



External Training Course

Advanced Verification & Validation (V&V) Strategies in the Oil & Gas Industry

From 26 May To 30 May 2025

**Citadines Central Shinjuku Tokyo
Tokyo, Japan**

**Mr. Ghanem F. Al-Otaibi
GM & Institute Owner**

Tel.: 00965 22248901

Fax: 00965 22204999

Mob.: 00965 65548855

Mob.: 00965 97273712

Email: admin@agi-kw.com

Email: agi-kw@hotmail.com

W/SITE: WWW.AGI-KW.COM

External Training Course:

**Advanced Verification & Validation (V&V)
Strategies in the Oil & Gas Industry**

From 26 May To 30 May 2025

Fess: ~~2500~~ KD

**Register now to secure one of the last remaining seats
and benefit from the special discounted of 1850 KWD
for registrations completed before May 10, 2025.**

Course Overview

This specialized course is designed to equip Verification & Validation (V&V) Coaches with advanced expertise in testing, compliance, and reliability assurance in the oil & gas sector. Participants will learn industry best practices, risk assessment techniques, and quality control methodologies to ensure operational excellence, regulatory compliance, and asset integrity. The course covers V&V frameworks, process optimization, failure analysis, and performance validation to enhance safety, efficiency, and reliability in oil & gas operations.

Course Objectives

Upon completion, participants will be able to:

- Understand V&V principles and their role in ensuring compliance and reliability.
- Implement advanced validation methodologies to meet industry regulations.
- Conduct performance testing & risk-based assessments for oil & gas systems.
- Develop predictive maintenance strategies to enhance equipment lifespan.
- Apply modern diagnostic tools for fault detection & performance optimization.
- Optimize operational efficiency & minimize system failures through effective testing.
- Ensure regulatory compliance with API, ASME, ISO, IEC, and industry standards.

Who Should Attend?

This course is ideal for professionals involved in quality assurance, compliance, and performance testing, including:

- Verification & Validation (V&V) Coaches.
- QA/QC Engineers & Specialists.
- Reliability & Maintenance Engineers.
- Instrumentation & Control Engineers.
- Process & Safety Engineers.
- Operations & Asset Integrity Managers.
- Project Managers & Technical Supervisors.

Course Modules & Topics

Day 1: Fundamentals of Verification & Validation in Oil & Gas

- Definitions & key differences between Verification, Validation & Testing.
- International V&V standards & compliance frameworks (API 610, ISO 9001, ASME).
- The role of V&V in oil & gas risk management & quality assurance.
- Failure Modes & Effects Analysis (FMEA) for equipment validation.
- Case Study: Best practices in V&V for critical oil & gas assets.

Day 2: Verification Strategies & Regulatory Compliance

- Verification of design, materials & system integrity.
- Factory Acceptance Testing (FAT) & Site Acceptance Testing (SAT).
- Non-Destructive Testing (NDT) techniques for quality control.
- Hydraulic performance validation for rotating & static equipment.
- Case Study: Ensuring compliance in pipeline & refinery operations.

Day 3: Performance Validation & Testing Methodologies

- Validation planning & execution for operational success.
- Testing methodologies for pumps, compressors, & pressure vessels.
- Condition monitoring & real-time performance validation.
- Vibration analysis, thermal imaging & acoustic emissions testing.
- Case Study: Validating offshore equipment performance.

Day 4: Advanced Risk-Based V&V & Troubleshooting Techniques

- Risk-based validation frameworks for oil & gas operations.
- Root Cause Analysis (RCA) & defect detection techniques.
- Predictive maintenance & AI-driven diagnostics.
- Troubleshooting V&V issues in dynamic environments.
- Case Study: Risk mitigation strategies in LNG & refining facilities.

Day 5: Optimizing V&V Strategies for Operational Excellence

- Developing a structured V&V process for oil & gas projects.
- Ensuring continuous improvement in quality & compliance.
- Best practices for optimizing testing procedures.
- Final assessment & certification of completion.

Training Methodology

Interactive presentations & real-world case studies.

Hands-on workshops & practical exercises.

Live demonstrations of V&V techniques & testing tools.

Problem-solving sessions & group discussions.

Comprehensive training materials & reference guides.

Final assessment & professional certification.

Why Attend This Course?

Master V&V best practices to ensure system reliability & compliance.

Enhance operational efficiency through advanced validation techniques.

Reduce equipment failures & optimize maintenance costs.

Gain hands-on experience with state-of-the-art diagnostic tools.

Earn an internationally recognized certification.



Program Agenda:

(1st Day) Agenda

8.30	9.00	Opening Remarks (30 Min.).
9.00	11.30	<u>DISCUSS COURSE OBJECTIVES:</u> <ul style="list-style-type: none"> Fundamentals of Verification & Validation in Oil & Gas. Verification Strategies & Regulatory Compliance. Performance Validation & Testing Methodologies. Advanced Risk-Based V&V & Troubleshooting Techniques. Optimizing V&V Strategies for Operational Excellence.
11.30	12.00	Coffee Break
12.00	14.00	<u>Fundamentals of Verification & Validation in Oil & Gas:</u> <ul style="list-style-type: none"> Definitions & key differences between Verification, Validation & Testing. International V&V standards & compliance frameworks (API 610, ISO 9001, ASME). The role of V&V in oil & gas risk management & quality assurance. Failure Modes & Effects Analysis (FMEA) for equipment validation. Case Study: Best practices in V&V for critical oil & gas assets.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(2nd Day) Agenda

9.00	11.30	<u>Verification Strategies & Regulatory Compliance:</u> <ul style="list-style-type: none"> Verification of design, materials & system integrity. Factory Acceptance Testing (FAT) & Site Acceptance Testing (SAT). Non-Destructive Testing (NDT) techniques for quality control.
11.30	12.00	Coffee Break
12.00	14.00	<u>Verification Strategies & Regulatory Compliance:</u> <ul style="list-style-type: none"> Hydraulic performance validation for rotating & static equipment. Case Study: Ensuring compliance in pipeline & refinery operations.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(3rd Day) Agenda

9.00	11.30	<u>Performance Validation & Testing Methodologies:</u> <ul style="list-style-type: none"> • Validation planning & execution for operational success. • Testing methodologies for pumps, compressors, & pressure vessels. • Condition monitoring & real-time performance validation.
11.30	12.00	Coffee Break
12.00	14.00	<u>Performance Validation & Testing Methodologies:</u> <ul style="list-style-type: none"> • Vibration analysis, thermal imaging & acoustic emissions testing. • Case Study: Validating offshore equipment performance.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(4th Day) Agenda

9.00	11.30	<u>Advanced Risk-Based V&V & Troubleshooting Techniques:</u> <ul style="list-style-type: none"> • Risk-based validation frameworks for oil & gas operations. • Root Cause Analysis (RCA) & defect detection techniques. • Predictive maintenance & AI-driven diagnostics.
11.30	12.00	Coffee Break
12.00	14.00	<u>Advanced Risk-Based V&V & Troubleshooting Techniques:</u> <ul style="list-style-type: none"> • Troubleshooting V&V issues in dynamic environments. • Case Study: Risk mitigation strategies in LNG & refining facilities.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(5th Day) Agenda

9.00	11.30	<u>Optimizing V&V Strategies for Operational Excellence:</u> <ul style="list-style-type: none"> • Developing a structured V&V process for oil & gas projects. • Ensuring continuous improvement in quality & compliance.
11.30	12.00	Coffee Break
12.00	14.00	<u>Optimizing V&V Strategies for Operational Excellence:</u> <ul style="list-style-type: none"> • Best practices for optimizing testing procedures. • Final assessment & certification of completion.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch