COURSE OVERVIEW PE0278
Liquefied Natural Gas Process

Course Title
Liquefied Natural Gas Process

Course Date/Venue
Please see page 3

Course Reference
PE0278

Course Duration/Credits
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 delegates with a detailed and up-to-date overview of operations engineering: downstream-gas processing and LNG. Further, the course will also cover LNG processes, gas treatment, chemical and physical properties, purifications and first pretreated and refrigeration technology; and the removal of acid gas, sulfur component, sweet gases, H_2S problems, gas dehydrations by glycol units and hydration problems, fractionation for heavier hydrocarbon separated, process selection, equipment/compressors and drivers and heat exchangers/pumps.

During this interactive course, participants will learn the utility requirements, fuel gas, cooling medium (water or air), heating medium (steam or hot oil system), instrument air and nitrogen, plant safety and LNG product specifications; the LNG chain and flare systems, shutdown and trips as well as LNG storage and loading (shipping; and environmental impact and LNG hazards, standards of flash fire and local regulations as well as marine procedures

Course Objectives

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

- Apply and gain an-in depth knowledge on LNG process plant operations
- Define LNG and discuss LNG processes, gas treatment, chemical and physical properties, purifications and first pretreated and refrigeration technology
- Determine the removal of acid gas, sulfur component, sweet gases, H_2S problems, gas dehydrations by glycol units and hydration problems, fractionation for heavier hydrocarbon separated, process selection, equipment/compressors and drivers and heat exchangers/pumps
- Identify the utility requirements, fuel gas, cooling medium (water or air), heating medium (steam or hot oil system), instrument air and nitrogen, plant safety and LNG product specifications
- Explain the LNG chain and flare systems, shutdown and trips as well as LNG storage and loading (shipping)
- Evaluate and analyze environmental impact and LNG hazards, standards of flash fire and local regulations as well as marine procedures

Who Should Attend

This course is intended for those directly involved in gas processing operations. However, the course is specifically designed to be of substantial benefit to both technical and non-technical personnel employed in the activities that support the industry. Managers, engineers, marketing staff and manufacturer's representatives, as well as those involved in sales and services to the natural gas industry will receive considerable benefit from the broad overview.

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 Date/Venue

Session(s)	Date	Venue
1	May 25-29, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
2	July 14-18, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
3	September 14-18, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
4	November 24-28, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

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: -

- 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.

- 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.

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. Mervyn Geoffrey Frampton, BSc, PMI-PMP, CSSBB, 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 **Process Unit Operations & Maintenance**, **Operations Asset Process Plant** Start-up & Commissioning, **Process Plant** Monitoring, **Process Plant** Optimization, **Revamping & Debottlenecking**, **Process Plant** Troubleshooting & Engineering Problem Solving, **Integrity**, **Flare**, **Blowdown & Pressure Relief Systems** Operation, Maintenance & Troubleshooting, Dynamics of the **Petrochemicals Industry**, Understanding the **Global Petrochemical Industry**, **Petrochemicals** Analysis, **Naphtha & Condensate** in **Petrochemicals**, **Feedstock** Handling & Storage, **Natural Gas Liquids & Petrochemical Industry** and **Markets**, **Refinery & Process Industry**, **Refinery** Optimization, **Refinery** Operations Troubleshooting, **Refinery** Production Operations, **Refinery Process Safety**, **Process Safety Design**, **Petroleum Refinery** Process, **Asset Operational Integrity**, **Refinery Induction**, **Crude Distillation**, **Crude Oil Properties**, **Distillation Column** Operation & Control, **Oil Movement** Storage & Troubleshooting, Root Cause Analysis (**RCA**) for **Process & Equipment Failures**, **Process Equipment** Design, Applied **Process Engineering** Elements, **Catalyst** Selection & Production Optimization, Operations Abnormalities & Plant Upset, **Clean Fuel** Technology & Standards, **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**, **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**, **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**, **Project Engineering Manager**, **Construction Manager**, **Site Manager**, **Area Manager**, **Procurement Manager**, **Factory Manager**, **Technical Services Manager**, **Senior Project 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 Project Management Professional** (**PMI-PMP**), a **Certified Six Sigma Black Belt** (**CSSBB**) from **The International Six Sigma Institute**, a **Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management** (**ILM**), a **Certified Instructor/Trainer** and has delivered numerous trainings, courses, workshops, conferences and seminars 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

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0900	***What is the LNG?***
0900 – 0930	***The LNG Process***
0930 – 0945	*Break*
0945 – 1015	***Gas Treatment***
1015 – 1100	***Chemical and Physical Properties***
1100 – 1230	***Purifications & First Pretreated***
1230 – 1245	*Break*
1245 – 1420	***Refrigeration Technology***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Acid Gas Removal and Sulfur Component*** *Sweet Gases*
0830 – 0930	***H_2S Problems***
0930 – 0945	*Break*
0945 – 1045	***Gas Dehydrations by Glycol Units and Hydration Problems***
1045 – 1130	***Fractionation for Heavier Hydrocarbon Separated***
1130 – 1230	***Process Selection***
1230 – 1245	*Break*
1245 – 1320	***Equipment / Compressors and Drivers***
1320 – 1420	***Heat Exchangers / Pumps***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Utility Requirements***
0830 – 9030	***Fuel Gas, Cooling Medium (Water or Air)***
0930 – 0945	*Break*
0945 – 1100	***Heating Medium (Steam or Hot Oil System)***
1100 – 1230	***Instrument Air and Nitrogen***
1230 – 1245	*Break*
1245 – 1320	***Plant Safety***
1320 – 1420	***The LNG Product Specifications***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

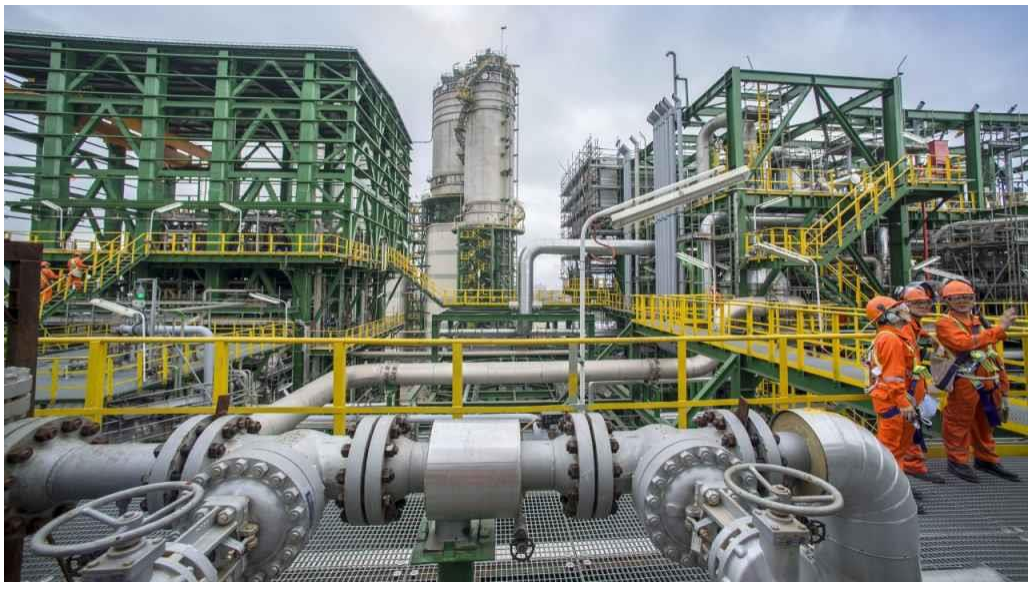
0730 – 0930	***The LNG Chain***
0930 – 0945	*Break*
0945 – 1100	***Flare System***
1100 – 1215	***Shutdown and Trips***
1215 – 1230	*Break*
1230 – 1430	***LNG Storage and Loading (Shipping)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Environmental Impact***
0930 – 0945	*Break*
0945 – 1100	***LNG Hazards***
1100 – 1215	***Flash Fire and Local Regulations and Standards***
1215 – 1230	*Break*
1230 – 1345	***Marine Procedures***
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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