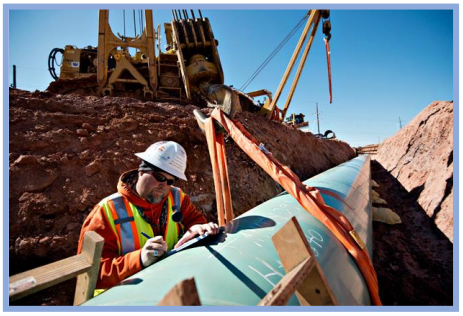
COURSE OVERVIEW FE0190
Pipeline Inspection, Testing & Integrity Assessment
Defect Assessment in Pipelines (Practical Aspects)

Course Title
Pipeline Inspection, Testing & Integrity Assessment: Defect Assessment in Pipelines (Practical Aspects)

Course Date/Venue
Session 1: April 13-17, 2025/Business Meeting, Crowne Plaza Al Khobar, Al Khobar, KSA
Session 2: November 16-20, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
FE0190

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 is an in-depth course on the practical aspects of pipeline integrity, including corporate objectives, risk, planning integrity programs, internal inspection tools, anomaly identification and analysis, repair, coating, and pressure testing. Participants will be introduced to the technical basis for determining pipeline integrity.

This course will provide information, reinforced by case studies and exercises on pipeline defects, such as corrosion, cracking and third party damage. Methods will be discussed that can be used to make decisions on whether defects are fit for service.

The course will review the various repair techniques, their advantages and shortcomings and the logic to be followed in making repair decisions and selecting the applicable repair.

In addition, pressure testing will be studied, including an exercise based on an actual hydrostatic pressure test.

Course Objectives

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

- Apply the practical aspects of pipeline integrity, including corporate objectives, risk, planning integrity programs, internal inspection tools, anomaly identification and analysis, repair, coating, and pressure testing
- Analyze pipeline design, construction and maintenance vs. integrity and identify the threats to buried pipeline's integrity
- Define time dependent defects theory and differentiate between various types and forms of corrosion on basis of internal and external
- Develop integrity management program and list the integrity management strategies and internal inspection tools
- Perform external surveys, pressure and leak testing and pipeline rehabilitation and repair techniques
- Verify the integrity of an old pipeline and report quality control

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 the practical aspects of pipeline integrity for engineers, inspectors and for those who are responsible for the inspection, testing, integrity, defect assessment, maintenance and repair of pipelines.

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.

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 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: -

- 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(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. Steve Magalios, CEng, PGDip (on-going), MSc, BSc, is a **Survey & Pipeline Engineer** with almost **40 years** of extensive **On-shore/Offshore** experience in the **Oil & Gas**, **Construction**, **Refinery** and **Petrochemical** industries. His expertise widely covers in the areas of GIS, ArcInfo, ArcView, GIS, Spatial Analysis & Modeling, Geographical Information System **(GIS)**, **Pipeline** Operation & Maintenance, **Pipeline** Systems, **Pipeline** Design & Construction, **Pipeline** Repair Methods, **Pipeline** Engineering, Pipeline Integrity Management System (**PIMS**), **Pipeline** Pigging, Piping & Pipe Support Systems, **Piping** Systems & Process Equipment, **Piping** System Repair & Maintenance, **Piping** Integrity Management, Computer Aided Design (**CAD**), **Building & Road** Design Skills, **Civil Engineering Design**, **Structural Reliability** Engineering, **Road** Construction & Maintenance, **Concrete Structures & Building Rehabilitation**, **Reinforced Concrete Structures Protection**, **Geosynthetics & Ground Improvement Methods**, **Blueprint** Reading & Interpretation, **Blue Print** Documentation, Mechanical **Drawings**, **P&ID**, **Flow Diagram** Symbols, **Land Surveying** & Property Evaluation, **Cartographic** Representation, Soil Classification, **Cadastral Surveying** & Boundary Definition, **Project Engineering** & Design, **Construction** Management, **Project Planning** & Execution, **Site Management**, **Site Supervision**, Effective **Resource Management**, **Project Evaluation**, **FEED** Management, **EPC Projects** Design, **Project Completion & Workover**, Quality Control and Team Management. He is also well-versed in Lean & Sour Gas, Condensate, **Compressors**, **Pumps**, Flare Knockout Drum, Block **Valve** Stations, New Slug Catcher, Natural **Gas Pipeline** & Network, Scraper Traps, Burn Pits, Risk Assessment, HSE Plan & Procedures, Quality Plan & Procedures, Safety & Compliance Management, Permit-to-Work Issuer, ASME, API, ANSI, ASTM, BS, NACE, ARAMCO & KOC Standards, MS Office tools, **AutoCAD**, **STAAD-PRO**, Autodesk Map and various programming languages such as FORTRAN, BASIC and AUTOLISP. Currently, he is the **Chartered Professional Surveyor Engineer & Urban-Regional Planner** wherein he is deeply involved in providing exact data, measurements and determining properly boundaries. He is also responsible in preparing and maintaining sketches, maps, reports and legal description of surveys.

During his career, Mr. Magalios has gained his expertise and thorough practical experience through challenging positions such as a **Project Site Construction Manager**, **Construction Site Manager**, **Project Manager**, **Deputy PMS Manager**, **Head of the Public Project Inspection Field Team**, **Technical Consultant**, **Senior Consultant**, **Consultant/Lecturer**, **Construction Team Leader**, **Lead Pipeline Engineer**, **Project Construction Lead Supervising Engineer**, **Lead Site Engineer**, **Senior Site Engineer Lead Engineer**, **Senior Site Engineer**, **R.O.W. Coordinator**, **Site Representative**, **Supervision Head** and **Contractor** for international Companies such as the Penspen International Limited, Eptista Servicios de Ingeneria S.I., J/V ILF Pantec TH. Papaioannou & Co. – Emenergy Engineering, J/V Karaylannis S.A. – Intracom Constructions S.A., Ergaz Ltd., Alkyonis 7, Palaeo Faliro, Piraeus, Elpet Valkaniki S.A., Asprofos S.A., J/V Depa S.A. just to name a few.

Mr. Magalios is a **Registered Chartered Engineer** and has **Master** and **Bachelor** degrees in **Surveying Engineering** from the **University of New Brunswick**, **Canada** and the **National Technical University of Athens**, **Greece**, respectively. Further, he is currently enrolled for **Post-graduate** in **Quality Assurance** from the **Hellenic Open University**, **Greece**. He has further obtained a Level 4B Certificates in Project Management from the National & Kapodistrian University of Athens, Greece and Environmental Auditing from the Environmental Auditors Registration Association (EARA). Moreover, he is a **Certified Instructor/Trainer**, a **Chartered Engineer** of Technical Chamber of Greece and has delivered numerous trainings, workshops, seminars, courses and conferences 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 – 0930	***Introduction*** *Pipeline Integrity Assessment – Practical Aspects – Course Overview • Corporate Policies • Regulation • Standard Practices*
0930 – 0945	*Break*
0945 – 1045	***Pipeline Design, Construction & Maintenance vs. Integrity*** *Pipeline Design*
1045 – 1215	***Pipeline Design, Construction & Maintenance vs. Integrity (cont'd)*** *Operation • Economics*
1215 – 1230	*Break*
1230 – 1420	***Threats to Buried Pipeline's Integrity*** *Time Dependent • Time Independent • Stable*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Time Dependent Defects Theory*** *Corrosion Principles • Corrosion Thermodynamics • Corrosion Kinetics • Corrosion Rate Expressions*
0930 – 0945	*Break*
0945 – 1045	***Types & Forms of Corrosion (Internal & External)*** *Corrosion Monitoring • Corrosion Protection (Including Cathodic Protection) • Internal Corrosion Modelling & Risk Assessment • Fatigue – Heavy Fouling/Clogging • Time Independent & Stable Factors*
1045 – 1215	***Integrity Management Program Development*** *Integrity Management Strategies • Main Factors Affecting Pipeline Integrity • Integrity Management Program Development*
1215 – 1230	*Break*
1230 – 1420	***Internal Inspection Tools*** *Types of Internal Inspection Tools • Preparing to Inspect • Data Assessment • Inspection Reports • Other Issues*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***External Surveys-Pipeline Integrity & Electrical Surveys*** *Prioritisation • Methods & Techniques • Interpretation & Use of the Results • Innovation Aspects*
0930 – 0945	*Break*
0945 – 1045	***Pressure & Leak Testing*** *The Purpose of Hydro Test • Theory • Designing a Pressure Test • How to Conduct a Hydro Test*
1045 – 1215	***Practical Aspects & Case Histories*** *Microbial Corrosion • A.C. Corrosion • Stray Current Corrosion • Stress Corrosion Cracking*
1215 – 1230	*Break*
1230 – 1420	***Pipeline Rehabilitation - Repair Techniques***
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Geological Aspects*** *Aspects Tied with the Pipeline*
0930 – 0945	*Break*
0945 – 1045	***Verifying the Integrity of an Old Pipeline*** *A Case History*
1045 – 1215	***Remote Monitoring & Control of Cathodic Protection Systems***
1215 – 1230	*Break*
1230 – 1420	***Quality Control - Reporting***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Overall Review***
0930 – 0945	*Break*
0945 – 1100	***Exercises & Testing***
1100 – 1200	***Exercises & Testing (cont'd)***
1200 – 1215	*Break*
1215 – 1400	***Summary, Open Forum, Course Conclusion & Closing***
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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