

COURSE OVERVIEW FE0200-4D
Pipeline Pigging – Technical & Operational Aspects

Course Title

Pipeline Pigging – Technical & Operational Aspects

Course Date/Venue

Session 1: August 19-22, 2024/Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Session 2: December 16-19, 2024/ Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



Course Reference

FE0200-4D



Course Duration/Credits

Four days/2.4 CEUs/24 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 provides an in-depth understanding of the technical and operational aspects of pipeline pigging. It also provides a programmatic approach to pipeline assessment, maintenance and monitoring as it relates to pipeline pigging.



The course is both technical and practical. Its primary goal is to present the information in such a manner those participants from all walks of industry will easily be able to understand and apply the concepts and pigging techniques. It will also help the participants make the right decisions for the development of new pipeline pigging systems, the operation of existing systems and in the selection of cleaning pigs and In Line Inspection (ILI) tools. The course details the required follow up from ILI runs in terms of defect disposition and prioritization as well as repair options considering cost efficiencies and regulatory requirements.

Throughout the course, there are practical class exercises to apply the concepts learned to operational case histories in oil, gas and multiphase pipelines.

The experienced engineer will find an in-depth exploration of pig selection, pigging sequences, preparation for and running an In Line Inspection and above all ensuring safe pigging operations. The new engineer will find an excellent opportunity to learn in a structured and logical sequence of course material as well as from the knowledge and experience of other course participants.

The course includes calculation techniques for making quantitative decisions in the design and development of pipeline pigging programs and pipeline defect assessments. Please bring a calculator.

Course Objectives

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

- Apply the technical and operational aspects of pipeline pigging process and identify its strategic role in pipeline inspection, integrity assessment and commissioning.
- Implement the process of pigging during construction and operation of pipelines, utilize the techniques of pigging for general maintenance and repair and identify the procedures of pigging during renovation, rehabilitation and decommissioning
- Recognize the functions of specialist pigs and determine the pig role in pipeline isolation
- Identify intelligent pigs and ILI tools, characterize the various types of pigging equipments including its functions and discuss the launch and receive procedures in pipeline pigging
- Design and operate a pipeline cleaning programme, apply several techniques on troubleshooting stuck pigs, determine the aspects of pigging velocity in liquid and gas lines and employ the methods of cleaning and inspecting un-piggable lines

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 a wide understanding and deeper appreciation of pipeline pigging in technical and operational aspects for those personnel who are involved in pipeline integrity, corrosion control, project management, ongoing pipeline operations and pipeline inspection, repair or rehabilitation. It is also of benefit to service providers or those seeking to enhance their knowledge of pipeline pigging.

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: -


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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 **2.4 CEUs** (Continuing Education Units) or **24 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 Fee

US\$ 4,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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. Marian Copilet, MSc, BSc is a **Senior Pipeline, Piping & Subsea Umbilicals Engineer** with almost **40 years** of experience and extensive knowledge within the **Oil & Gas, Petrochemical** and **Refinery** industries. His expertise widely covers in the areas of **upstream and downstream sectors**, particularly in **Pipelines, Pipework, Pigging** Foundation, **Pigging of Oil & Gas Line, Pigging Principles, Pigging Procedures, Subsea Umbilicals, Oil & Gas Pipelines, Welding Technology, NDT**

Inspection, Upstream and Downstream Oil & Gas Industries, **Pipeline Design, Pipeline Isolation & Intervention, Piping Systems Specification, Pipeline Repair, Hot-Tapping, In-line Inspection Technologies, Pipeline Pigging, Pipeline Crawlers, Equipment Integrity & Inspection, Pipeline Design & Integrity Engineering, Pipeline Hydraulic Engineering, Pipeline Operation & Maintenance, Pipeline Integrity & Rehabilitation, Pipeline Systems, Pipeline Design & Construction, Pipeline System Design, Pipeline & Piping Installation, Onshore Pipeline Repair Methods & Equipment, Pipelines Defect Identification & Corrosion Risk Assessment, Risk Based Inspection (RBI), Basic Pipeline Engineering, Pipeline Inspection & Integrity Assessment, Pipeline Integrity Management System (PIMS), Facility & Pipeline Integrity Assessment and Pipeline & Piping Codes** including ISO 13628-5, DNV Series (OS-F101, OS-F201, RP-F109), ASME B series (B31.3, B31.4 & B31.8, B31.G, B31.8S), BS 8010 Part 3 and Pressure Vessel Codes (PD 5500, ASME VIII Div. 1& Div. 2). Further, he is also well-versed in Oil & Gas Transportation Pipeline System Reliability, Fundamentals of Pipeline Systems (PL4), Welding Technology, Inspection & Decommissioning, Flange Joint Hydraulic Tensioning & Tightening Control, Inspection of Process Plant Equipment, In-line Inspection Systems Qualification Standards (API 1163), Boiler Operation, Inspection, Maintenance, Safety & Water Treatment Technology, API 579-1, Fitness-for-Service (FFS) of Pressure Vessels, Process Plant Equipment Failure Prevention, Piping & Storage Facilities Maintenance & Repair, Vessel & Tanks Integrity and Rehabilitation, Sales Strategy, Contract Preparation and Bidding, Contract Negotiation, Conflict Resolution, Operational Management, Procurement Management and International Business.

During his career life, Mr. Copilet has gained his practical and field experience through his various significant positions **Pipeline Engineer, Mechanical Engineer, Welding Engineer, Machinery Equipment Engineer, Pipeline Inspector, Proposals Engineer, QA/QC Engineer, Sales Director, Account Development Manager, Technical Solutions Manager, Technical Account Manager, General Sales Manager, Sales Manager** and **University Lecturer** from various companies such as **Oceanering Umbilical Solutions, Oceanering International Services, STATS Group, Durham Pipeline Technology (DPT), GD Engineering, Bucharest Polytechnic University, Vulcan S.A. and Nuclearmontaj (Cernavoda Nuclear Power Station).**

Mr. Marian has also worked with major international clients in UK, Europe, Middle East, North Africa and Asia with major international clients including **ADMA-OPCO, Aker Kvaerner, AMEC, Bechtel, BP, British Gas, China Petroleum, Chevron, EnQuest, ExxonMobil, ENPPI, Fluor Daniel, FMC, Foster Wheeler, Framo, Kala, Marathon Oil, National Iranian Gas, PD Oman, Petrojet, Petronas, Qatar Petroleum, QGPC, RasGas, Saudi Aramco, Shell, Single Buoy Moorings, Saipem, Snamprogetti, Sonatrach, Statoil, Subsea 7, TAQA, Technip, Total, Woodside, etc.**

Mr. Copilet has a **Master's** and **Bachelor's** degree with **Honors** in **Mechanical Engineering (Welding, Machinery & Technology)**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and has further delivered numerous trainings, courses, seminars, conferences and workshops globally.

Training Methodology

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Workshops & Work Presentations
- 30% Case Studies & Practical Exercises
- 20% Software, Simulators & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

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	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0900	Participant Survey <i>Course Overview & Objectives</i>
0900 – 0930	Introduction to Pipeline Pigging
0930 – 0945	<i>Break</i>
0945 – 1045	Conventional Pigs: Introduction
1045 – 1130	<i>Break</i>
1130 – 1245	Conventional Pigs: Type of Pigs
1245 – 1420	Case Study
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0800	Recap & Discussion <i>Overview of Day 2 & Course Objectives</i>
0800 – 0900	Conventional Pigs - Practical Applications
0900 – 0915	<i>Break</i>
0915 – 1045	Pigging During Construction
1045 – 1145	Pigging During Operation
1145 – 1230	Pigging for General Maintenance & Repair
1230 – 1245	<i>Break</i>
1245 – 1330	Pigging During Renovation, Rehabilitation & Decommissioning
1330 – 1420	Case Study
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>



Day 3

0730 – 0800	Recap & Discussion <i>Overview of Day 3 & Course Objectives</i>
0800 – 0900	Specialist Pigs
0900 – 0915	<i>Break</i>
0915 – 1045	Pigs for Pipeline Isolation
1230 – 1245	<i>Break</i>
1245 – 1330	Intelligent Pigs - ILI Tools
1330 - 1420	Case Study
1420 – 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 – 0800	Recap & Discussion <i>Overview of Day 4 & Course Objectives</i>
0800 – 0830	Pigging Equipment
0830 - 0900	Launch & Receive Procedures
0900 – 0930	Designing & Running a Cleaning Programme
0930 – 0945	<i>Break</i>
0945 – 1030	Troubleshooting Stuck Pigs
1030 – 1100	Pigging Velocity in Liquid Lines
1100 – 1200	Pigging Velocity in Gas Lines
1200 – 1215	<i>Break</i>
1215 – 1345	Cleaning & Inspecting Unpiggable Lines
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

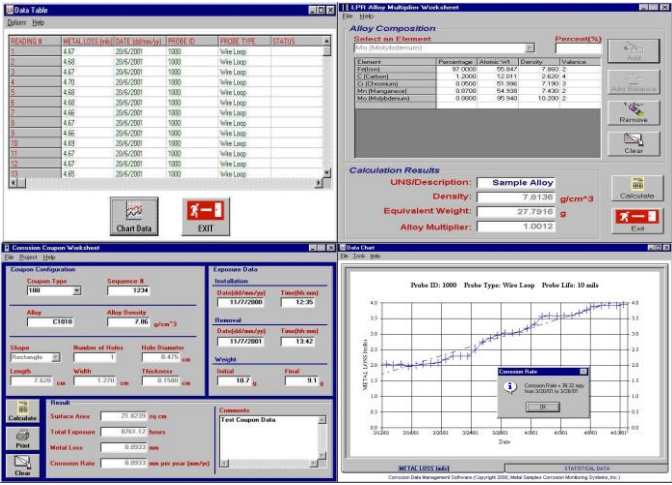


Simulator (Hands-on Practical Sessions)

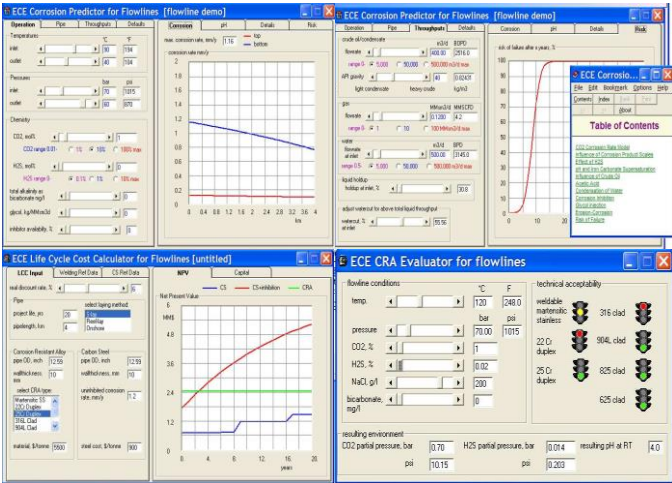
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the simulators “IntegriWISE™”, “Corrosion Data Management Software (CDMS)” and “Electronic Corrosion Engineer (ECE®) 5”.



IntegriWISE™



Corrosion Data Management Software (CDMS)



Electronic Corrosion Engineer (ECE®) 5

Course Coordinator

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