American Petroleum Institute
Individual Certification Programs: ICP™

BODY OF KNOWLEDGE
API 1169 PIPELINE CONSTRUCTION INSPECTOR

December 2026 – August 2027 exams

API 1169 Pipeline Construction Inspectors must have a broad knowledge base relating to construction of new onshore pipeline construction. This knowledge base, at a minimum, includes such topics as inspector responsibilities, personnel and general pipeline safety, environmental and pollution control, and general pipeline construction inspection. The API 1169 Pipeline Construction Inspector Certification Examination is designed to determine if applicants have such knowledge.

Candidates will be given three hours to complete the 115-question examination (100 scored, 15 not scored) on a computer. Questions for the examination are multiple-choice and personal reference materials are not permitted to be brought into the computer testing centers. US and Canadian government-based reference materials will be provided to all the candidates during the exam on their computer monitors. Candidates may choose to use either set of references to answer all questions. Please note that the keyword search function (Ctrl + F) is *not* available during the exam. Review the Exam Tutorial provided on API's website for further information regarding the operation of the PDF viewer. Please see page two of the API 1169 Effectivity Sheet for a complete list of the documents that will be available during the exam.

Please note: This exam has been reviewed and approved by Canadian experts for use by the Canadian pipeline industry. When a reference has a Canadian equivalent, (for example API 1104 and CSA Z662-19), candidate may choose to study either the American or Canadian reference(s) with the assurance that exam questions will focus on areas where the technical content overlaps.

Please note that API has chosen to use certain standards and codes as representative of best practices within the pipeline industry. Local regulations may differ and it is the responsibility of the pipeline inspector to know and understand the applicable rules and regulations for the area where the pipeline project is undertaken. For this reason, some questions may only be answered using US OSHA regulations (29 CFR 1910 and 29 CFR 1926). These questions are clearly identified in the exam and will say "according to OSHA" in order that applicants will know to use the OSHA regulations provided during the exam to answer these questions.

To determine whether the applicants have sufficient knowledge of inspection practices and related topics, a minimum of one question from each main category listed within this Body of Knowledge will be included on the API certification examination. Only information covered in one of the referenced materials listed in this body of knowledge will be utilized for the examination questions.

REFERENCE PUBLICATIONS

API 1169, Pipeline Construction Inspection

Entire document is subject to testing

API 1110, Pressure Testing of Steel Pipelines for the Transportation of Gas, Petroleum Gas, Hazardous Liquids, Highly Volatile Liquids, or Carbon Dioxide

Entire document is subject to testing with exception of the appendices

API Q1, Quality Management System Requirements for Organizations Providing Products for the Petroleum and Natural Gas Industry

ATTN: Test questions will *only* be based on the following portions of the document:

Section 3 - Terms, Definitions and Abbreviations
Section 4 - Quality Management System Requirements
Section 5 - Product Realization

CGA (Common Ground Alliance) Best Practices

(http://commongroundalliance.com/programs/best-practices)

Entire document is subject to testing

INGAA, Construction Safety Guidelines

- *CS-S-9 Pressure Testing (Hydrostatic/Pneumatic) Safety Guidelines* (http://www.ingaa.org/File.aspx?id=18981)

Entire document is subject to testing

API 1104, Welding of Pipeline and Related Facilities

ATTN: Test questions will only be based on the following portions of the document:

Section 3 - Terms, Definitions, Acronyms, and Abbreviations
Section 4 - Specifications
Section 5 - Qualifications of Welding Procedures with Filler Metal Additions
Section 6 - Qualification of Welders
Section 7 - Design and Preparation of a Joint for Production Welding
Section 8 - Inspection and Testing of Production Welds
Section 9 - Acceptance Standards for NDT
Section 10 - Repair and Removal of Weld Defects
Section 11 - Procedures for Nondestructive Testing (NDT)

OR

CSA Z662, Oil and Gas Pipeline Systems

(http://shop.csa.ca/)

ATTN: Test questions will only be based on the following portions of the document:

Chapter 1 - Scope
Chapter 2 - Reference publications and definitions
Chapter 4 - Design
Chapter 6 - Transportation, handling, and installation
Chapter 7 - Joining
Chapter 8 - Pressure testing
Chapter 9 - Corrosion control
Chapter 10 - Operating, maintenance, and upgrading

ATTN: The below references on pages 3 and 4 will be available to applicants during the exam. Only those articles and sections specifically listed will be available to applicants. For simplicity purposes, API has extracted all the necessary pages of the below listed regulations (both US and Canadian) and made a pdf version available for downloading on our website. Applicants are encouraged to use the pdf version to study.

US References	Canadian Equivalents
49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards:* Subpart A – General Article 7 Subpart E – Welding of Steel in Pipelines Subpart G – General Construction Requirements for Transmission Lines and Mains Subpart J – Test Requirements Article 505 Subpart L – Operations Article 614 Subpart M – Maintenance Article 707 **49 CFR 195**, *Transportation of Hazardous Liquids by Pipeline* Subpart A – General Articles 2 & 3 Subpart D – Construction Subpart E – Pressure Testing Articles 302 & 310 Subpart F – Operations and Maintenance Article 410	
Safety	
29 CFR 1910, *Occupational Safety and Health Standards* Subpart H – Hazardous Materials Article 119 Subpart I – Personal Protective Equipment The Subpart I (Excluding Article 140 and Subpart I Appendices) Subpart J – General Environmental Controls Articles 145-147 (Excluding Article Appendices) Subpart N – Materials Handling and Storage Article 184 **29 CFR 1926**, *Safety and Health Regulations for Construction*: Subpart C – General Safety and Health Provisions Subpart D – Occupational Health and Environmental Controls Article 62 (Excluding Article Appendices) Subpart E – Personal Protective and Life Saving Equipment Article 102 Subpart F – Fire Protection and Prevention Article 152 Subpart H – Materials Handling, Storage, Use and Disposal Articles 250 and 251 Subpart L – Scaffolds Article 451 Subpart M – Fall Protection Articles 500-501 Subpart O – Motor Vehicles, Mechanized Equipment and Marine Operations Article 601 Subpart P – Excavations The entirety of Subpart P, including Appendices Subpart U – Blasting and the Use of Explosives Articles 902 & 914 Subpart CC – Cranes & Derricks in Construction Article 1417	**Canada Occupational Health and Safety Regulations (COHS) :** (F) (http://laws.justice.gc.ca/eng/regulations/sor-86-304/index.html) Part III - Temporary Structures and Excavations Part IV - Elevating Devices Part X - Hazardous Substances Part XI - Confined Spaces Part XII - Safety Material, Equipment, Devices and Clothing Part XIV - Materials Handling Part XV - Hazardous Occurrence Investigation, Recording and Reporting Part XIX - Hazard Prevention Program

Environmental	
Federal Energy Regulatory Commission: Office of Energy Projects *Wetland and Waterbody Construction and Mitigation Procedures,* May 2013. (http://www.ferc.gov/industries/gas/enviro/procedures.pdf) Entire document is subject to testing	
Migratory Bird Permits (50 CFR 21): Subpart B – General Requirements and Exceptions	**Migratory Bird Convention Act, 1994 (S.C. 1994, c.22):** (F) Section 4 – Purpose Section 5 – Prohibitions Section 6 – Administration Section 12 – Regulations
	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.

EXAMINATION CONTENT BASED ON SPECIFIC AREAS OF KNOWLEDGE AND PROFICIENCIES

The inspector should be knowledgeable of general inspection responsibilities, requirements and expectations for pipeline construction that enable him/her to effectively carry out their duties. The following is a list of topics that an applicant should be familiar with and expect to be tested during the API 1169 Pipeline Construction Inspection exam:

1. Pipeline Construction Inspection/Management Knowledge Areas

    - Quality assurance (records, measurement, documentation)
    - Safety (basic site safety, roles and responsibilities)
    - Environmental (permits, SWPPP, BMP's, etc.)
    - Training and Qualifications

2. Front-end Construction

    - Survey & Staking
    - Line Locating
    - ROW Clearing/Grading
        - Alignment sheets (e.g., extra workspace, PI locations, special conditions)
        - Specifications (e.g., width, right of way, grubbing, topsoil segregation)
        - Permits (e.g., road crossing, road access, railroad, encroachment)
        - Special landowner requirements (e.g., line list)
        - Written and/or electronic reporting

3. Installation Construction

    - Stringing
        - Materials identification (e.g., pipe grade, wall thickness, coating, heat and pipe number)
        - Materials defects / condition
        - Handling requirements (e.g., lifting, loading and unloading, equipment, stacking, securing)
        - Pipe tally / pipe placement (e.g., placed per alignment drawings, seam locations)
        - Specifications (e.g., minimum equipment requirements)
        - Written electronic reporting (e.g., stringing distances and skips, number of joints)
    - Bending
        - Pipe ovality and wrinkles (e.g., CFR192)
        - Proper bending equipment (e.g., liners, mandrels, shoes, angle measurement)
        - Specifications (e.g., bending requirements, tangents, maximum angles, seam alignments, coating or metal damage)
        - Written electronic reporting (e.g., bend location, as built)
    - Welding/NDE
        - Specifications, qualified procedures, qualified personnel, documentation, material/consumable control, testing (equipment and products)
    - Trenching
    - Crossings/Drills
        - Specifications, clearances, type of bores, voids, crossing agreements/permits, cased vs. uncased crossings, pipe condition
    - Coating
        - Specifications, qualified procedures, qualified personnel, documentation, material/consumable control, testing (equipment and products)
    - Padding/Lowering in
        - Proper equipment (e.g., lifting, cradles, slings)
        - Specifications (e.g., spacing, location in ditch, depth, ditch preparation, sandbag placement, benching)
        - Lifting plans (e.g., boom spacing, lift height, boom size, number of booms)

    - Written / electronic Reporting (e.g., amount, damage, holiday detection)
  - Tie-ins
    - Specifications (e.g., alignment, OQ)
    - Written / electronic reporting (e.g., location, amount)
    - Material identification (e.g., pipe number, heat number, cutoff length)
    - Material Placement (e.g., transition, pipe support)

4. Back-end Construction

  - Cathodic Protection
    - Alignment sheets (e.g., location, type, length)
    - Specifications (e.g., connection, wire size, anode ground beds, size, length, location)
    - Written / electronic reporting (e.g., location, amount, as-builts, type)
  - As-built Survey
    - Redline drawings, alignment sheets showing final as built conditions, dimensions, and characteristics of the pipeline (e.g., weld maps/logs, NDE maps/logs, PI/POT locations, depth of cover, test leads, material and coating information)
  - Backfill
    - Proper equipment (e.g., type, padding requirements, rock shield, erosion control, weights)
    - Padding pipe (e.g., depth, material size, compaction, foam)
    - Specifications (e.g., padding amount, material size, bench spacing, compaction, crown)
    - Written / electronic reporting (e.g., quantity and location)
    - Buoyancy control (e.g., types, installation, spacing, documentation)
  - ROW Clean-up/ Restoration
    - Alignment sheets (e.g., special conditions, mile marker placement, re-vegetation, bank stabilization)
    - Landowner requirements (e.g., damages, special conditions, fences, restoration)
    - Equipment (e.g., LGP, decompaction, seeding)
  - Hydrostatic Testing
    - Horizontal drilling process, drilling fluids, drill path/profile, geotechnical studies, pull force, radius of curvature, entry/exit points, entry/exit angles)
    - Testing, gauge plate inspections, deformation
  - Pigging (Cleaning/Drying)

5. Post-Construction

  - Line List close out
  - Final completion assessment/Punch out
  - Turn over to Operations