COURSE OVERVIEW PE0364
Tank Farm Operations

Course Title
Tank Farm Operations

Course Date/ Venue
Session 1: June 03-07, 2024/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: July 15-19, 2024/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
PE0364

Course Duration
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 an up-to-date overview of Tank Farm Operations. It covers the operations, role and importance of tank farms in refineries; the products stored in tank farms and various types of storage tanks; the tank farm layout and design including safety standards and regulations; the basic operations of tank farms in refinery including receiving and storing crude oil, product dispatch and pipeline transfers; the operation of tanks including working pressure, maximum filling, failure and inspection frequency; the tank maintenance preparation, gas freeing, the ganging methods and sampling.

Further, the course will also discuss the LPG handling, bulk storage, filing limits and safety rules, refrigeration of propane and vapor recovery system; the production specification, blending and tank mixing, flow meters, positive displacement, turbine and ultrasonic meter; the meter proving and meter factor; cleaning of crude tank, taking a tank out of service and putting back in service; and the static electricity in tank farm and oil spills.

During this interactive course, participants will learn the examples of hazards in tank farm; the quality assurance in tank farm and work permit system; the fired heaters and centrifugal, reciprocating and positive displacement pumps; the types of valves and filters; and the pressure, flow, temperature and level instrumentation.

Course Objectives

Upon the successful completion of this course, participants will be able to:

- Apply and gain an-depth knowledge on tank farm operations
- Discuss the operations, the role and importance of tank farms in refineries
- Identify the products stored in tank farms and the various types of storage tanks
- Illustrate tank farm layout and design as well as implement safety standards and regulations
- Carryout the basic operations of tank farms in refinery including receiving and storing crude oil, product dispatch and pipeline transfers
- Apply several operation of tanks including working pressure, maximum filling failure and inspection frequency
- Carryout tank maintenance preparation, gas freeing, ganging methods and sampling
- Employ LPG handling, bulk storage, filing limits and safety rules, refrigeration of propane and vapor recovery system
- Review production specification and increase knowledge in blending and tank mixing
- Determine the concepts of flow meters, positive displacement, turbine and ultrasonic meter, meter proving and meter factor
- Employ the procedures of cleaning of crude tank, taking a tank out of service and putting back in service
- Recognize static electricity in tank farm and oil spills, examples of hazards in tank farm, pigging of crude and product and gas pipelines
- Implement quality assurance in tank farm and work permit system
- Identify fired heaters, centrifugal, reciprocating and positive displacement pumps, valves, filters and pressure, flow, temperature and level in instrumentation

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 provides an overview of all significant aspects and considerations of tank farm operations for oil storage and export managers, tank farm managers, process engineers, operators, senior operators, plant operators, superintendents, supervisors, section heads and shift supervisors, foremen and other technical staff.

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:-

- 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

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. Henry Beer is a **Senior Process Engineer** with over **35 years** of indepth industrial experience within the **Petrochemical**, **Oil & Gas** industries specializing in **Hydrocarbon Process** Equipment, **DOX Unit** Operation & Troubleshooting, **Polyethylene & Polypropylene** Processing, **Oil Movement** Storage & Troubleshooting, **Power Plant Chemistry**, **Fuel Quality** Monitoring System Fundamentals, **Liquid Bulk Cargo Handling**, **Oil Refinery Cost Management**, **Flare & Blowdown** Operation, **Pressure Relief Systems** Maintenance & Troubleshooting, Refinery **SRU**, **Tail Gas** Treating, **Sour Water & Amine Recovery** Units, **Propylene** Compressor and Turbine, **Tank Farm** Operations, **Tank Farm** Layout & Design, **Tank Farm** Management, **Clean Fuel** Technology & Standards, Principles of **Operations Planning**, **Heat Exchangers & Fired Heaters** Operation & Troubleshooting, **Plastic Extrusion Technology** Operation & Troubleshooting, **Chemical Engineering** for Non-Chemical Engineers, **Process Plant** Troubleshooting, **Process Plant Optimization** Technology, **Engineering Problem Solving**, **Process Plant** Performance & Efficiency, **Process Plant** Start-up & Shutdown, **Process Plant** Commissioning, **Process Plant** Turn-around & Shutdown, **Pumps & Compressors** Troubleshooting, **Fired Heaters & Air Coolers** Maintenance, **Pressure Vessels & Valves** Repair, **Polymers**, **Plastics**, **Polyolefin** & **Catalysts**, **Polymerization**, **Thermal Analysis Techniques**, **Rheology**, **Thermoplastics**, **Thermosets**, **Coating Systems** and **Fibre Reinforced Polymer Matrix Composites**. Further, he is also well-versed in **Water Hydraulic Modelling**, **Efficient** Shutdowns, Turnaround & Outages, **Pump** Selection and Installation, Operation and Maintenance of **Pumps**, **Demand & Supply** Management, **Catalyst Manufacturing Techniques**, **Fuel Systems Management**, **Aviation Fuel**, **Diesel**, **Jet Fuel**, **Petrol** and **IP Octane**, **Cetane Control** and related Logistics, Road, Rail and Pipeline Distribution, **Process Design** and **Optimisation**, **Boiler Feed Water Preparation**, **Flocculation Sedimentation**, **Hot Lime Water Softening Processes**, **Desalination Processes**, **Reverse Osmosis**, **Molecular Sieves**, activated **Sludge Aerobic/Anaerobic**, **Sludge Removal** and **Incineration Process Control**, **Domestic Sewage Plants Optimisation**, **Process Cooling Water System**, **High Pressure** and **Low Pressure Hydrocarbon** and **Chemical products** and **GTL** (**Gas to Liquids**).

During his career life, Mr. Beer holds significant key positions such as the **Director**, **Global Commissioning Manager**, **Process Engineering Manager**, **Senior Business Analyst**, **Process Engineer**, **Chemical Engineer**, **Senior Technician**, **Technical Sales Engineer**, **Entrepreneur**, **Financial Consultant**, **Business Analyst**, **Business Financial Planner** and **Independent Financial Planner** to various international companies such as the **Sasol**, **SASOLChem**, **TAG Solvents**, **Virgin Solvent Products**, **SARS** & **SAPIA** (**South African Petroleum Industry Association**) and **RFS Financial Services** (**Pty**) **Ltd**.

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 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 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	***Introduction to Tank Farm Operations in Refinery***
0930 – 0945	*Break*
0945 – 1030	***Role & Importance of Tank Farms in Refineries***
1030 – 1130	***Overview of Products Stored in Tank Farms***
1130 – 1230	***Types of Storage Tanks***
1230 – 1245	*Break*
1245 – 1330	***Tank Farm Layout & Design***
1330 – 1420	***Safety Standards & Regulations***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Basic Operations of Tank Farms in Refinery***
0830 – 0930	***Receiving & Storing Crude Oil***
0930 -0945	*Break*
0945 – 1100	***Product Dispatch & Pipeline Transfers***
1100 – 1230	***Operation of Tanks***
1230 – 1245	*Break*

1245 – 1330	***Working Pressure & Maximum Filling***
1330 – 1420	***Failure & Inspection Frequency***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Corrosion & Cathodic Protection***
0830 – 0930	***Preparing a Tank for Maintenance***
0930 -0945	*Break*
0945 – 1100	***Gas Freeing of Tanks***
1100 – 1230	***Methods of Ganging Tanks, Sampling, Water & BSW***
1230 – 1245	*Break*
1245 – 1330	***LPG Handling, Bulk Storage, Filling Limits & Safety Rules, Refrigeration of Propane & Vapor Recovery System***
1330 – 1420	***Production Specification***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Blending & Tank Mixing***
0830 – 0930	***Flow Meters, P. Displacement, Turbine, Ultrasonic Meter***
0930 -0945	*Break*
0945 – 1100	***Meter Proving & Meter Factor***
1100 – 1230	***Cleaning of Crude Tank, Taking a Tank Out of Service & Putting Back in Service***
1230 – 1245	*Break*
1245 – 1330	***Static Electricity in Tank Farm, Oil Spills***
1330 – 1420	***Examples of Hazards in Tank Farm (Explosion & Fire)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Pigging of Crude, Product & Gas Pipelines***
0830 – 0930	***Quality Assurance in Tank Farm & Work Permit System***
0930 – 0945	*Break*
0945 – 1030	***Fired Heaters: Heating Value, Air Requirements***
1030 – 1130	***Pumps, Centrifugal, Reciprocating, Positive Displacement***
1130 – 1230	***Valves & Filters***
1230 – 1245	*Break*
1245 – 1345	***Instrumentation (Pressure, Flow, Temperature & Level)***
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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