

[CompanyName]

Pipeline Construction & Fabrication

Quality Manual

Operating Policies of the
[CompanyName] Quality System

Management acceptance

This Quality Manual has been reviewed and excepted

Endorsed By: (Name / Title)	[PresidentName], President		
Signature:	<i>[PresidentName]</i>	Date:	[Date]
Version	1.0	Notes	Initial Issue

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QUALITY MANUAL

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2. PERSONNEL QUALIFICATIONS

2.1. OVERVIEW

The Quality Manager qualifies employee capabilities to ensure that they are capable of completely carrying out their assigned quality responsibilities including the following capabilities:

- Knowledge of Company quality standards
- Knowledge of job responsibilities and authority
- Demonstrated skills and knowledge
- Demonstrated ability
- Demonstrated results
- Required training
- Required experience

The Quality Manager also evaluates independent contractor personnel on the same standards that apply to employees.

2.2. PERSONNEL CERTIFICATION REQUIREMENTS

Personnel certifications are required for the following:

Certification or License Title	Reference Standard No.	Reference Standard Title
Welders to structural steel	AWS D1.1/D1.1M	Structural Welding Code - Reinforcing Steel
PE gas pipe welder	ASME B31.8	Gas Transmission and Distribution Piping Systems
Pressure Vessels Inspector Certification Program	API 510	American Petroleum Institute
Piping Inspector Certification Program	API 570	American Petroleum Institute
Aboveground Storage Tanks Inspector Certification Program	API 653	American Petroleum Institute
Refractory Personnel Certification Program	API 936	American Petroleum Institute
Tank Entry Supervisor Certification Program	API TES	American Petroleum Institute
Supplemental Inspection Certification Program	API 571	American Petroleum Institute
Supplemental Inspection Certification Program	API 577	American Petroleum Institute
Supplemental Inspection Certification Program	API 580	American Petroleum Institute
Examiner	API UPA	American Petroleum Institute
Examiner	API USE	American Petroleum Institute
Examiner	API UTB	American Petroleum Institute
Examiner	API UTE	American Petroleum Institute

2.3. QUALIFICATION OF [COMPANYNAME] VISUAL, MT, OR PT PERSONNEL

QC Inspectors who perform VT, MT, or PT examinations on ASME Code Section VIII, Div. 1 welds are qualified and certified for each method in accordance with the following minimum requirements:

- Instruction by the Level III or Quality Manager in the fundamentals of the NDE method.
- On the job training to familiarize the candidate with the appearance and interpretation of indications of weld defects. The length of such training shall be sufficient to assure adequate assimilation of the knowledge required.
- Candidates already qualified in one method may, at the discretion of the Quality Manager, be exempt from this training for other methods.
- A visual acuity examination performed at least annually to determine the optical capability of the candidate to read Jaeger 1 letters at a distance of not less than 12", and to distinguish the contrast between colors.

Upon completion of the above, the candidate is given an oral or written examination and a performance examination by the Quality Manager to determine if he is qualified to perform the examination and interpret the results

Certification records of each QC Inspector who performs NDE examination shall be signed and dated by the Quality Manager and placed in the examiner's file.

Certified NDE Personnel who have not performed a specific examination method for a period of one year or more are recertified only after successfully completing the examinations described above.

Substantial changes in procedures or equipment used require recertification of NDE personnel as determined by the Quality Manager.

The following criteria may be used as an alternative to the above requirements, as applicable for the method:

- Qualification to AWS QC1, Standard for Qualification and Certification of Welding Inspectors, with the addition of the requirements above.
- Recommended Practice ASNT SNT-TC-1A - Current Code accepted edition, qualification of Nondestructive Testing Personnel

2.4. QUALIFICATION OF WELDERS AND WELDING OPERATORS

All welders and welding operators are qualified to the ASME code Section used for construction & ASME Section IX, under the full supervision of the QC inspector with test results reviewed and approved by the Quality Manager. The Quality Manager prepares and certifies the Welder Performance Qualification Record or Welding Operator Performance Qualification Test form (WPQ/WOPQ), which documents the performance essential variables actually used for test welds, and the ranges qualified for production welding by these variables. The WPQ/WOPQ will also include results of visual inspection.

A WPQ/WOPQ is also required for the welder who welded the test welds used to qualify a WPS or to re-qualify, based on the performance essential variables used. The original WPQ/WOPQ's are retained in the Quality Manager's files.

The Quality Manager approves the qualification of all welders before they begin welding on a specific project.

2.5. QUALIFICATION OF WELDERS FOR SPECIFIC WELDING CODES

When indicated on the welding procedure, the Quality Manager approves qualification of welders to the specific welding procedure.

2.6. QUALIFICATION OF WELDERS FOR SPECIFIC WELDING PROCEDURES

6. PROJECT-SPECIFIC QUALITY STANDARDS

APPLICABLE REGULATIONS, INDUSTRY, AND COMPANY STANDARDS

6.1. OVERVIEW

[CompanyName] personnel and subcontractors and suppliers are accountable for compliance to standards-based written specifications.

To achieve expectations reliably and consistently, specifications are clearly spelled out, not only for results but also for processes. Specifications apply to materials, work steps, qualified personnel and subcontractors and suppliers, safe work rules, and environmental work conditions.

Standards ensure that results are specified rather than left to discretionary practices.

6.2. REGULATORY CODES

All [CompanyName] pipeline construction and fabrication activities comply with the relevant regulations. The Quality Manager identifies regulatory requirements applicable to the jurisdictions served, including:

- Applicable Federal regulations
- Applicable State regulations
- Applicable building codes and local addenda to building codes
- Applicable Fire Code
- Applicable Fuel and Gas Code
- Applicable Mechanical Code
- Applicable Plumbing Code
- Additional regulations specified by the customer contract

The Quality Manager identifies regulatory requirements that apply to a specific project on the Project Quality Assurance/Quality Control Plan.

The Superintendent had jobsite access to relevant codes and government regulations.

6.3. [COMPANY NAME] QUALITY STANDARDS

[CompanyName] quality standards supplement contract requirements when they are necessary to ensure quality.

The Quality Manager identifies supplemental requirements for [CompanyName] Quality standards that apply to a specific project on the Project Quality Assurance/Quality Control Plan when it is not otherwise specified by the contract, contract technical specifications, or approved drawings.

When [CompanyName] quality standards differ from industry standards or product manufacturer instructions, the Quality Manager justifies that the standard reliably achieves quality results and then documents the justification.

All [CompanyName] pipeline construction and fabrication activities conform to the company quality standards.

6.4. PIPELINE AND WELDING INDUSTRY QUALITY STANDARDS

Pipeline and welding industry standards that may apply to [CompanyName] projects are listed below.

Description	Reference Standard No.	Reference Standard Title
Identification markings to conform to ASTM standards specified in the approved construction documents	AISC 360 Section A3.3 and applicable ASTM material Standards	Material verification of high-strength bolts, nuts and washers
Identification markings to conform to AWS specification in the approved construction documents	AISC 360, Section A3.5 and applicable AWS A5 documents	Material verification of weld filler materials
Inspection of high-strength bolting	AISC 360, Section M2.5	Inspection of high-strength bolting
Welding of Pipelines	API 1104	Welding of Pipelines and Related Facilities Pipeline Segment
Beveling, alignment, heat treatment, and inspection of weld	ASME B31.1	Power Piping
Plumbing pipe weldments	ASME B31.1	Power Piping
Beveling, alignment, heat treatment, and inspection of weld	ASME B31.1	Power Piping
Requirements for piping of fluids	ASME B31.3	Process Piping
Compressor and instrumentation tests	ASME PTC 10	Performance Test Code on Compressors and Exhausters
Ultrasonic weld inspecting techniques	ASNT SNT-TC-1A Q&A Bk C	Ultrasonic Testing Method
Ultrasonic Inspection	ASTM E 164	Standard Practice for Contact Ultrasonic Testing of Weldments
Liquid Penetrant Inspection	ASTM E 165	Standard Practice for Liquid Penetrant Examination for General Industry
Magnetic Particle Inspection	ASTM E 709	Standard Guide for Magnetic Particle Testing
Radiographic Inspection	ASTM E 94.D	Standard Guide for Radiographic Examination
Non-destructive weld testing and visual examination	AWS B1.11	Guide for the Visual Examination of Welds
Specification for Welding Procedure and Performance Qualification	AWS B2.1/B2.1M	Specification for Welding Procedure and Performance Qualification
Installation of pipe hangers, inserts and supports	MSS SP-58	Pipe Hangers and Supports - Materials, Design and Manufacture, Selection, Application, and Installation
Pipe hanger and support installation	MSS SP-69	Pipe Hangers and Supports - Selection and Application
Corrosion protection coatings for buried pipe and fittings	NACE SP0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
Gas piping installation	NFPA 54	National Fuel Gas Code
Gas line pressure testing	NFPA 54	National Fuel Gas Code
Site Preparation, Excavation, and Backfill Specification	PIP CVS02100	Site Preparation, Excavation, and Backfill Specification

9. WELDING CONTROL

9.1. OVERVIEW

All welding on code work is performed using Welding Procedure Specifications (WPS) and welders/welding operators qualified in accordance with the applicable construction code section and ASME Section IX.

9.2. WELDING PROCEDURE SPECIFICATIONS (WPS)

Welding procedure specifications shall be qualified and approved in accordance with the applicable ASME B&PV codes Section IX, AWS Welding code(s) or Specification(s) (i.e., D1.1., D1.5) or AWS B2.1, *Specification for Welding Procedure and Performance Qualification*.

When the governing Welding code(s) mandates that welding procedures be qualified by test, the [CompanyName] shall have PQRs that support the applicable WPSs. When prequalified WPSs or Standard Welding Procedure Specifications (SWPSs) published by the AWS are permitted, PQRs are not required.

The Quality Manager or a Certified Welding Inspector (CWI) reviews and approves the welding procedure before being used in production welding operations.

Revisions to the WPSs and PQRs are controlled by the Quality Manager according by the document and record control procedures specified in the relevant section of this Quality Manual.

The applicable WPSs shall be available to welders or welding operators during testing and production welding.

The Quality Manager is responsible for selecting and assigning welding procedures. The Quality Manager or qualified designee shall ensure that welding procedures are listed on applicable shop fabrication drawings.

9.3. STANDARD WELDING PROCEDURE SPECIFICATIONS (SWPS)

Standard Weld Procedure Specifications which have been qualified by AWS and accepted for use by ASME can be used for pipeline construction and fabrication of ASME pressure vessels. Prior to use, these procedures shall be demonstrated in accordance with ASME, Section IX, Article V and accepted (signed) by the Quality Manager.

9.4. WELDER ID

Each qualified welder is issued a unique stamp (stencil) by the Quality Manager with which to identify each weld made. When conditions prevent the stamping of welds, the QC Inspector enters the stencil on the Supplemental Inspection and Test Plan for each joint welded, or the QC Inspector will record all stencils for each weld joint on an as-built drawing.

9.5. TACK WELDS

Tack welds, whether left in place or completely removed, are made by qualified welders using a qualified procedure.

10. MATERIAL CONTROLS

10.1. MATERIAL SPECIFICATIONS

The Quality Manager ensures that all types of materials and equipment that affect quality are identified and controlled.

The Quality Manager evaluates the expected use of materials and equipment and identifies types of materials and equipment that may affect project quality. For each item, the Quality Manager sets specifications for their intended use, including:

- Compliance to contract requirements
- Compliance to code and industry standards and listing requirements
- Structural integrity
- Performance
- Durability
- Appearance
- Product identification for traceability.

The Quality Manager identifies controlled material and equipment that apply to the project.

The Quality Manager ensures that purchase orders for listed materials and equipment include the relevant specifications as required.

Only approved materials are used in the pipeline construction and fabrication process.

10.2. WORK PROCESS SPECIFICATIONS

The Quality Manager ensures that work processes are controlled to ensure that the specified requirements are met. When appropriate, the Quality Manager will specify project quality standards for work processes that may include:

- References to documented procedures such as manufacturer's installation instructions
- Procedures for carrying out process steps
- Methods to monitor and control processes and characteristics
- Acceptability criteria for workmanship
- Tools, techniques and methods to be used to achieve the specified requirements.

10.3. WELDING MATERIAL

10.3.1. LOW HYDROGEN

Low hydrogen coated electrodes are received and stored in hermetically sealed containers. When opened, the electrodes are placed in a heated oven maintained at the temperature recommended by their Manufacturer or ASME, Section II, Part C.

Coated Low Hydrogen type electrodes are issued only in a quantity sufficient to complete the weld or for a period of four hours whichever is less.

Unused Low Hydrogen type coated electrodes which have been out of the hot box are scrapped or used for non-code work. Damaged or unidentified electrodes are scrapped or used for non-code work.

10.4. MATERIAL RECEIVING INSPECTION

The Superintendent or qualified receiving inspector inspects materials for conformance to the purchase order and project quality requirements. The receiving inspection includes a verification that the

- Correct material has been received
- The material is identified and meets the traceability requirements for the material
- Material certifications and/or test reports meet the specified requirements if required
- Materials are tested and approved for the specific application if required

10.4.1. SOURCE INSPECTIONS

Source quality inspections are required when quality characteristics cannot or will not be verified during subsequent processing. The Quality Manager determines if a source inspection is necessary to validate supplier quality before materials are delivered to the project jobsite.

The Superintendent ensures that each work task that uses the source inspected materials proceed only the material has been accepted by the source inspection.

10.5. MATERIAL INSPECTION AND TEST STATUS

The status of each material quality control inspection or test is clearly marked by tape, tag, or other easily observable signal to ensure that only items that pass quality inspections are used.

For each quality-controlled material, the Quality Manager determines the appropriate method for identifying quality inspection and test status.

10.6. MATERIAL STORAGE

The Superintendent ensures that all materials received and inspected will be stored and handled in a manner that protects them from damage, moisture, dirt and intrusion of foreign materials.

Stored materials will be segregated to prevent cross contamination and limit losses should a delivery be rejected.

Welding material is issued to welders by the Shop/Field foreman.

Delivery of materials will be planned according to the work progress to minimize storage on site, where there are higher possibilities of damages and deterioration of materials.

10.6.1. FILLER MATERIALS

Filler materials of different filler metal types, sizes and heat numbers (if applicable) will be labeled and stored separately to prevent intermixing.

Filler materials will be stored in a controlled environment to prevent contamination and degradation. The storage environment will conform to any elevated temperature holding requirements of the filler metal manufacturer and the applicable code or filler metal specification.

10.7. CONTROL OF CUSTOMER PROPERTY

Care will be exercised for customer property used by or under [CompanyName] control. [CompanyName] will identify, inspect, verify, control, and protect customer property with the procedures that apply to

12. WELD EXAMINATION AND INSPECTION PROGRAM

12.1. FABRICATION

Pipeline construction and fabrication are controlled using an Inspection and Test Plan prepared by the QC Inspector from the drawings, which lists the sequence of Fabrication, examination, inspection and test operations for each item in the space provided.

The QC Inspector reviews the Inspection and Test Plan with the Welding Inspector and establishes the required Hold Points. The QC Inspector and the Welding Inspector initial and date the Inspection and Test Plan in the space provided to document the review and release the Inspection and Test Plan to start Fabrication. Fabrication cannot proceed past a Welding Inspector's Hold Point without Welding Inspector's concurrence. This will be documented on the Inspection and Test Plan by the Welding Inspector during his next visit.

The Inspection and Test Plan contains columns for the initials and date of the QC Inspector on the applicable line for those operations accepted, and for the Welding Inspector to initial and date in the column provided to signify acceptance of those operations. The Supplementary Inspection and Test Plan can be used to establish hold points for fit up and final inspection of welding.

12.2. FINAL INSPECTIONS

When Fabrication or assembly is completed, the QC Inspector performs a final inspection and initials and dates the Inspection and Test Plan when the item meets all dimensional and code requirements.

The Welding Inspector will make a final inspection immediately following the hydrostatic test if required. For parts not tested until field assembly is completed, final inspection is done after Fabrication of the part is completed.

When a shell is not provided with an opening or other means of access to inspect internal surfaces, an inspection point for the QC Inspector and Welding Inspector will be shown on the Inspection and Test Plan to permit internal inspection before starting the final closure weld or bolted joint..

12.3. HYDROSTATIC TESTS

code required hydrostatic tests are performed and are witnessed by the QC Inspector and Welding Inspector following a preliminary test to determine and repair any leakage.

The QC Inspector will verify that the Welding Inspector has been notified sufficiently in advance of each test so that the test is witnessed, and inspections are completed.

Pressure Vessels designed to ASME, Section VIII, Div. 1 shall:

- be tested at 1.3 times the MAWP times Stress cold/Stress hot
- use dial indicating or digital reading pressure gages shall meet the requirements of ASME Section VIII, Div. 1, paragraph UG-99.
- be subjected to pressure tests using water at not less than ambient temperature, but in no case less than 30 degree above MDMT.

Power Piping designed to ASME Section I and ASME B31.1 shall:

- be tested at 1-1/2 times MAWP stamped on the boiler.
- use of dial indicating, or digital reading pressure gages shall meet the requirements of ASME Section I, paragraph PG-99.
- be subjected to pressure tests using water at not less than ambient temperature, but in no case less than 70°F.

When the pressure test meets code requirements and is accepted by the QC Inspector and the Welding Inspector, they will initial and date the Inspection and Test Plan in the space designating the test as their mandatory inspection/hold point and complete the Pressure Test Report.

Upon completion of test and final inspection, the Inspection and Test Plan and supporting documents are returned to the Quality Manager for review and filing as described in Section 22 of this Manual.

12.4. PNEUMATIC TESTS

When code required hydrostatic tests are unable to be performed because the equipment is not designed or supported for weight of water, or when testing liquid would not be tolerated) a pneumatic test may be performed with customer, Welding Inspector, and jurisdictional approval.

Pneumatic tests are completed after required NDE examination per ASME Section VIII, Div. 1. Pneumatic testing will not be conducted on ASME Section I items or B31.1 piping.

Pneumatic pressure tests will be conducted:

- Per ASME Section VIII, Div. 1, paragraph UG-101.
- Where the pneumatic test pressure at every point in the shell or system shall be equal to 1.1 times the MAWP multiplied by Stress cold/Stress hot.
- With metal temperature maintained at least 30 degrees above MDMT, and about 60°F.

12.5. TEST GAUGES

At least one directly connected calibrated indicating test gauge, visible to the operator controlling the pressure located at the highest available connection, and having a dial range of at least double the intended maximum test pressure but not less than:

- 1 ½ nor more than 2 times that pressure, shall be used for pressure testing items from ASME B31.1 and ASME Section I.
- 1 ½ nor more than 4 times that pressure, shall be used for pressure testing items from ASME Section VIII Div. 1.

An additional indicating gauge may be necessary to allow the pressure to be visible to the operator at all times during the test, and to prevent excessive pressure being applied.

Digital reading gauges having a wider range of pressure may be used, provided the readings give the same or greater degree of accuracy as with dial indicating type pressure gauges.

12.6. WELD INSPECTION AND TEST STATUS

The inspector identifies final acceptance or rejection of the work either by marking on the work or with other recording methods.

15. CALIBRATION OF MEASUREMENT AND TEST EQUIPMENT

15.1. OVERVIEW

The Quality Manager evaluates the project requirements and determines if there are measuring devices that require controls to assure quality results.

For each type of device, the Quality Manager identifies:

- Restrictions for selection
- Limitations on use.
- Calibration requirements including the frequency of calibration. All calibrations must be traceable to national measurement standards.

When a measurement device is found not to conform to operating tolerances, the Quality Manager validates the accuracy of previous measurements.

15.2. CALIBRATION PROCEDURE

All measurement, examination and test equipment are identified by marking the item or its container with a unique serial number (I.D. number).

The Quality Manager is responsible for maintaining all equipment in calibration, unless out of service and clearly marked "NOT CALIBRATED-DO NOT USE".

Calibration may be performed by an outside testing agency which provides certified records of calibration and has suitable standards whose accuracy is traceable to N.I.S.T. standards or similar.

The frequency of calibration is as determined from the manufacturer's recommendations, or experience with the instrument.

Pressure gauges are calibrated against a dead weight tester or a calibrated master gauge yearly and whenever there is reason to question their accuracy.

Master gauges are recalibrated at a frequency of one year.

Calibration of radiographic densitometer and density of step-wedge comparison films is verified by the subcontractors' RT Level II/III Examiner with a calibrated step wedge film which is traceable to national standards, at the start of each 8-hour shift, or at each change of operator.

Calibration of micrometers or calipers will be performed using a known thickness block every (3) years or whenever there is reason to question the accuracy.

15.3. CALIBRATION RECORDS

Each calibrated instrument will be logged on the Calibration Record, maintained by the Quality Manager in the calibration file. The Calibration Record shall include a description of the equipment, unique number on the gauge, date calibrated, date due, and identification of the person (testing agency when applicable) performing the calibration.

20. RECORD AND DOCUMENT CONTROLS

20.1. OVERVIEW

[CompanyName] ensures that quality related documents and records are created, current versions are in use, complete, identifiable, and stored properly.

20.2. QUALITY SYSTEM DOCUMENTS

20.2.1. QUALITY MANUAL

The Quality Manager maintains the [CompanyName] Quality Manual that documents [CompanyName] quality policies. Each policy identifies the titles of personnel responsible.

The Quality Manager ensures that the Quality Manual and documents related to a work task are accessible to personnel performing the work.

The Quality Manager maintains, improves, and updates the manual as necessary. At least annually, the Quality Manager determines if updated versions of standards and product installation instructions are available. If so, the Quality Manager updates the Quality System documentation accordingly.

The President approves revisions to the Quality Manual, then signs and dates the cover.

20.3. DOCUMENT CONTROLS

The Quality Manager assigns a new version number to each version of quality system documents, including the Quality Manual.

The Quality Manager and President control all company-wide quality system documents including:

- Approval of all quality system documents and for adequacy prior to issue or reissue.
- Ensures that applicable documents are available and usable at points of use
- Prevents unintended use of obsolete documents

The Quality Manager controls project-specific quality system documents including:

- Approval of all project quality documents and for adequacy prior to issue or reissue.
- Ensures that applicable documents are available and usable at points of use
- Prevents unintended use of obsolete documents

20.3.1. CONTROL OF SYSTEM DOCUMENTS

The Quality Manager controls documents related to the [CompanyName] Quality System including:

- Quality Manual
- Quality System Procedures
- Project Management Procedures (including interface and coordination with customers and regulatory agencies with jurisdiction over jobsites)
- Government regulations
- Industry standards
- Procurement specifications

The Quality Manager ensures that records of the distribution of Quality System documents are kept. When new versions are distributed, obsolete versions are destroyed or controlled to prevent inadvertent use.

20.4. RECORD CONTROL AND RETENTION

The Quality Manager verifies records for conformance to the Quality System Requirements and approves all Quality System records.

Records demonstrating conformance with, and operation of the Quality System are retrievable for at least five years. The Quality Manager verifies records for conformance to the Quality System Requirements.

20.4.1. QUALITY SYSTEM RECORDS CONTROL

The Quality Manager verifies the completeness, accuracy, and retention of project-specific Quality System records including:

- Annual reviews
- Quality improvement records

20.4.2. PROJECT RECORDS CONTROL

The Quality Manager verifies the completeness, accuracy, and retention of project-specific Quality System records including:

- Inspection and test records
- Quality submittals to the customer
- Project quality system audits
- Management reviews
- Calibration certificates
- Daily log reports
- Incident reports
- Redline drawings
- Qualified personnel approvals
- Qualified subcontractor approvals
- Quality improvement records
- Project Quality records specified by customer contract, or contract technical specifications

20.4.3. WELDING QUALITY RECORDS, FORMS, AND REPORTS

The Quality Manager collects all records described in this QC Manual at the completion of the job, and reviews them for completeness, correctness and Code compliance before preparing the Manufacturers' Data Report.

The Quality Manager verifies the completeness, accuracy, and retention of project-specific welding records including:

- Welder Performance Qualification Records (WPQRS)
- Welding Procedure Specifications (WPSS)
- Procedure Qualification Records (PQRS)
- Material Test Reports (MTRS) (when required by the contract, governing AWS code or specification)

- Nondestructive Examination (NDE) reports (when required by the contract, governing AWS code, or specification)
- Nondestructive Examination Personnel Qualification Records
- Weld Identification Reports (Weld Mapping) when required
- Record of Final Inspection (I.E., Inspection and Test Plan, Inspection Record, Check Off List)
- Heat Treatment Records (When Required by The Contract, Governing AWS, ASME, Or Specification)
- Receiving Material Inspection Reports
- Nonconformance Reports (NCRS) and dispositions
- Calibration Records of Test Equipment
- Internal Quality Audit Rep
- Manufacturers' Data Reports and Manufacturers' Partial Data Reports
- Manufacturing drawings
- Design calculations including and applicable proof tests d. Material Test Reports and/or material certifications
- Pressure parts documentation and certifications
- Continuity records
- RT film and RT and UT reports and any other Code required NDE records
- Repair procedure and records
- Process Control sheets (Inspection and Test Plan)
- Heat Treat records and test results/Post Weld heat treatment records
- Hydro-test records
- Proof Testing
- Transfer Forms

The Quality Manager assigns record control responsibilities and document location that apply to a specific project.

Project Quality Records will be maintained for a minimum of five years or more as specified by project specifications, or by the Quality Manager for a specific project. Project Quality Records will be filed in the project office during the project. After the project is complete, project records will be stored in file storage area of the main office.

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[CompanyName] Material Inspection and Receiving Report								
Contract ID	Contract Name	Purchase Order No.	Supplier			Bill of Lading No.	Date	
[ProjectNumber]	[ProjectName]							
Item No.	Stock/Part No.	Description	Quantity Received	Condition	Marking	Accept	Conditional Use	Reject
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receiving Quality Control								
<p>ACCEPTANCE</p> <p>Listed items have been accepted by me or under my supervision</p> <p><input type="checkbox"/> Conform to contract specifications EXCEPT as noted herein or on supporting documents.</p> <p><input type="checkbox"/> Received in apparent good condition EXCEPT as noted</p> <p>Signature of authorized person and date: _____</p>								
<p>EXCEPTIONS:</p>								

[CompanyName] Test Equipment Calibration Plan and Log					
Project ID	Project Name	Preparer		Date	
[ProjectNumber]	[ProjectName]				
Type of measuring device	Calibration Type and Frequency	Measuring Device ID	Calibrated By/ Calibration Date	Calibration certificate #	Next Calibration Due Date
					Project Start

[CompanyName] Subcontractor and Supplier Qualification Form			
Company Name:		Scope of Work (specification sections):	
Project ID	Project Name	Approval	Approved By
[ProjectNumber]	[ProjectName]	<input type="checkbox"/> Yes <input type="checkbox"/> Conditional <input type="checkbox"/> No	
Subcontractor and Supplier Quality System: <input type="checkbox"/> Works under [CompanyName] Quality System <input type="checkbox"/> Approved to Work under subcontractor's quality system		Subcontractor and Supplier site quality inspection <input type="checkbox"/> Site quality inspection required before approval <input type="checkbox"/> Site quality inspection of product/material required before delivery	
Review Topics	Project-Related Job Credentials		
	Licenses required:		License and expiration dates:
	Certification required:		Certifications and expiration dates:
	Training required:		Training completed and expiration date:
	Type and length of experience required:		Certifications and expiration dates:
	Personnel license, certification, and training required:		List each person's credentials on the Subcontractor and Supplier Certifications and Licenses form.
	Qualifications		
	<input type="checkbox"/> Senior person designated as Quality Manager <input type="checkbox"/> Knowledge of Company quality standards <input type="checkbox"/> Demonstrated capability to complete work to Company quality standards <input type="checkbox"/> Demonstrated skills and knowledge <input type="checkbox"/> Demonstrated experience		<input type="checkbox"/> Demonstrated results <input type="checkbox"/> Effective self-inspection process <input type="checkbox"/> Access to codes, standards and product instructions <input type="checkbox"/> Equipment availability <input type="checkbox"/> Production capacity <input type="checkbox"/> Staffing availability
	QUALIFICATION NOTES:		
	Provisional Approval: Action plan for improvement		
Follow-up results and date			

[CompanyName] Punch List						
Project ID		Project Name		Punch List Type		
[ProjectNumber]		[ProjectName]		<input type="checkbox"/> Work Tasks _____ <input type="checkbox"/> Project Final Punch <input type="checkbox"/> Pre-Final Customer Inspection <input type="checkbox"/> Final Acceptance Inspection		
Inspection Date		Preparer				
Item	Location	Description	Due Date	Compl. Date	Item Completion Verification	
					Super Initial	QA Initial
Punch List Completion Date		Final QA Sign-off		Remaining Nonconformances Reported ID # and Description		

[CompanyName] Nonconformance Report		
Nonconformance Report Control ID	Project ID	Project Name
	[ProjectNumber]	[ProjectName]
Preparer Signature/ Submit Date		Quality Manager Signature / Disposition Date
Description of the requirement or specification		
Description of the nonconformance, location, affected area, and marking		
Disposition	<input type="checkbox"/> Replace <input type="checkbox"/> Repair <input type="checkbox"/> Rework <input type="checkbox"/> Use As-is	
	Approval of disposition required by customer representative? Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Customer approval signature /date: _____	
Corrective Actions	<input type="checkbox"/> Corrective actions completed Name/Date: _____	
	Customer acceptance of corrective actions required? Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Name/Date: _____	
Preventive Actions		
	<input type="checkbox"/> Preventive actions completed Name/Date: _____	

[illegible]

Form QW-484A Welding Operator Qualification

QW-484A SUGGESTED FORMAT A FOR WELDER PERFORMANCE QUALIFICATIONS (WPQ) (See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)					
Welder's name _____		Identification no. _____			
Test Description					
Identification of WPS followed _____		<input type="checkbox"/> Test coupon		<input type="checkbox"/> Production weld	
Specification and type/grade or UNS Number of base metal(s) _____		Thickness _____			
Testing Variables and Qualification Limits					
Welding Variables (QW-350)		Actual Values		Range Qualified	
Welding process(es) _____		_____		_____	
Type (i.e.; manual, semi-automatic) used _____		_____		_____	
Backing (with/without) _____		_____		_____	
<input type="checkbox"/> Plate <input type="checkbox"/> Pipe (enter diameter if pipe or tube) _____		_____		_____	
Base metal P-Number to P-Number _____		_____		_____	
Filler metal or electrode specification(s) (SFA) (info. only) _____		_____		_____	
Filler metal or electrode classification(s) (info. only) _____		_____		_____	
Filler metal F-Number(s) _____		_____		_____	
Consumable insert (GTAW or PAW) _____		_____		_____	
Filler Metal Product Form (solid/metal or flux cored/powder) (GTAW or PAW) _____		_____		_____	
Deposit thickness for each process _____		_____		_____	
Process 1 _____ 3 layers minimum <input type="checkbox"/> Yes <input type="checkbox"/> No		_____		_____	
Process 2 _____ 3 layers minimum <input type="checkbox"/> Yes <input type="checkbox"/> No		_____		_____	
Position qualified (2G, 6G, 3F, etc.) _____		_____		_____	
Vertical progression (uphill or downhill) _____		_____		_____	
Type of fuel gas (OFW) _____		_____		_____	
Inert gas backing (GTAW, PAW, GMAW) _____		_____		_____	
Transfer mode (spray/globular or pulse to short circuit GMAW) _____		_____		_____	
GTAW current type/polarity (AC, DCEP, DCEN) _____		_____		_____	
RESULTS					
Visual examination of completed weld (QW-302.4) _____					
<input type="checkbox"/> Transverse face and root bends [QW-462.3(a)]		<input type="checkbox"/> Longitudinal bends [QW-462.3(b)]		<input type="checkbox"/> Side bends [QW-462.2]	
<input type="checkbox"/> Pipe bend specimen, corrosion-resistant weld metal overlay [QW-462.5(c)]					
<input type="checkbox"/> Plate bend specimen, corrosion-resistant weld metal overlay [QW-462.5(d)]					
<input type="checkbox"/> Pipe specimen, macro test for fusion [QW-462.5(b)] <input type="checkbox"/> Plate specimen, macro test for fusion [QW-462.5(e)]					
Type	Result	Type	Result	Type	Result
Alternative Volumetric Examination Results (QW-191): _____ RT <input type="checkbox"/> or UT <input type="checkbox"/> (check one)					
Fillet weld — fracture test (QW-181.2) _____ Length and percent of defects _____					
<input type="checkbox"/> Fillet welds in plate [QW-462.4(b)] <input type="checkbox"/> Fillet welds in pipe [QW-462.4(c)]					
Macro examination (QW-184) _____ Fillet size (in.) _____ × _____ Concavity/convexity (in.) _____					
Other tests _____					
Film or specimens evaluated by _____ Company _____					
Mechanical tests conducted by _____ Laboratory test no. _____					
Welding supervised by _____					
We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE.					
Manufacturer or Contractor _____					
Date _____		Certified by _____			
(07/10)					

Form QW-483 Welding Procedure Qualification Record

QW-483 SUGGESTED FORMAT FOR PROCEDURE QUALIFICATION RECORDS (PQR) (See QW-200.2, Section IX, ASME Boiler and Pressure Vessel Code) Record Actual Variables Used to Weld Test Coupon																										
Company Name _____ Procedure Qualification Record No. _____ Date _____ WPS No. _____ Welding Process(es) _____ Types (Manual, Automatic, Semi-Automatic) _____																										
JOINTS (QW-402) <div style="text-align: center; font-size: small;"> Groove Design of Test Coupon (For combination qualifications, the deposited weld metal thickness shall be recorded for each filler metal and process used.) </div>																										
BASE METALS (QW-403) Material Spec. _____ Type/Grade, or UNS Number _____ P-No. _____ Group No. _____ to P-No. _____ Group No. _____ Thickness of Test Coupon _____ Diameter of Test Coupon _____ Maximum Pass Thickness _____ Other _____		POSTWELD HEAT TREATMENT (QW-407) Temperature _____ Time _____ Other _____																								
FILLER METALS (QW-404) SFA Specification _____ AWS Classification _____ Filler Metal P-No. _____ Weld Metal Analysis A-No. _____ Size of Filler Metal _____ Filler Metal Product Form _____ Supplemental Filler Metal _____ Electrode Flux Classification _____ Flux Type _____ Flux Trade Name _____ Weld Metal Thickness _____ Other _____		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="3" style="text-align: center; font-size: small;">Percent Composition</th> </tr> <tr> <th style="text-align: center; font-size: x-small;">Gas(es)</th> <th style="text-align: center; font-size: x-small;">(Mixture)</th> <th style="text-align: center; font-size: x-small;">Flow Rate</th> </tr> </thead> <tbody> <tr> <td>Shielding _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Trailing _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Backing _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Other _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>			Percent Composition			Gas(es)	(Mixture)	Flow Rate	Shielding _____	_____	_____	_____	Trailing _____	_____	_____	_____	Backing _____	_____	_____	_____	Other _____	_____	_____	_____
	Percent Composition																									
	Gas(es)	(Mixture)	Flow Rate																							
Shielding _____	_____	_____	_____																							
Trailing _____	_____	_____	_____																							
Backing _____	_____	_____	_____																							
Other _____	_____	_____	_____																							
POSITION (QW-405) Position of Groove _____ Weld Progression (Uphill, Downhill) _____ Other _____		ELECTRICAL CHARACTERISTICS (QW-409) Current _____ Polarity _____ Amps. _____ Volts _____ Tungsten Electrode Size _____ Mode of Metal Transfer for GMAW (FCAW) _____ Heat Input _____ Other _____																								
PREHEAT (QW-406) Preheat Temperature _____ Interpass Temperature _____ Other _____		TECHNIQUE (QW-410) Travel Speed _____ String or Weave Bead _____ Oscillation _____ Multipass or Single Pass (Per Side) _____ Single or Multiple Electrodes _____ Other _____																								

07/10

QW-483 (Back)

Tensile Test (QW-150)

PQR No. _____

Specimen No.	Width	Thickness	Area	Ultimate Total Load	Ultimate Unit Stress, (psi or MPa)	Type of Failure and Location

Guided-Bend Tests (QW-160)

Type and Figure No.	Result

Toughness Tests (QW-170)

Specimen No.	Notch Location	Specimen Size	Test Temperature	Impact Values		Drop Weight Break (Y/N)
				ft-lb or J	% Shear	

Comments _____

Fillet-Weld Test (QW-180)

Result — Satisfactory: Yes ☐ No ☐

Penetration into Parent Metal: Yes ☐ No ☐

Macro — Results _____

Other Tests

Type of Test _____

Deposit Analysis _____

Other _____

Welder's Name _____ Clock No. _____ Stamp No. _____
 Tests Conducted by _____ Laboratory Test No. _____
 We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.
 Manufacturer or Contractor _____
 Date _____ Certified by _____
 (Detail of record of tests are illustrative only and may be modified to conform to the type and number of tests required by the Code.)

03/08

PIPELINE CONSTRUCTION INSPECTION CHECKLIST

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Earthwork - Excavating and Fill 31.23.00

Facility Fuel-Oil Piping 23.11.13

Facility Fuel-Storage Tanks 23.13.00

Facility Natural-Gas Piping 23.11.23

Metal Decking 05.30.00

Metal Railings 05.52.00

Metal Stairs 05.51.00

Selected Pages
Not the Complete Plan

Facility Fuel-Oil Piping 23.11.13

Task Completion Inspection Report

Project:	Phase:	Contract#:	Subcontractor:	Crew:
----------	--------	------------	----------------	-------

Compliance Verification

- ☐ Compliance with initial job-ready requirements
- ☐ Compliance with material inspection and tests
- ☐ Compliance with work in process first article inspection requirements
- ☐ Compliance with work in process inspection requirements
- ☐ Compliance with Task completion inspection requirements
- ☐ Compliance with inspection and test plan
- ☐ Compliance with safety policies and procedures

Reported Nonconformances and incomplete items:

YES NO Heightened Awareness Checkpoints

- ☐ ☐ Piping material/coatings/gaskets/connectors compatible with Fuel Oil
- ☐ ☐ Piping adequately supported to prevent sagging and stress
- ☐ ☐ Piping protected from chafe at all supports// clamps// and contact points
- ☐ ☐ Installed Piping system pressure tested in accordance with local regulations
- ☐ ☐ Valve operational positions (open vs. closed) clearly indicated
- ☐ ☐ Coatings and coverings intact and without scratches// pin holes// or gaps
- ☐ ☐ Piping and appurtenances are free of leaks
- ☐ ☐ Pumps// control valves// pressure relief assemblies// and vents are operational
- ☐ ☐ Vents discharge to approved areas and are free of blockages
- ☐ ☐ Readouts and indicators clearly visible

Scores and Completion Sign-off

Quality 5 4 3 2 1 Notes:

On-Time 5 4 3 2 1 Notes:

Safety 5 4 3 2 1 Notes:

Sign and date*: Cell # / ID #: _____ Signed: _____ Date: _____

Task has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

Quality Score

5 = 100% NO problem

4 = 1 minor problem

3 = Hotspot or 2-3 minor

2 = 6+ or major problem

1 = Excessive problem

On-Time Score

5 = On Time

4 = Late

3 = Late by 1 day

2 = Late by 2 days

1 = Late more than 2 days

Safety Score

5 = 100% NO problem

4 = 1 minor problem

3 = Hotspot or 2-3 minor

2 = 4+ or major problem

1 = Injury

Copyright First Time Quality

Facility Natural-Gas Piping 23.11.23

Task Completion Inspection Report

Project:	Phase:	Contract#:	Subcontractor:	Crew:
----------	--------	------------	----------------	-------

<u>Compliance Verification</u>	<u>YES</u>	<u>NO</u>	<u>Heightened Awareness Checkpoints</u>
<input type="checkbox"/> Compliance with initial job-ready requirements	<input type="checkbox"/>	<input type="checkbox"/>	Piping material/coatings/gaskets/connectors compatible with Natural Gas
<input type="checkbox"/> Compliance with material inspection and tests	<input type="checkbox"/>	<input type="checkbox"/>	Piping adequately supported to prevent sagging and stress
<input type="checkbox"/> Compliance with work in process first article inspection requirements	<input type="checkbox"/>	<input type="checkbox"/>	Piping protected from chafe at all supports// clamps// and contact points
<input type="checkbox"/> Compliance with work in process inspection requirements	<input type="checkbox"/>	<input type="checkbox"/>	Installed Piping system pressure tested in accordance with local regulations
<input type="checkbox"/> Compliance with Task completion inspection requirements	<input type="checkbox"/>	<input type="checkbox"/>	Valve operational positions (open vs. closed) clearly indicated
<input type="checkbox"/> Compliance with inspection and test plan	<input type="checkbox"/>	<input type="checkbox"/>	Coatings and coverings intact and without scratches// pin holes// or gaps
<input type="checkbox"/> Compliance with safety policies and procedures	<input type="checkbox"/>	<input type="checkbox"/>	Piping and appurtenances are free of leaks
Reported Nonconformances and incomplete items:	<input type="checkbox"/>	<input type="checkbox"/>	Regulators// control valves// pressure relief assemblies// vents// and vent limiting devices are operational
	<input type="checkbox"/>	<input type="checkbox"/>	Vents discharge to approved areas and are free of blockages
	<input type="checkbox"/>	<input type="checkbox"/>	Readouts and indicators clearly visible

Scores and Completion Sign-off

Quality	5	4	3	2	1	Notes:
On-Time	5	4	3	2	1	Notes:
Safety	5	4	3	2	1	Notes:

Sign and date*: Cell # / ID #: _____ Signed: _____ Date: _____

Task has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

<u>Quality Score</u>	5 = 100% NO problem	4 = 1 minor problem	3 = Hotspot or 2-3 minor	2 = 6+ or major problem	1 = Excessive problem
<u>On-Time Score</u>	5 = On Time	4 = Late	3 = Late by 1 day	2 = Late by 2 days	1 = Late more than 2 days
<u>Safety Score</u>	5 = 100% NO problem	4 = 1 minor problem	3 = Hotspot or 2-3 minor	2 = 4+ or major problem	1 = Injury

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410-451-8006

edc@firsttimequality.com