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UNIFIED FACILITIES GUIDE SPECIFICATIONS

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SECTION 01 45 04

NASA QUALITY CONTROL  
08/08

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NOTE: This guide specification covers the requirements for inspections, test reports, and contractor obligations for establishing effective quality assurance procedures.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

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PART 1    GENERAL

1.1    SUMMARY

The requirements of this Section apply to, and are a component part of, each section of the specifications.

1.2    SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only

delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

#### SD-06 Test Reports

Submit the following items in accordance with paragraph entitled, "Records," of this section.

Quality Control Data

Quality Control Coordinating Actions

Quality Control Training

Inspection Records

Letters of Authority or Delegation

Field Tests

Factory Tests

#### SD-07 Certificates

Submit a detailed written statement describing procedures that will be implemented to achieve quality on the project according to the paragraph entitled, "Quality Assurance (QA) Plan," of this section.

Submit the following in accordance with paragraph entitled, "Qualifications," of this section.

## Contractor's Quality Representative Qualifications

### Special Certifications

#### 1.2.1 Quality Assurance (QA) Plan

Address the following within the QA Plan:

Description of the authority, responsibilities and coordinating procedures, of on-site/off-site quality assurance personnel, including those QA personnel not under direct control of the Contractor.

List personnel designated by the Contractor to accomplish the work required by the contract.

Provide an appendix with a copy of each form, report format, or similar record to be used in the QA program.

Contractor's organization that handles construction contract activities.

Contractor's operational plan for accomplishing and reviewing work controls, fabrication controls, certifications, and documentation of quality control operations, inspections, and test records, including those for subcontractors.

Include within these provisions the methods to be used during the procurement cycle (order to delivery) for those materials or equipment that require source inspections, shop fabrications, or similar operations located separately from the work site.

Description of on-site personnel training.

Certification(s) of personnel, procedures, processes, and equipment.

Nondestructive testing requirements.

Identification of independent certifying and testing laboratories.

#### 1.2.2 Records

Include all [quality control data](#); [factory tests](#) or manufacturer's certifications, [quality control coordinating actions](#); records of [quality control training](#)/certifications as well as routine hydrostatic, electrical continuity, grounding, welding, line cleaning, [field tests](#) and similar tests. Quality records must be available for examination by the Contracting Officer.

Furnish legible copies of the test and [inspection records](#) to the Contracting Officer. Cover work placement traceable to the contract schedule, specifications and drawings, and must be verified by the Contractor.

Submit for approval, the narrative description of an inspection system which provides for compliance with the quality requirements and technical criteria of the contract within [7] [\_\_\_\_\_] calendar days after notice to proceed.

Submit a monthly performance report that summarizes the quality operations. Identify inspections made, tests performed, nonconformances,

corrective actions taken, status of plans/procedures being developed, and status of open items/problems in work.

Submit [Letters of Authority or Delegation](#) outlining the authority and responsibilities of quality control personnel along with a copy of the letter of delegation to the Contracting Officer that defines delegated duties and responsibilities.

[In-process inspection records and control away from the job site may be used as evidence of quality of materials/work and may reduce further inspection or testing after delivery to the job site.]

### 1.3 QUALITY ASSURANCE

#### 1.3.1 Qualifications

[Submit [Contractor's Quality Representative Qualifications](#) to the Contracting Officer for approval. Quality Representative may be assigned to more than one contract provided that the assigned contracts are located at the same site.]

When approval or certification of special processes, operating personnel, and special equipment or procedures is required by the specifications, obtain necessary approvals or [special certifications](#) prior to starting the work.

#### 1.3.2 Quality Control Requirements

Provide a quality control program encompassing: selection of construction materials and sources; suppliers; subcontractors; on-site and off-site fabrication of Contractor-furnished assemblies; on-site and off-site assembly; erection; work procedures; workmanship; inspection; and testing.

Provide document systems ensuring that quality provisions of contract schedule, specifications, and drawings have been performed.

##### 1.3.2.1 Management and Organization

Designate an individual within the on-site organization whose sole responsibility is the day-to-day on-site management and direction of the Quality Program.

The Quality Program Manager will report to the Contractor's management and have the necessary authority to discharge contractual responsibilities.

##### 1.3.2.2 Identification and Data Retrieval

Provide an identification and data retrieval system.

Records, drawings, submittals, and equipment must be identified by referencing the Contract Number; Contract Specification Number; Contract Drawing Number; Submittal Document Number; Contract Change Number; and the Contractor's Drawing Number System.

##### 1.3.2.3 Procurement

Contractor is responsible for controlling procurement sources and those of his subcontractors to ensure that each purchase meets quality requirements.

#### 1.3.2.4 Receiving Inspection System

Maintain a site receiving inspection system that ensures procured materials and equipment are inspected and tested.

Receiving inspection records must accompany each procurement delivery to the construction site. Maintain records of site receiving inspections.

Show defects, discrepancies, dispositions, and waivers, including evidence of Government source inspection within the records.

#### 1.3.2.5 Nonconforming Articles and Material Control

Control nonconformances discovered by the Contractor, subcontractors, suppliers or Government quality representatives to prevent their use and to correct deficient operations.

a. Prepare a "nonconformance" report for each instance comprising:

- (1) A unique and traceable number.
- (2) Identification of the nonconforming article or material.
- (3) A description of the nonconformance and the applicable requirement.
- (4) Cause or reason for the nonconformance.
- (5) Remedial actions taken or recommended.
- (6) Disposition of the nonconforming article or material.

b. Identify and mark each nonconforming article for removal from the work area.

c. Monitor and correct deficient operations.

#### 1.3.2.6 Fabrication, Process, and Work Control

Ensure compliance of requirements in contract specifications and drawings with procedures and controls.

Establish in-process inspections, to ensure compliance with quality requirements.

[Special processes may include, but are not limited to, plating, anodizing, nondestructive testing, welding, and soldering.]

#### 1.3.2.7 Quality Control Records

Maintain Quality Control records at a central on-site location.

Maintenance of quality control records do not relieve the Contractor from submitting samples, test data, detail drawings, material certificates, or other information required by each section in the specification.

Ensure each record is identified and traceable to specific requirements in the specifications and drawings.

#### 1.3.2.8 Drawings and Change Control

Maintain drawing-control system to provide revised drawings and ensure continuous removal of obsolete drawings from work areas. Control changes involving interface with other work areas, or affecting materials controlled by others. Integrate this system with the document requirements of the contract.

Clearly annotate and identify drawing changes and associated drawings for implementation that are to be revised accordingly. Use for fabrication and inspection drawings that have been approved, or approved as noted, by the Contracting Officer.

#### 1.3.3 Quality Inspections

##### 1.3.3.1 Government Inspections

Work performed under this contract will be subject to inspection by the Contracting Officer. Changes to the specifications or drawings will not be allowed without written authorization of the Contracting Officer.

When the Contracting Officer determines that inspected work needs to be corrected, the Contracting Officer will be allowed [24] [\_\_\_\_\_] [hours] [\_\_\_\_\_] to complete reinspection of the corrected work.

Notify Contracting Officer in writing before backfilling or encasing any [underground] utility so that work may be inspected. Failure to notify the Contracting Officer before backfill or encasement occurs will require the work be uncovered at no additional cost to the Government.

Contractor's program is subject to continuous evaluation, review, and verification by the Contracting Officer. Contractor will be notified in writing of any noncompliance and will be given [\_\_\_\_\_] calendar days to correct identified deficiencies.

##### 1.3.3.2 Contractor's Quality Inspections

Implement an inspection system that Documents and indicates quality control through records of inspections, tests, and procedures.

Include the following within the Contractor's Quality Assurance System:

- a. Single Contractor's representative responsible for on-site communication and operation of the inspection program.
- b. Purchasing control system documenting project procurement to drawings, specifications, and approved submittals.
- c. Receiving inspection system documenting inspections for each procurement.
- d. Documentation for handling and disposing of nonconforming components and materials.
- e. Inspection records for each specific section of the specification and drawings.
- f. Identification of test(s) to be performed, test procedures, records, and independent organizations used.

- g. Documenting and maintaining certification or re-certification of procedures.
- h. Management of government-furnished equipment, components, and materials.
- i. Calibration of gages, tools, measuring instruments, and independent laboratories used.

Establish a system of scheduled or random audits to ensure task completion.

#### 1.3.4 Field Services

##### 1.3.4.1 Responsibility for Inspection and Testing

Contractor is responsible for all inspections and tests, and the accompanying documentation for each inspection and test. Contractor may utilize independent inspection and testing laboratories or services as approved by the Contracting Officer.

Contractor is also be responsible for tests of construction materials utilizing the services of an approved independent testing laboratory.

##### 1.3.4.2 Inspection and Test Records

Provide on-site records of each inspection and test performed throughout the life of the contract including, but not be limited to, factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved, identification of operators and inspectors, result of inspections or tests, nature of defects, causes for rejection, proposed remedial action, and corrective actions taken.

Inspection records, test procedures, test results, and associated forms be verified by and provided to the Contracting Officer. Final test data must have a cover letter/sheet clearly marked with the system name, date, and the words "Final Test Data - [Forward to the Systems Engineer/Condition Monitoring Office/Predictive Testing Group for inclusion in the Maintenance Database.]"

#### 1.4 HANDLING AND STORAGE

Provide controls, procedures and documentation with each shipment, that meet requirements of each section of the specifications.

Include documentation with each shipment that consist of documentation required by the contract along with specifications required to identify, store, preserve, operate, and maintain the items shipped.

#### 1.5 SEQUENCING AND SCHEDULING

Notify the Government at least [\_\_\_\_\_] hours prior to scheduled inspections and tests.

Provide [24] [\_\_\_\_\_] hour notice to the Government of the date when the contract work will begin at the site.

When Contractor suspends work for [\_\_\_\_\_] calendar days or longer prior to completion notify the Contracting Officer. Do not resume work without



notification of the Contracting Officer.

Notify the Contracting Officer at least [\_\_\_\_\_] hours in advance of backfilling or encasing any underground utility.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --