COURSE OVERVIEW FE0054

Onshore Pipeline Facilities - Design, Construction and Operations

Course Title

Onshore Pipeline Facilities - Design, Construction and Operations

Course Date/Venue

July 12-16, 2026/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE or Online Virtual Training

Course Reference

FE0054

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

Course Date/Venue

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 detailed and up-to-date overview of Onshore Pipeline Facilities - Design, Construction and Operations. It covers the purpose, types and significance of pipeline system in the energy sector; the basic pipeline terminology and components; the factors influencing the selection of pipeline routes; the environmental and socio-economic considerations; the materials used in pipeline construction and the design principles of pipeline systems; the regulatory and safety standards and the hydraulic design of pipelines; the mechanical design aspects, corrosion protection and control, pipeline installation techniques and environmental impact assessment; the project planning and management; and the best practices and common challenges in pipeline construction.

During this interactive course, participants will learn the quality assurance and quality control; the health, safety and environmental management; the strategies for effective stakeholder engagement; the non-destructive testing, hydrostatic testing and pre-commissioning checks; the proper operation of pipeline systems, maintenance strategies and practices, pigging operations and inline inspection; the leak detection, emergency response and asset integrity management; the advanced metering and proving systems; the energy efficiency and emission reduction; the emerging technologies and trends in pipeline engineering; and the risk management and contingency planning.

Course Objectives

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

- Apply and gain an in-depth knowledge on the design, construction and operations of onshore pipeline facilities
- Discuss the purpose, types and significance of pipeline system in the energy sector
- Explain the basic pipeline terminology and components as well as the factors influencing the selection of pipeline routes including environmental and socio-economic considerations
- Identify the materials used in pipeline construction and the design principles of pipeline systems
- Discuss the regulatory and safety standards and the hydraulic design of pipelines
- Illustrate the mechanical design aspects, corrosion protection and control, pipeline installation techniques and environmental impact assessment
- Carryout project planning and management and recognize the best practices and common challenges in pipeline construction
- Employ quality assurance and quality control and health, safety and environmental management
- Apply strategies for effective stakeholder engagement including non-destructive testing, hydrostatic testing and pre-commissioning checks
- Carryout proper operation of pipeline systems, maintenance strategies and practices, pigging operations and inline inspection
- Employ leak detection, emergency response and asset integrity management and recognize advanced metering and proving systems
- Illustrate energy efficiency and emission reduction, identify the emerging technologies and trends in pipeline engineering and apply risk management and contingency planning

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 onshore pipeline facilities - design, construction and operations for engineers, geotechnical engineers, project managers, pipeline construction managers, supervisors, pipeline designers, pipeline operators, maintenance and inspection personnel, regulatory compliance personnel, environmental and safety professionals and procurement specialists involved in pipeline projects.

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.

Virtual Training (If Applicable)

If this course is delivered online as a Virtual Training, the following limitations will be applicable:-

Certificates	Only soft copy certificates will be issued to participants through Haward's Portal. This includes Wallet Card Certificates if applicable
Training Materials	Only soft copy Training Materials (PDF format) will be issued to participant through the Virtual Training Platform
Training Methodology	80% of the program will be theory and 20% will be practical sessions, exercises, case studies, simulators or videos
Training Program	The training will be for 4 hours per day starting at 0930 and ending at 1330
H-STK Smart Training Kit	Not Applicable
Hands-on Practical Workshops	Not Applicable
Site Visit	Not Applicable
Simulators	Only software simulators will be used in the virtual courses. Hardware simulators are not applicable and will not be used in Virtual Training

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Fee

F2F Classroom: 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.

Online Virtual: US$ 2,750 per Delegate + **VAT**.

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

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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. Danny Gul is a **Senior Inspection Engineer** with extensive years of experience within the **Oil & Gas**, **Petrochemical**, **Process** and **Power Industries**. His wide expertise lies extensively in the areas of **Process Piping** Design, **Pipeline** Repair, Hot-Tapping, In-line Inspection Technologies, **Pipeline Pigging**, **Pipeline Design** & Integrity Engineering, **Pipeline** Hydraulic Engineering, **Pipeline, Pipeline** Operation & Maintenance, **Pipeline** Design & Construction, **Pipeline** System Design, Onshore **Pipeline Repair Methods** & Equipment, **Pipelines** Defect Identification, **Risk Based** Inspection, **RBI** Methodology, **RBI** Assessment, Fitness-for-Service (**FFS**), **Tank** Inspection & Repair, **Tank** Calibration &Testing, Welded Tanks for Oil Storage (**API 650**), Atmospheric & Low Pressure Inspection (**API RP 575**), **Pressure Vessel** Inspection & Repair, Inspection & Repair of Erection Activities, **Corrosion & Materials** Inspection, **Corrosion** Prevention, **Corrosion** Technology & Inspection, **Materials & Corrosion** Control, **Metallurgy & Corrosion** Engineering, **Material** Selection & Properties, **Welding** Inspection Technology, **Welding & Machining**, **Welding** Procedure Specifications & Qualifications, **Welding** Safety, **Fabrication & Site** Inspection, **Site Erection Quality Control**, **Welding & Non-Destructive Testing** (NDE), **Hydro & Pneumatic** Testing, Degradation Mechanism & Consequence Analysis, **Risk** Management & Reduction, **Risk** Analysis, **Risk** Determination & Assessment, **Equipment** Integrity & Reliability, Failure Mode & Effect Analysis (**FMEA**), **Reliability & Asset** Management, **Piping** System, Process Hazard Analysis (**PHA**), **Human Factor** Analysis, Hazard & Operability (**HAZOP**), Layer of Protection Analysis (**LOPA**), **QRA**, **SIL** Evaluation, **FTA**, **ETA** and **Safety & Environmental** Assessment.

During his Career Life, Mr. Gul has gained his practical and field experience through his various significant positions and dedication as the **Chief QA QC**, **Incoming Material & Equipment Inspector**, **Equipment Control & Quality Control Specialist**, **Equipment Integrity Expert**, **Process Safety & Equipment Integrity Technical Expert**, **Acting Equipment Qualification Specialist** and **API 653/580/571 Authorized inspector/Consultant/Traner** for numerous international companies like the Silverteknik, Assystem, American Petroleum Inspector, Alltechmep, TUV Nord and Szutest

Mr. Gul has a **Bachelor's** degree in **Mechanical Engineering** from the **Istanbul Technical University**, **Turkey**. Further, he is a **Certified Instructor/Trainer**, a **Certified API 653 Aboveground Storage Tank Inspector**, a **Certified API 580 Risk Based Inspector** and a **Certified API 571 Corrosion & Materials Inspector**. He has further delivered numerous trainings, courses, seminars, conferences & workshops 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, 12th of July 2026

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	**PRE-TEST**
0830 – 0900	***Overview of Pipeline Systems***: Purpose, Types & Significance in the Energy Sector
0900 - 0930	***Basic Pipeline Terminology & Components***: The Common Terms & Components Used in Pipelines
0930 – 0945	Break
0945 – 1100	***Pipeline Route Selection***: Factors Influencing the Selection of Pipeline Routes, Including Environmental & Socio-Economic Considerations
1100 – 1200	***Materials Used in Pipeline Construction***: Types of Materials (Steel, PE, Etc.), Their Properties & Selection Criteria
1200 – 1215	Break
1215 – 1330	***Design Principles of Pipeline Systems***: Basic Design Parameters like Diameter, Wall Thickness & Pressure Considerations
1330 - 1420	***Regulatory & Safety Standards***: Introduction to Relevant Regulations (e.g., API, ASME) & Safety Standards
1420 – 1430	***Recap***
1430	Lunch & End of Day One

Day 2: Monday, 13th of July 2026

0730 – 0830	***Hydraulic Design of Pipelines***: Calculating Flow Rates, Pressure Drop & Pump/Compressor Station Requirements
0830 - 0930	***Mechanical Design Aspects***: Stress Analysis, Expansion Considerations & Support Design
0930 – 0945	Break
0945 – 1100	***Corrosion Protection & Control***: Cathodic Protection, Coating Types & Corrosion Monitoring
1100 – 1200	***Pipeline Installation Techniques***: Trenching, Horizontal Directional Drilling, River Crossings
1200 – 1215	Break
1215 – 1330	***Environmental Impact Assessment***: Evaluating & Mitigating Environmental Impacts During the Design Phase
1330 - 1420	***Case Studies in Pipeline Design Failures***: Analysis of Historical Incidents & Lessons Learned
1420 - 1430	***Recap***
1430	Lunch & End of Day Two

Day 3: Tuesday, 14th of July 2026

0730 – 0830	***Project Planning & Management:*** Overview of Project Lifecycle, Planning & Execution
0830 - 0930	***Construction Practices & Challenges:*** Best Practices & Common Challenges in Pipeline Construction
0930 – 0945	Break

0945 – 1100	***Quality Assurance & Quality Control**: Standards & Practices for Ensuring Quality in Construction*
1100 – 1200	***Health, Safety & Environmental Management**: HSE Practices Specific to Pipeline Construction*
1200 – 1215	*Break*
1215 – 1330	***Land Acquisition & Community Relations**: Strategies for Effective Stakeholder Engagement*
1330 - 1420	***Inspection & Testing of Pipelines**: Non-Destructive Testing, Hydrostatic Testing, & Pre-Commissioning Checks*
1420 - 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4: ***Wednesday, 15th of July 2026***

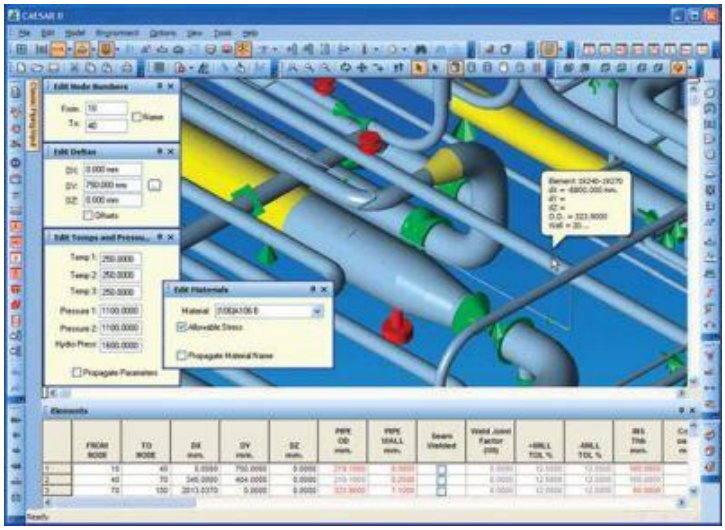
0730 – 0830	***Operation of Pipeline Systems**: Control Room Operations, SCADA Systems & Flow Management*
0830 - 1930	***Maintenance Strategies & Practices**: Routine & Predictive Maintenance Methodologies*
0930 – 0945	*Break*
0945 – 1100	***Pigging Operations & Inline Inspection**: Types of Pigs, Pigging Operations & Inline Inspection Techniques*
1100 – 1200	***Leak Detection & Emergency Response**: Leak Detection Systems & Emergency Handling Procedures*
1200 – 1215	*Break*
1215 – 1330	***Asset Integrity Management**: Long-Term Integrity Monitoring & Management*
1330 - 1420	***Case Studies in Pipeline Operations**: Real-World Examples of Operational Challenges & Solutions*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5: ***Thursday, 16th of July 2026***

0730 – 0830	***Advanced Metering & Proving Systems**: Advanced Metering Technologies & Proving Systems*
0830 - 0930	***Energy Efficiency & Emission Reduction**: Techniques for Improving Energy Efficiency & Reducing Emissions*
0930 – 0945	*Break*
0945 – 1200	***Future Trends in Pipeline Technology**: Emerging Technologies & Trends in Pipeline Engineering*
1200 – 1215	*Break*
1215 – 1345	***Risk Management & Contingency Planning**: Approaches for Risk Assessment & Contingency Planning*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (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 the "CAESAR II" simulator.



CAESAR II

Course Coordinator

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