

# COURSE OVERVIEW FE0702 API 1169: Pipeline Construction Inspector

(API Exam Preparation Training)

#### **Course Title**

API 1169: Pipeline Construction Inspector (API Exam Preparation Training)

#### Course Reference

FE0702

## Course Duration/Credits AWA

Five days/4.0 CEUs/40 PDHs

#### **Course Date/Venue**



Session(s)	Date	Venue	Exam Window	Exam Closing Date
1	April 22-26, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE	August 09- 30,2024, 2024	May 31, 2024
2	July 29 – August 02, 2024	Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE	August 09- 30,2024, 2024	May 31, 2024
3	September 01-05, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE	December 06- 27, 2024	September 27, 2024
4	October 27-31, 2024	Al Aziziya Hall, The Proud Hotel Al Khobar, Al Khobar, KSA	December 06- 27, 2024	September 27, 2024
Exam	Abu Dhabi, Dubai, Al-Khobar, Jeddah, Kuwait, Amman, Beirut, Cairo, Manama and			
Venue	Muscat. Participant has the option to attend at any of the above cities			

#### **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 course covers the API requirements needed to perform inspection activities safely and effectively during construction of new onshore pipelines. Attending this course will provide the basis for what construction inspectors need to know including the required knowledge and information related to each facet of new pipeline construction inspection activities.

The course is divided into the following major sections:



- Personnel and General Pipeline Safety
- Environmental and Pollution Control
- General Pipeline Construction Inspection

Haward Technology is proud of its **90% pass rate** on all our API sponsored courses.























#### **Course Objectives**

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

- Prepare for the next API 1169 exam and have enough knowledge and skills to pass such exam in order to get the API 1169 certification
- Apply and gain an in-depth knowledge on pipeline inspection in accordance with API 1169 standard
- Discuss the pipeline construction inspector responsibilities covering quality assurance, planning activities, authority to stop work, reporting, documentation, public relations, media relations, safety and work ethics
- Enumerate personnel and general pipeline safety requirements as well as environmental and pollution control requirements
- Recognize general pipeline construction requirements covering verification of personnel qualifications, ROW inspection, coating, marking, ROW preparation, ditching and excavation
- Employ pipeline handling, hauling and stringing operations
- Identify piping components, materials and other mainline appurtenances
- Operate pipe bending and discuss pipe alignment and welding requirements
- Describe roadway, railroad and other crossing, waterway and water body crossings
- Distinguish the different requirements of corrosion control, lowering in requirements, back fill and cleanup, pipeline cleaning, internal line inspection, hydrostatic pressure, testing commissioning, inspector tools for communication and documentation

#### Who Should Attend

This course provides a wide understanding and deeper appreciation of pipeline inspection in accordance with the API 1169 standard for those who are engaged in pipeline inspection or seeking to become certified pipeline inspectors. The course is also beneficial to pipeline owner/operators and pipeline inspection service companies in order for them to aid and enhance their inspector training programs.

#### Training Methodology

All our Courses are including Hands-on Practical Sessions using equipment, State-ofthe-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.

#### Accommodation

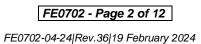
Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.





















#### **Exam Eligibility & Structure**

Exam candidates shall have the following minimum pre-requisites:-

The qualification requirements for API 1169 are based on a combination of the number of years of experience acquired within the last 20 years, plus education and in some cases, other certifications.

Your experience and education should match at least one of the combinations in any one of the grids below:-

Description of Experience Required	Minimum Years of Experience Required	Plus: Education	
INSPECTION EXPERIENCE			
	3 years	Any or no education	
PIPELINE INSPECTION  Experience acquired in areas such as Utility inspection, Pressure/Leak Testing, Welding Inspection, Coating Inspection, Safety Inspection, Offshore Pipeline Inspection	2 years	BS or 2-year degree in a technical discipline, engineering or technology OR 2 years of military service in a technical role	
GENERAL OIL & GAS INSPECTION  Experience acquired in areas such as: Equipment Inspection, NDT, In-service Inspection, Visual Inspection, Welding Inspection, Pressure/Leak Testing, Inspection of Aboveground Storage Tanks,	3 years	BS or 2-year degree in a technical discipline, engineering or technology OR  2 years of military service in a technical role	
Piping or Pressure Vessels,  Manufacturing/Source Inspection	4 years	High School, GED or no education	
NON-INSPECTION PIPELINE EXPERIENCE			
Experience acquired in areas such as: Pipeline Construction, Pipeline Surveyor, Pipeline Operation, Offshore Pipeline, Welding, Fitting, Coating, Operation of Heavy Equipment, Pipeline Safety	4 years	BS or 2-year degree in a technical discipline, engineering or technology OR 2 years of military service in a technical role	
Supervisor	5 years	High School, GED or no education	

Description of Experience Required	Minimum Years of Experience Required	Plus: Education	Plus: Certification	
(	GENERAL OIL & GAS INDUSTRY EXPERIENCE			
Experience acquired at any petrochemical facility, such as refinery or	Total of 4 years which includes at least 1 year of Pipeline Specific experience	Any or no education	Any certification from the following:  AWS/CWB  NACE (Level II or	
petrochemical plants  Experience may relate to: Operation, Construction and repair of petrochemical equipment	6 years	Any or no education	<ul> <li>NACE (Level II of greater)</li> <li>API</li> <li>ASNT (Level III or greater)</li> <li>CGSB, PCN or any other ISO 9712 accredited NDE certification</li> </ul>	



















Description of Experience Required	Minimum Years of Experience Required	Plus: Education	Plus: Certification	
	OTHER HEAVY INDUSTRY EXPERIENCE			
Experience acquired in industries or areas such as: Road Building, Civil Construction, Mining, Logging, Heavy Equipment Operating, Blasting, Power (ex:	5 years	BS or 2-year degree in a technical discipline, engineering or technology OR, 2 years of military service in a technical role	Any certification from the following:  AWS/CWB  NACE (Level II or greater)  API  ASNT (Level III or	
nuclear, gas-fired, etc.), Shipbuilding, Construction related activities such as welding, coating, material handling, excavation, etc.	8 years	Any or no education	greater)  CGSB, PCN or any other ISO 9712 accredited NDE certification	

#### **Required Codes and Standards:**

Listed below are the effective editions of the publications required for this examination on the date(s) shown above. Each participant must purchase these documents separately and have them available for use during the class as their cost is not included in the course fees:-

- API Recommend Practice 1169, Pipeline Construction Inspection, 2<sup>nd</sup> Edition, March 2020
- API Recommended Practice 1110, Pressure Testing of Steel Pipelines for the Transportation of Gas, Petroleum Gas, Hazardous Liquids, Highly Volatile Liquids, or Carbon Dioxide, 7<sup>th</sup> Edition, December 2022
- API Specification Q1, Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry, 9th Edition, June 2013; Addendum 1 (June 2016) and Addendum 2 (June 2018); Errata 1 (February 2014), Errata 2 (March 2014), and Errata 3 (October 2019) Sections 3-5 only
- ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, 2021 Chapters 4, 5, 6 and 8
- CGA, Best Practices, Current Edition
- CS-S-9 Pressure Testing (Hydrostatic/Pneumatic) Safety Guidelines, December 2018
- **ISO 9000:2015** *Quality Management Systems Fundamentals and Vocabulary*, 4th edition (confirmed in 2021). Definitions Only
- Either API Standard 1104, Welding of Pipelines and Related Facilities, 22<sup>nd</sup> Edition, July 2021 OR CSA Z662-19, Oil and Gas Pipeline Systems, June 2019 (Chapters 1, 2, 4, 6, 7, 8, 9 and 10)



















#### Applicants may choose to study from either column

The references below will be available to applicants on the computer screen during the exam. Please check the API website for PDFs of the below references:

US References	Canadian Equivalents
<ul> <li>Code of Federal Regulations (CFR)         <ul> <li>49 CFR 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards: Article 7, Subpart E, Subpart G, Article 505, Article 614 &amp; Article 707</li> </ul> </li> <li>49 CFR 195, Transportation of Hazardous Liquids by Pipeline: Article 2 Article 3, Subpart D, Article 302, Article 310 &amp; Article 410</li> </ul>	

Safety

- Code of Federal Regulations (CFR)
   29 CFR 1910, Occupational Safety and Health Standards (OSHA): Article 119, Subpart I (Excluding Article 140 & Subpart I Appendices), Articles 145-147 (Excluding Appendices) & Article 184
  - 29 CFR 1926, Safety and Health Regulations for Construction (OSHA): Subpart C, Article 62 (Excluding Appendices), Article 102, Article 152, Articles 250-251, Article 451, Articles 500-501, Article 601, Subpart P, Articles 902 & 914 & Article 1417.
  - 49 CFR 172, Hazardous Materials Table, Special Provisions Hazardous Materials Communication, Emergency Response Information, Training Requirements, and Security Plans: Article 101 (Excluding Appendices)

- Canada Occupational Health and Safety Regulations (COHS) (F): Part III, IV, X, XI, IXII, XIV, XV, XIX
- Transport Canada, Transportation of Dangerous Goods Regulations
   (F): Part 1.4, 2 (excluding appendices 1 & 3 through 5), 4 & 6

#### **Environmental**

- Code of Federal Regulations (CFR)
  - 33 CFR 321, Permits for Dams and Dikes in Navigable Waters of the United States
  - o 40 CFR 300, National Oil and
- Canadian Environmental Protection Act, 1999 (S.C. 1999, c.33) (F): Sections 3, 64-65 & 90-99
- Fisheries and Oceans, Land Development Guidelines for the





















Hazardous Substances Pollution Contingency Plan: Subparts A & E

- Federal Energy Regulatory
   Commission: Office of Energy
   Projects Wetland and Waterbody
   Construction and Mitigation
   Procedures, May 2013
   Upland Erosion Control, Revegetation, and Maintenance Plan, May 2013
- Migratory Bird Permits (50 CFR Part 21): Subpart B
- 33 USC Chapter 9: Protection of Navigable Waters and of Harbor and River Improvements Generally Subchapter I Articles 401,403, 403a, 404, 407
- Endangered Species Act of 1973: Sections 3, 4, 7, 9, 10, 12

- Protection of Aquatic Habitat: Section 3
- <u>Canada Water Act (R.S.C., 1985, c.C-11)</u> (F): Part II
- Canadian Energy Pipeline
   Association (CEPA), Pipeline
   Associated Watercourse Crossings, 4th Edition, November 2012
- Migratory Bird Convention Act, 1994 (S.C. 1994, c.22) (F): Sections 4-6 & 12
- Navigation Protection Act (R.S.C.,1985, c. N-22) (F): Sections 2-14 & 21-26
- Species at Risk Act (S.C. 2002, c. 29) (F) Sections 2, 32-39 & 56-64

Canadian documents with (F) listed next to their titles indicates that the document is provided in both English and French during the exam. Please note that not all documents have French translations.

### **American Society of Mechanical Engineers (ASME)**

- **B31.4**, Pipeline Transportation Systems for Liquids and Slurries, 2022 Edition Chapter I-III and V-VI only
- **B31.8**, Gas Transmission and Distribution Piping Systems, 2022 Edition General Provisions and Definitions and Chapter I-IV & VI only

Note: API and ASME publications are copyrighted material. Photocopies of API and ASME publications are not permitted. CD-ROM versions of the API documents are issued quarterly by Information Handling Services and are allowed. Be sure to check your CD-ROM against the editions noted on this sheet.

#### Training Fee

Dubai	<b>US\$ 7,500</b> per Delegate + <b>VAT</b> . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Abu Dhabi	<b>US\$ 7,500</b> per Delegate + <b>VAT</b> . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Al Khobar	<b>US\$ 7,500</b> per Delegate + <b>VAT</b> . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

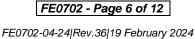
Exam Fees
US\$ 720 per Delegate + VAT.



















#### **API Certificate(s)**

(1) API-1169 certificate will be issued to participants who have successfully passed the API-1169 examination.



(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

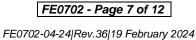






















#### **Certificate Accreditations**

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 **4.0 CEUs** (Continuing Education Units) or **40 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. Allen Noguera, BSc, ASNT-NDT, AWS-CWI, API, is a Senior Inspection Engineer with almost 20 years of extensive industrial experience within the Oil & Gas, Refinery and Petrochemical industries. His expertise widely covers in the areas of Source Inspection Performance, Source Inspection Planning, Source Inspection Continuous Improvement, Source Inspection Management, Pressure Vessel Inspection, Piping Inspection, Risk Based Inspection, Above Ground Storage Inspection, Corrosion & Material Management, Refractory Inspection, Welding Inspection

& Metallurgy, Asset Integrity Management, Welding & Fabrication, Piping Inspection, Pipelines, Risk-Based Inspection (RBI), Fitness-for-Service (FFS), Asset Integrity Management (AIM), Plant Inspection & Corrosion Engineering, Metallurgy, Corrosion & Prevention, Material Selection & Properties, Welding Technology, Welded Steel Tanks for Oil Storage, Cathodic Protection, Damage Mechanisms, Mechanical & Metallurgical Failure Mechanisms, Atmospheric & Low-Pressure Storage Tank Inspection, Welding Inspection & Metallurgy Pressure Design Thickness Calculation, Metallurgy, Corrosion, Mechanical Integrity Assessment, Vibration Analysis and Non-destructive Testing (NDT). Further, he is also well-versed in AutoCAD 2015, Inventor Autodesk 2014, Caesar II 4.5, SAP PM & MM, Primavera Plot Planner, Ansys CFX, Meridium, Ultrapipe, RBI Software, Raptor and Crystall Ball. He is currently the Senior Assessment Integrity Engineer of INSERCOR for ECOPETROL wherein he is responsible in reviewing, assessing and updating integrity management and inspection data for pressure systems, pipelines and structures.

During his career life, Mr. Noguera has gained his practical and field experience through his various significant positions and dedication as the Welding Inspector, Senior Assessment Integrity Engineer, Offshore/Onshore Assessment Integrity Engineer, Project Mechanical Engineer, Mechanical Inspector Engineer Mechanical Integrity Consultant, NDT Consultant and Senior Technical Instructor/Lecturer for various international companies like the PDVSA, Cicontrol C.A., Inspecta S.A., Techint Group C.A., Refinería de Sonangol and INSERCOR for ECOPETROL.

Mr. Noguera has a Bachelor's degree in Industrial Mechanical Engineering from the Universidad de Los Andes and holds a Diploma in Industrial System Reliability from the Universidad Simon Bolivar. Further, he is a Certified Instructor/Trainer, a Certified Source Inspector-Fixed Equipment (API-SIFE), a Certified Source Inspector-Rotating Equipment (API-SIRE), a Certified Refractory Personnel (API-936), a Certified Above Ground Storage Tank Inspector (API 653), a Certified Pressure Vessels Inspector (API 510), a Certified Piping Inspector (API 570), a Certified Welding Inspection & Metallurgy Professional (API 577), a Certified Risk Based Inspector (API 580), a Certified Corrosion & Material Specialist (API 571), a Certified Pipeline Construction Inspector (API 1169) and an ASNT-NDT Certified Level III ASNT-TC-1A in Radiographic Testing (RT), Magnetic Particle Testing (MT), Visual Testing (VT), Magnetic Flux Leakage Testing (ML), and Liquid Penetrant Testing (PT). Moreover, he is a Certified Welding Inspector from the American Welding Society (CWI-AWS), an Authorized Inspector from the National Board for Boilers and Pressure Vessels and has further delivered innumerable trainings, courses, seminars, conferences and workshops internationally.



















<u>Course Program</u>
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

Registration & Coffee
Welcome & Introduction
PRE-TEST
Introduction
Scope • Normative References • Terms, Definitions & Abbreviations
Break
Pipeline Construction Inspector Responsibilities
Scope • Owner/Operator Representative • Quality Assurance • Relationship
with Contractors, Suppliers & Vendors
Lunch
Pipeline Construction Inspector Responsibilities (cont'd)
Planning Activities • Authority to Stop Work • Reporting • Documentation •
Public Relations ● Media Relations ● Safety ● Work Ethics
Break
Personal & General Pipeline Safety Requirements
Scope • Job Safety Analysis (JSA) • Personal Protective Equipment (PPE) • Loss
Prevention Systems • Protective Measures for Radiation • Job Site & Facility
Security • Required Work Permits • Rigging & Lifting Safety • Isolation of
Hazardous Energy Sources • Excavation, Trenching & Boring Safety • Confined
Space Entry Requirements
Distribute Homework & Recap
End of Day One

Day 2

0730 - 0800	Review Homework Answers
	Personal & General Pipeline Safety Requirements (cont'd)
0800 - 1000	Atmospheric Testing • Respiratory Protection • Fall Prevention & Protective
	Systems • Scaffolding & Ladders
1000 – 1015	Break
	Personal & General Pipeline Safety Requirements (cont'd)
1015 1200	Use, Movement, Storage, & Inspection of Tools, Equipment & Materials ● Facility,
1015 – 1200	Commissioning, & Pre-start-up Review • Regulatory Agency Inspections •
	Vehicle Operation
1200 - 1300	Lunch
	Environmental & Pollution Control Requirements
1300 - 1500	Scope • Erosion, Sediment & Runoff Control on the Pipeline ROW • Federal,
	State & Typical Local Environmental Permits
1500 – 1515	Break
	Environmental & Pollution Control Requirements (cont'd)
1515 – 1645	Major Statutes • Water Crossing Permits • Use of Natural Water Sources •
	Handling Contamination Issues
1645 – 1700	Distribute Homework & Recap
1700	End of Day Two



















Day 3

0730 - 0800	Review Homework Answers
	General Pipeline Construction Requirements
0800 - 1000	Scope • Verification of Construction Personnel Qualifications • ROW Inspection
	Requirements
1000 - 1015	Break
	General Pipeline Construction Requirements (cont'd)
1015 - 1200	Locating & Marking Requirements • ROW Preparation Requirements • Ditching
	& Excavation Requirements
1200 - 1300	Lunch
	General Pipeline Construction Requirements (cont'd)
1300 - 1500	Pipe Handling, Hauling, & Stringing Operations • Piping Components, Materials,
1300 – 1500	Pipe Handling, Hauling, & Stringing Operations ● Piping Components, Materials, & Other Mainline Appurtenances ● Pipe Bending Operations
1300 - 1500 1500 - 1515	
	& Other Mainline Appurtenances • Pipe Bending Operations
	& Other Mainline Appurtenances • Pipe Bending Operations  Break
1500 – 1515	& Other Mainline Appurtenances • Pipe Bending Operations  Break  General Pipeline Construction Requirements (cont'd)
1500 – 1515	& Other Mainline Appurtenances • Pipe Bending Operations  Break  General Pipeline Construction Requirements (cont'd)  Pipe Alignment & Welding Requirements • Roadway, Railroad, & Other Crossings

Day 4

Review Homework Answers
General Pipeline Construction Requirements (cont'd)
Corrosion Control Requirements • Lowering in Requirements
Break
General Pipeline Construction Requirements (cont'd) Backfill & Cleanup Requirements ● Pipeline Cleaning Requirements
Lunch
General Pipeline Construction Requirements (cont'd)
Internal Line Inspection Requirements • Hydrostatic Pressure Testing
Requirements • Commissioning Requirements
Break
General Pipeline Construction Requirements (cont'd)
Documentation Requirements • Inspector Tools for Communication &
Documentation Requirements
Distribute Homework & Recap
End of Day Four

Day 5

0730 - 0800	Review Homework Answers
0800 - 1000	Question & Answer Session
1000 - 1015	Break
1015 - 1200	API 1169 Sample Exam
1200 - 1300	Lunch
1300 - 1500	API 1169 Sample Exam
1500 - 1515	Break
1515 - 1630	Review API 1169 Exam Answers
1630 - 1645	Course Conclusion
1645 – 1700	Presentation of Course Certificates
1700	End of Course



















#### **MOCK Exam**

Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each Participant will be given a username and password to log in Haward's Portal for the Mock exam during the 7 days following the course completion. Each participant has only one trial for the MOCK exam within this 7-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

#### **Practical Sessions**

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



#### **Course Coordinator**

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org















