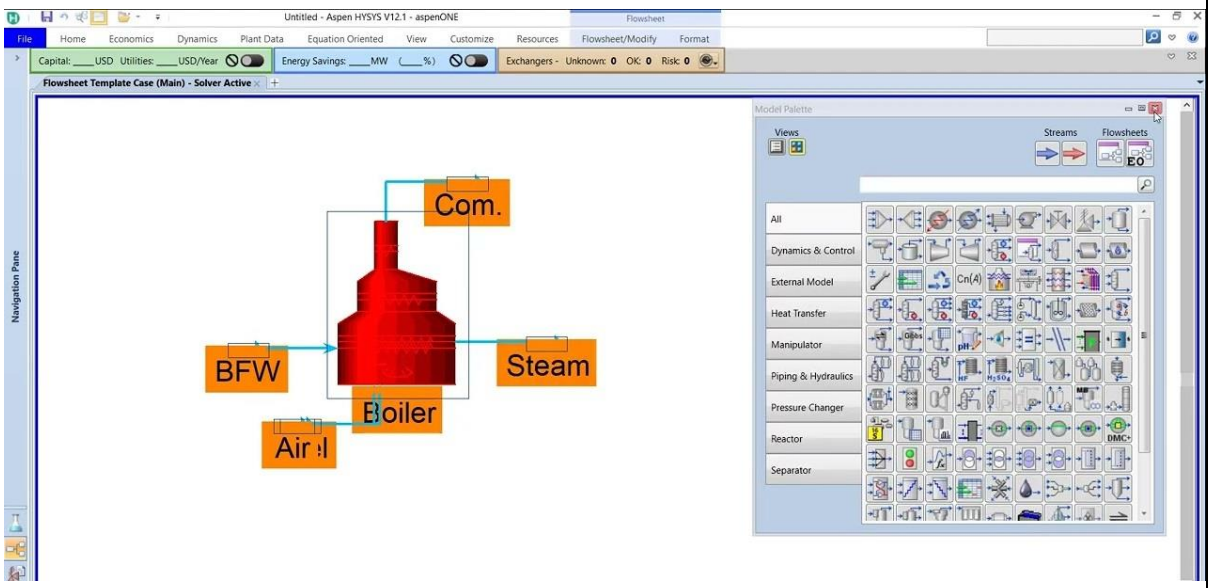
Liquid Turbine Meter and Control Valve Sizing Tool Software



Liquid Ultrasonic Meter Sizing Tool Software



Orifice Flow Calculator Software



ASPEN HYSYS V12.1 Simulator

Course Coordinator

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