

COURSE OVERVIEW DE1146

Well Integrity Flow Assurance

Course Title

Well Integrity Flow Assurance

Course Date/Venue

July 20-24, 2026/Al Reem 1 Meeting Room,
Grand Millennium Al Wahda Hotel, Abu Dhabi,
UAE

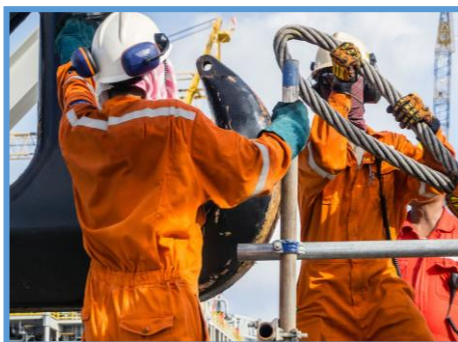
Course Reference

DE1146

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 comprehensive course provides participants with an in-depth understanding of Well Integrity and Flow Assurance throughout the well lifecycle. The course integrates engineering principles, industry standards, operational best practices, risk management, monitoring technologies and troubleshooting techniques to ensure safe, reliable and efficient production. Participants will gain practical knowledge on maintaining well barrier integrity while preventing and mitigating flow assurance challenges such as hydrate formation, wax deposition, scale, corrosion, sand production, and production system restrictions.

Further, the course will also discuss the well integrity management, well barrier philosophy and international standards and regulatory requirements; the fundamentals of flow assurance and reservoir, wellbore and surface system integration; the risk assessment in well integrity and flow assurance, well integrity monitoring systems and wellhead and christmas tree integrity; the casing, tubing and completion integrity, well integrity testing and well integrity diagnostics; the integrity threat management and hydrate formation; and the prevention, wax deposition management and scale formation and control.

During this interactive course, participants will learn the corrosion management, sand production and erosion; the asphaltene and organic deposits, multiphase flow fundamentals, artificial lift and flow assurance and production chemistry; the production surveillance and optimization, digital technologies in well integrity and integrity during well intervention; the well integrity failure investigation, flow assurance troubleshooting and emergency response; and the well control considerations and asset integrity management.

Course Objectives/Outcomes & Benefits for the Participants

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

- Apply and gain a comprehensive knowledge on well integrity flow assurance
- Discuss well integrity management, well barrier philosophy and international standards and regulatory requirements
- Explain the fundamentals of flow assurance and apply reservoir, wellbore and surface system integration
- Apply risk assessment in well integrity and flow assurance, well integrity monitoring systems and wellhead and christmas tree integrity
- Carryout casing, tubing and completion integrity, well integrity testing, well integrity diagnostics and integrity threat management
- Employ hydrate formation and prevention, wax deposition management and scale formation and control
- Apply corrosion management and describe sand production and erosion including asphaltene and organic deposits
- Identify multiphase flow fundamentals, artificial lift and flow assurance and production chemistry
- Apply production surveillance and optimization, digital technologies in well integrity and integrity during well intervention
- Carryout well integrity failure investigation, flow assurance troubleshooting, emergency response and well control considerations and asset integrity management

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 well integrity flow assurance for well integrity engineers, production engineers, drilling engineers, completion engineers, reservoir engineers, petroleum engineers, flow assurance engineers, well intervention engineers, production technologists, pipeline engineers, process engineers, operations engineers, asset integrity engineers, wellsite supervisors, production supervisors, field operations managers, maintenance engineers, HSE engineers and specialists, inspection and reliability engineers, technical professionals involved in well integrity, production optimization and flow assurance activities and other technical staff.

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

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)

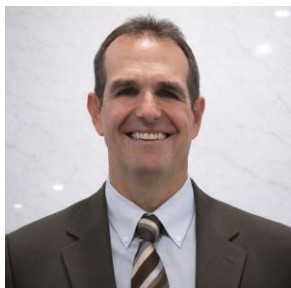
Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** 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. Konstantin Zorbalas, MSc, BSc, is a Senior Petroleum Engineer & Well Completions Specialist with over **25 years** of **offshore** and **onshore** experience in the **Oil & Gas, Refinery & Petrochemical** industries. His wide expertise includes **Well Integrity & Flow Assurance, Well Integrity, Production Technology & Flow Assurance, Well Integrity Assurance & Production Optimization, Well Intervention & Flow Assurance, Flow Assurance for Well Integrity & Production Systems, Well Integrity, Production Operations & Flow Assurance, Well Integrity, Completion Design & Flow Assurance, Advanced Well Integrity & Flow Assurance** for Oil & Gas Production, **Workovers & Completions, Petroleum Risk & Decision Analysis, Electrical Submersible Pumps Application, ESP Assembly & Disassembly Techniques, ESP Modeling & Design, ESP Construction & Operational Monitoring, ESP Troubleshooting & Maintenance, Acidizing Application in Sandstone & Carbonate, Well Testing Analysis, Stimulation Operations, Reserves Evaluation, Reservoir Fluid Properties, Reservoir Engineering & Simulation Studies, Reservoir Monitoring, Artificial Lift Design, Gas Operations, Workover/Remedial Operations & Heavy Oil Technology, Applied Water Technology, Oil & Gas Production, X-mas Tree & Wellhead Operations & Testing, Artificial Lift Systems (Gas Lift, ESP, and Rod Pumping), Well Cementing, Production Optimization, Well Completion Design, Sand Control, PLT Correlation, Slickline Operations, Acid Stimulation, Well testing, Production Logging, Project Evaluation & Economic Analysis**. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, performing conceptual studies, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant** of **National Oil Company** wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer, Well Completion Specialist, Production Manager, Project Manager, Technical Manager, Technical Supervisor & Contracts Manager, Production Engineer, Production Supervisor, Production Technologist, Technical Specialist, Business Development Analyst, Field Production Engineer** and **Field Engineer**. He worked for many world-class oil/gas companies such as **ZADCO, ADMA-OPCO, Oilfield International Ltd, Burlington Resources** (later acquired by **Conoco Phillips**), **MOBIL E&P, Saudi Aramco, Pluspetrol E&P SA, Wintershall, Taylor Energy, Schlumberger, Rowan Drilling** and **Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m3/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP and Gas Lift systems**.

Mr. Zorbalas has **Master** and **Bachelor** degrees in **Petroleum Engineering** from the **Mississippi State University, USA**. Further, he is an **SPE Certified Petroleum Engineer, Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, an active member of the Society of Petroleum Engineers (**SPE**) and has numerous scientific and technical publications and delivered innumerable training courses, seminars and workshops worldwide.

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.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

Course Fee.

US\$ 8,000 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 workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Monday, 20th of July 2026

0730 – 0800	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to Well Integrity Management <i>Definition & Objectives of Well Integrity • Well Lifecycle Integrity Philosophy • Elements of the Well Integrity Management System (WIMS) • Industry Challenges & Lessons Learned</i>
0930 – 0945	<i>Break</i>
0945 – 1030	Well Barrier Philosophy <i>Primary & Secondary Well Barriers • Barrier Envelope Concepts • Barrier Acceptance Criteria • Barrier Verification Methods</i>
1030 – 1130	International Standards & Regulatory Requirements <i>ISO 16530 Well Integrity • API Recommended Practices • NORSOK D-010 Requirements • Corporate Integrity Management Frameworks</i>
1130 – 1215	Fundamentals of Flow Assurance <i>Definition & Scope of Flow Assurance • Production System Flow Behavior • Pressure-Temperature Relationships • Impact on Production Performance</i>

1215 – 1230	Break
1230 – 1330	Reservoir, Wellbore & Surface System Integration Reservoir Inflow Mechanisms • Wellbore Hydraulics • Surface Production Network Interaction • Integrated Production System Overview
1330 – 1420	Risk Assessment in Well Integrity & Flow Assurance Hazard Identification (HAZID) • Failure Modes & Effects Analysis (FMEA) • Risk Matrices & Consequence Analysis • Risk Mitigation Planning
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day One

Day 2: Tuesday, 21st of July 2026

0730 – 0830	Well Integrity Monitoring Systems Annulus Pressure Monitoring • Pressure & Temperature Surveillance • Real-Time Monitoring Technologies • Data Acquisition Systems
0830 – 0930	Wellhead & Christmas Tree Integrity Wellhead Components • Christmas Tree Valves & Functions • Pressure Containment Verification • Maintenance Requirements
0930 – 0945	Break
0945 – 1100	Casing, Tubing & Completion Integrity Tubular Integrity Assessment • Corrosion & Wear Mechanisms • Mechanical Failure Modes • Integrity Inspection Techniques
1100 – 1215	Well Integrity Testing Pressure Testing Methods • Leak Testing Procedures • Barrier Verification Tests • Acceptance Criteria
1215 – 1230	Break
1230 – 1330	Well Integrity Diagnostics Annulus Pressure Diagnosis • Leak Path Identification • Logging Technologies • Root Cause Investigation
1330 – 1420	Integrity Threat Management Sustained Casing Pressure • Gas Migration • Cement Integrity Issues • Remedial Intervention Strategies
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day Two

Day 3: Wednesday, 22nd of July 2026

0730 – 0830	Hydrate Formation & Prevention Hydrate Formation Mechanisms • Operating Envelope Analysis • Thermodynamic Inhibitors • Low Dosage Hydrate Inhibitors (LDHI)
0830 – 0930	Wax Deposition Management Wax Precipitation Mechanisms • Pipeline Deposition Behavior • Chemical Treatment Options • Pigging Strategies
0930 – 0945	Break

0945 – 1100	Scale Formation & Control Scale Chemistry Fundamentals • Scale Prediction Software • Chemical Inhibition • Mechanical Scale Removal
1100 – 1215	Corrosion Management CO ₂ Corrosion Mechanisms • H ₂ S Corrosion Effects • Corrosion Monitoring Methods • Corrosion Inhibition Programs
1215 – 1230	Break
1230 – 1330	Sand Production & Erosion Sand Production Mechanisms • Erosion Prediction • Sand Monitoring Systems • Sand Control Technologies
1330 – 1420	Asphaltene & Organic Deposits Asphaltene Precipitation • Deposition Prediction • Chemical Dispersants • Removal Techniques
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day Three

Day 4: Thursday, 23rd of July 2026

0730 – 0830	Multiphase Flow Fundamentals Flow Regimes • Pressure Loss Mechanisms • Liquid Loading • Slug Flow Behavior
0830 – 0930	Artificial Lift & Flow Assurance ESP Operational Challenges • Gas Lift Optimization • Rod Pump Flow Assurance Issues • Lift System Reliability
0930 – 0945	Break
0945 – 1100	Production Chemistry Production Chemical Programs • Demulsifiers • Corrosion Inhibitors • Scale & Wax Inhibitors
1100 – 1215	Production Surveillance & Optimization Production Data Analysis • Well Performance Indicators • Production Optimization Techniques • Integrated Asset Surveillance
1215 – 1230	Break
1230 – 1330	Digital Technologies in Well Integrity Digital Oilfield Applications • Smart Well Technologies • Predictive Analytics • Machine Learning Applications
1330 – 1420	Integrity During Well Intervention Wireline Operations • Coiled Tubing Interventions • Workover Integrity Management • Temporary Barrier Verification
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day Four

Day 5: Friday, 24th of July 2026

0730 – 0830	Well Integrity Failure Investigation <i>Failure Classification • Root Cause Analysis (RCA) • Incident Investigation Process • Corrective Action Planning</i>
0830 – 0930	Flow Assurance Troubleshooting <i>Production Restriction Diagnosis • Hydrate Blockage Response • Wax & Scale Troubleshooting • Chemical Treatment Optimization</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Emergency Response & Well Control Considerations <i>Loss of Barrier Response • Emergency Shutdown Procedures • Blowout Prevention Considerations • Incident Communication Protocols</i>
1100 – 1230	Asset Integrity Management <i>Lifecycle Integrity Planning • Risk-Based Inspection (RBI) • Maintenance Optimization • Integrity Performance Indicators (KPIs)</i>
1230 – 1245	<i>Break</i>
1245 – 1315	Integrated Well Integrity & Flow Assurance Case Studies <i>Offshore Production Systems • Onshore Well Integrity Challenges • Mature Field Production Optimization • Lessons Learned from Industry Incidents</i>
1315 – 1345	Future Trends <i>Digital Twins for Production Systems • Autonomous Integrity Monitoring • Advanced Flow Assurance Modeling</i>
1345 – 1400	Course Conclusion <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course</i>
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

Learning Outcomes

By the end of this course, participants will be able to:

- Understand the principles and requirements of Well Integrity Management Systems (WIMS)
- Apply international standards such as ISO 16530, API and NORSOK D-010 to well operations.
- Evaluate well barrier integrity throughout the well lifecycle
- Monitor and diagnose well integrity issues using surveillance data and integrity testing
- Identify and mitigate major flow assurance challenges, including hydrates, wax, scale, corrosion, sand and asphaltenes
- Optimize production through integrated well integrity and flow assurance strategies
- Utilize production chemistry, digital monitoring and predictive analytics to improve operational reliability
- Conduct root cause investigations and implement corrective actions for integrity and flow assurance failures
- Develop proactive maintenance, inspection and risk management plans to ensure safe and efficient well operations

Practical Sessions

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



Course Coordinator

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