

COURSE OVERVIEW PE0364
Tank Farm Operations

Course Title

Tank Farm Operations

Course Date/ Venue

July 15-19, 2024/Meeting Plus 1, Khalidiya Palace Rayhaan by Rotana 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, filling 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, filling 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:-


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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.

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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. Mervyn Frampton is a **Senior Process Engineer** with over **30 years** of industrial experience within the **Oil & Gas, Refinery, Petrochemical and Utilities** industries. His expertise lies extensively in the areas of **Tank Farm Operations, Tank Farms Design & Maintenance, Troubleshooting Tank Farms, Process Troubleshooting, Distillation Towers, Fundamentals of Distillation** for Engineers, **Distillation Operation and Troubleshooting, Advanced Distillation Troubleshooting, Distillation Technology, Vacuum Distillation, Distillation Column Operation & Control, Oil Movement Storage & Troubleshooting, Process Equipment Design, Applied Process Engineering Elements, Process Plant Optimization, Revamping & Debottlenecking, Process Plant Troubleshooting & Engineering Problem Solving, Process Plant Monitoring, Catalyst Selection & Production Optimization, Operations Abnormalities & Plant Upset, Process Plant Start-up & Commissioning, Clean Fuel Technology & Standards, Flare, Blowdown & Pressure Relief Systems, Oil & Gas Field Commissioning Techniques, Pressure Vessel Operation, Gas Processing, Chemical Engineering, Process Reactors Start-Up & Shutdown, Gasoline Blending for Refineries, Urea Manufacturing Process Technology, Continuous Catalytic Reformer (CCR), De-Sulfurization Technology, Advanced Operational & Troubleshooting Skills, Principles of Operations Planning, Rotating Equipment Maintenance & Troubleshooting, Hazardous Waste Management & Pollution Prevention, Heat Exchangers & Fired Heaters Operation & Troubleshooting, Energy Conservation Skills, Catalyst Technology, Refinery & Process Industry, Chemical Analysis, Process Plant, Commissioning & Start-Up, Alkylation, Hydrogenation, Dehydrogenation, Isomerization, Hydrocracking & De-Alkylation, Fluidized Catalytic Cracking, Catalytic Hydrodesulphuriser, Kerosene Hydrotreater, Thermal Cracker, Catalytic Reforming, Polymerization, Polyethylene, Polypropylene, Pilot Water Treatment Plant, Gas Cooling, Cooling Water Systems, Effluent Systems, Material Handling Systems, Gasifier, Gasification, Coal Feeder System, Sulphur Extraction Plant, Crude Distillation Unit, Acid Plant Revamp and Crude Pumping. Further, he is also well-versed in HSE Leadership, Project and Programme Management, Project Coordination, Project Cost & Schedule Monitoring, Control & Analysis, Team Building, Relationship Management, Quality Management, Performance Reporting, Project Change Control, Commercial Awareness and Risk Management.**

During his career life, Mr. Frampton held significant positions as the **Site Engineering Manager, Senior Project Manager, Process Engineering Manager, Project Engineering Manager, Construction Manager, Site Manager, Area Manager, Procurement Manager, Factory Manager, Technical Services Manager, Senior Project Engineer, Process Engineer, Project Engineer, Assistant Project Manager, Handover Coordinator and Engineering Coordinator** from various international companies such as the **Fluor Daniel, KBR South Africa, ESKOM, MEGAWATT PARK, CHEMEPIC, PDPS, CAKASA, Worley Parsons, Lurgi South Africa, Sasol, Foster Wheeler, Bosch & Associates, BCG Engineering Contractors, Fina Refinery, Sapref Refinery, Secunda Engine Refinery** just to name a few.

Mr. Frampton has a **Bachelor's degree in Industrial Chemistry** from **The City University in London**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management (ILM)** and has delivered numerous trainings, courses, workshops, conferences and seminars internationally.



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: Monday, 15th of July 2024

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: Tuesday, 16th of July 2024

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	<i>Break</i>
1245 – 1330	<i>Working Pressure & Maximum Filling</i>
1330 – 1420	<i>Failure & Inspection Frequency</i>
1420 – 1430	<i>Recap</i>
1430	<i>Lunch & End of Day Two</i>

Day 3: Wednesday, 17th of July 2024

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

Day 4: Thursday, 18th of July 2024

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

Day 5: Friday, 19th of July 2024

0730 – 0830	<i>Pigging of Crude, Product & Gas Pipelines</i>
0830 – 0930	<i>Quality Assurance in Tank Farm & Work Permit System</i>
0930 – 0945	<i>Break</i>
0945 – 1030	<i>Fired Heaters: Heating Value, Air Requirements</i>
1030 – 1130	<i>Pumps, Centrifugal, Reciprocating, Positive Displacement</i>
1130 – 1230	<i>Valves & Filters</i>
1230 – 1245	<i>Break</i>
1245 – 1345	<i>Instrumentation (Pressure, Flow, Temperature & Level)</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	<i>POST-TEST</i>
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>



Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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