



Contractor Quality Requirements – Appendix A-11 (US)

Smaller Scope Projects

Approvals

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1 Quality Management System

1.1 General Requirements

The Contractor, major subcontractors, and suppliers shall establish, document, implement, and maintain a quality management system (QMS) and continually improve its effectiveness.

The QMS must align with the requirements of an Industry Standard Quality Management System (i.e., ISO 9001, API Q2, API 1177, etc.).

The Contractor must demonstrate competency by providing copies of the following documentation:

- Contractor's quality manual, complete with corporate quality policy, objectives, and key performance indicators
- design development, design review, design verification, design changes, and design authentication procedures
- Communication practices, internal and project organization.
- Subcontractor prequalification, requalification, and monitoring procedures (safety requirements are excluded)
- Control of nonconformance procedure
- Corrective and preventive action procedures
- Audits and assessments procedures
- Management of change procedure
- Control procedures as required to manage and control the work
- Roles, Responsibilities and Quality Organization Chart
- Internal audit schedule, including copies of the two most recent internal audit reports, complete with action logs and implementation dates
- Quality forms and tools that support quality process

The Contractor is solely responsible and accountable for the quality of their work and the work of their subcontractors and suppliers.

The Contractor shall control any external QMS process that affects conformity to requirements. The QMS must define the type and extent of control to be applied to these outsourced processes. Ensuring control over outsourced processes does not absolve a Contractor of the responsibility to conform to all requirements.

"Documented" as used in this document means that the associated item is established, recorded, implemented, and maintained. "Shall include" means "shall include but is not limited to."

At its discretion, the Company can monitor the application and implementation of the Contractor, subcontractor, and supplier.



1.2 Nonconformances and Corrective Actions

The Contractor shall obtain the Company's written approval for nonconformance dispositions (i.e., dispositions for "repair" or "use as is").

For tracking purposes, the Contractor shall maintain NCR and CAR registers or logs, to be available upon request and as part of the final documentation handover.

All NCRs that are deemed major / critical in severity or have the proposed disposition of repair or use as is shall be entered into the Company Quality Notification tool.

Documented procedures shall address quarantining and recall of nonconforming product, a root cause failure analysis (RCFA) procedure and an effective corrective action procedure to prevent the repetition of serious nonconformances and repeated minor nonconformances. These may be included in the PQP.

1.3 Performance Measurement and Reporting

The Contractor shall regularly submit updates on all KPIs relevant to the project that are included within the Contractor's internal quality management system (QMS). These KPI reports shall be submitted to the Company as they are updated or on a monthly basis.

In addition, the Contractor shall actively participate in the Company's performance measurement program. This includes collecting and submitting performance metrics related to Contractor, supplier, and subcontractor activities.

1.4 Project Meeting Quality Requirements

The contractor shall report quality key performance indicators (KPI) during the regularly scheduled Project Meeting.

Quality content will be discussed during the weekly project update meeting. This content will include active quality issues (NCRs, OFIs, RCFA, Audits etc.) as well as any lessons learned.

1.5 Continual Improvement

The Contractor shall continually improve and provide evidence of the effectiveness of its QMS and supporting processes through audit results, corrective and preventive actions, analysis of data, and lessons learned.

1.6 Audits

1.6.1 Audit, Surveillance and Examination by Contractor

The Contractor is responsible performing both internal and external audits to demonstrate conformance with their QMS, Plans, Procedures, etc. as well as their subcontractors. The Company will utilize its own process to perform audits on the Contractor. If an audit is scheduled for this project, the contractor and Company can choose to perform joint audits to reduce the impact on the project / supplier / subcontractor.



Depending on the size and complexity of the project, the contractor may be requested to perform an internal audit on their scope (including subcontractors).

The Company reserves the right to participate as an active observer in the planning and execution of such activities and must be given minimum 10 business days notice prior to the commencement of any audit or examination activity.

The Contractor's QMS shall contain an audit frequency (both internal and external) which will be shared with the Company if requested.

The Contractor's audit procedure shall also identify and control all follow-up actions from audits and examinations until close out.

If performed on a TC Energy project, the Contractor must submit audit reports to the Company within 10 business days of the audit date.

1.6.2 Audit, Surveillance and Examination by Company

The Company reserves the right to perform audit and examination activities on Contractors and subcontractors throughout the duration of the work. Unless otherwise agreed upon with the contractor, the Company shall provide a minimum 10 business days notice prior to any audit or examination activity. The Contractor shall provide access to all requested information during the audit process. All findings will be managed through the Company's nonconformance / opportunity for improvement tools.

2 Contractor Quality Submittals

Document Description	When to Submit for Review
QMS (reference Section 1.1)	With the proposal
Project Quality Plan	Included in the Project Execution Plan Initial: within 2 weeks after award. Final: (minimum status of code B) prior to mobilization.
ITPs	Two weeks before activity commences. (minimum status code B)
Material and equipment receiving, handling, storage, and maintenance plan	Included in the Project Execution Plan



3 Fabrication and Construction Quality

3.1 General Requirements

The Contractor shall be familiar with all applicable quality requirements and ensure that all necessary or required training, testing, and/or certification has been successfully completed as required before work begins.

3.2 Project Quality Plan (PQP)

The Contractor shall prepare and submit a PQP to the Company for review. The PQP can be embedded in the Project Execution Plan (PEP) or equivalent. The content of this plan shall include reference to the contractor's QMS and indicate how they will perform Quality Control / Quality Assurance on the project. Plans can be defined for a single project or for a program that consists of multiple small projects with similar scopes (i.e. integrity digs).

If the Contractor chooses to develop a stand-alone Quality Plan, they may utilize the PQP template provided in Annex A of this document.

Subcontractors shall utilize the Contractor's Quality Plan unless otherwise agreed upon.

3.3 Contractor's Construction Quality Organization

The contractor is expected to perform Quality Control on all work within their scope. The Contractor shall organize and provide adequate resources and assign qualified and trained personnel to manage and effectively perform its quality verification and audit activities.

Personnel performing verification or audit activities shall be independent from the work being performed.

4 Inspection and Testing

4.1 General Requirements

The Contractor or supplier shall ensure that inspection and testing activities related to the work are performed at pre-designated stages, in accordance with reviewed ITPs and referenced procedures and standards. All instruments used for inspection and testing activities shall be calibrated and certified. Records shall be maintained and available for the Company to review.

A minimum of 24 hours advance written notification of any anticipated hold and or witness points shall be provided.

Records of acceptable quality and compliance with project requirements (including inspection and testing related documentation) shall be compiled monthly and available for Company review.

Prior to the start of each activity, a review of the ITP shall be conducted to ensure that quality requirements are understood by those performing the work.



4.2 Inspection and Test Plans (ITPs)

4.2.1 General

Contractor shall prepare and submit Inspection and Test Plans (ITPs) to Company for review. Contractor shall submit the initial ITPs to Company two (2) weeks prior to the activity starting. The final ITPs must be reviewed by the Company prior to the activity starting.

The Contractor shall create and utilize Inspection and Test Plans (ITPs) per the requirements in TC Energy Specification TES-CT-ITP-GL Inspection Test Plan Specification for Construction and Fabrication (CAN-US-MEX) (Item ID: 1017376226).

A list of activities that require Inspection and Test Plans can be found in the Inspection Test Plan Master Index (Item ID: 014266746) and in Quality Record Requirements Appendix A-11-1.

The Contractor's ITP format may be utilized with the Company's prior agreement, providing that it contains all information listed in the specification and all applicable inspection and test requirements. Standardized ITP Templates can be found in Appendix A-11-2.

Contractor shall ensure inspection and testing is performed in accordance with ITPs, including applicable work at subcontractor and supplier facilities. Contractor shall ensure all ITPs and associated documentation is maintained progressively throughout completion of the work and available for Company review at all times.

4.2.2 Standardized Template Inspection and Test Plan

When Company standardized template Inspection and Test Plans are available for the construction activities, the Contractor may choose to adopt.

If adopted, the Contractor shall review the content to ensure the templates are sufficient for the scope of the project and include any internal Quality Management System requirements. All additions to the content will be highlighted in green, all proposed deletions will be highlighted in red. No content is to be removed from the template until it is agreed upon with the Company.

If available, the contractor may choose to adopt the TC Energy Standardized Forms that supports the Inspection and Test Plan (I.e. Lowering-in Daily Checklist).

4.3 Control of Construction Quality Documentation and Records

Quality records shall be clearly identified and traceable to the contract, subcontract, or PO/supplier, and to the specific component, module, and area of inspection. Where drawings or specifications are referenced, the status/revision shall be included. Deletions, modifications, or corrections shall be neatly lined out and initialed by the Contractor's authorized representative.

The Contractor's documented procedures shall describe the methods for the filing and storage of quality records to enable ready retrieval and prevent damage, deterioration and/or loss. In addition to the required hard copy, all quality records shall be submitted in searchable electronic format, as agreed with the Company. These procedures shall identify personnel



responsible for reviewing and storing the records and identify the individuals authorized to endorse quality records before submission to the Company.

The Contractor shall maintain quality-related records until the Company requests submittal of such records.

4.4 Measuring and Test Equipment Maintenance and Calibration

The Contractor shall have a Measuring and Test Equipment Maintenance and Calibration Process that will be submitted to the Company for review. All required Inspection and Test equipment will be calibrated prior to use and applicable supporting documentation available for review.

4.5 Material and Equipment Receiving, Handling, Storage and Maintenance

The Contractor shall have a written Material Management process. This process will include:

How the material will be:

- Received
- Handled
- Stored
- Maintained – including short and long term care and preservation

The Contractor will ensure that all material is traceable to the applicable supporting documentation and location of installation.

The Contractor is responsible for the receipt and control of its purchased materials, supplies, and equipment and material, supplies, and equipment issued to the Contractor by the Company and/or others.

5 Suppliers and Subcontractors Selection and Evaluation

The Contractor shall include applicable quality related requirements of the contract, including all referenced drawings, specifications, codes, standards and this document in RFPs or subcontracts issued (at any tier). The Contractor shall ensure that subcontractors fully comply with said requirements, as applicable to the portion of the work performed by the subcontractor.

Company approved subcontractors may be required on the project dependent on activity. Requests for proposals and subcontracts shall be restricted to subcontractors approved for use on the project by the Company. Any exception to this must have the Company's prior written approval.

6 Completion and Turnover

Contractor shall establish a progressive turnover process based on Company system requirements and provide a full set of quality documents to the Company at the completion of the work. Quality documents shall include inspection and testing records, reports, marked-up



drawings (such as weld maps and weld logs), and regulatory documents (when required). Unless otherwise stated in the contract, Contractor shall furnish electronic copy of all quality documents and hard copies of all test charts. Electronic documents shall include native files whenever possible. Scanned records must be in a searchable PDF format (i.e. OCR), unless otherwise agreed in writing by the Company.

Quality records shall normally be organized based on the following:

- general quality records (non-specific to an area or structure or process turnover system)
- RT Film, Pressure Test, Coating Report
- area support system quality records (specific to an area or structure or non-specific to a process turnover system)
- process turnover system quality records (specific to a process turnover system)

Unless the scope of work requires otherwise, the Company will develop and issue descriptions of systems and the general or detailed boundaries and contents of these systems to the Contractor. The Contractor shall organize turnover documentation according to these system descriptions.

Creation and compilation of system packages shall be performed by contractor with oversight by the Company, as required. Generally, records that are associated with same equipment or instrument tag number shall be filed together so that a complete set of the equipment quality records are in the same file location. The Contractor shall submit, within 30 calendar days (with its quality plan), details of its turnover tracking system to the Company for review, unless otherwise directed in writing by the Company.

Contractor is fully responsible for subcontractor's QA/QC documentation and turnover packages. All documents need to be reviewed and accepted by the Contractor before turning over to the Company.

The Contractor shall participate in the commissioning walkdown and Pre-Startup Safety Review (PSSR).



7 Acronyms

Definitions and Acronyms	
Term / Acronym	Definition / Description
CAR	Corrective Action Report
ISO	International Organization for Standardization
ITP	Inspection Test Plan
KPI	Key Performance Indicator
NCR	Nonconformance Report
OFI	Opportunity for Improvement
PQP	Project Quality Plan
QA	Quality Assurance
QC	Quality Control
QMS	Quality Management System
RCFA	Root Cause Failure Analysis
RFP	Request for Proposal

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