

SSTD-8070-0003-CONFIG Rev. B JUNE 2021

National Aeronautics and Space Administration John C. Stennis Space Center Stennis Space Center, MS

39529-6000

# John C. Stennis Space Center PREPARATION OF PROCUREMENT SPECIFICATIONS

#### Approved in DDMS by:

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Issued by	
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SUBJECT: Preparation Of Procurement Specifications

#### Status/ Change **Originator**/ Description Change/ Date Phone Revision Basic 05.17.11 K. Snyder Supersedes SSC 99-003. ext. 8-1649 K. Snyder 06.01.16 А Five-year review. Ext. 8-1649 Revised cover sheet to require approval from NASA SSC Center Operations Design and Construction Project Management Division, and concurrence from NASA SSC Engineering and Test Directorate. Administrative changes throughout document. Updated references and acronyms. 2.0-a: Requirement to use Material Request Direct Purchase SSC-Form 21-D, now obsolete; updated to Desktop Requisition. 06.01.21 T. Frisbie В Five-year review. Ext. 8-1989 Updated acronyms and references. Revised cover sheet to reflect Center Operations organizational changes from Design and Construction Project Management Division to Facilities Engineering Services. 2.0-a: Deleted "Desktop Requisition (DR) - A DR shall be made through the Maximo service request system when ordering a manufacturer's commercially available material or equipment from the warehouse. A procurement specification is not necessary for stock warehouse items."

# **Document History Log**

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#### 1.0 PURPOSE

This John C. Stennis Space Center (SSC) standard (SSTD) covers the instructions to be followed for content and form of technical specifications to be prepared for the procurement of materials or equipment for which no suitable specification exists. The document provides assistance in the preparation of procurement specifications and a uniform format for the specifications.

#### 2.0 APPLICABILITY

Technical requirements for needed materials or equipment shall be prepared and presented to vendors by use of:

a. Specification Control Drawing (SCD)

A procurement specification is not required when a SCD is used.

b. Procurement Specification

A procurement specification shall be used if any of the following conditions are met:

- 1. When ordering engineered equipment, which is defined as any item to be purchased according to special pre-determined design, including items that will be fabricated in shops.
- 2. When ordering manufacturer's stock items which are to be modified or which require a special or unusual test(s) be made before acceptance.
- 3. When ordering a "system" which is made of many different items combined into a unit, such as an instrument panel.
- 4. When ordering to meet strictly functional requirements. A functional specification states the technical requirements, the required operational and maintenance performance, and provides for the vendor to furnish detailed design. A functional specification is ideal when a non-existing product is to be procured, and the vendor is to furnish the detailed design in addition to the end item.

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#### **3.0 REFERENCES**

All references are assumed to be the latest version unless otherwise indicated.

NASA form NF-1046, Transfer and/or Notification of Acceptance of Accountability of Real Property

SPR 1440.1, SSC Records Management Program Requirements

SSTD-8070-0005-CONFIG, SSC Preparation, Review, Approval, and Release of SSC Standards

#### 4.0 **RESPONSIBILITIES**

- a. This SSTD applies to all SSC, National Aeronautics and Space Administration (NASA) and NASA organizations, contractors and sub-contractors purchases by those who are in the capacity to procure products that require a procurement specification. Statements of the detailed requirements of an individual specification are the responsibility of the procurement specification writer.
- b. Users of this SSTD shall comply with its requirements, ensure use of the correct version of this SSTD and the documents it references, and inform the appropriate organization of needed changes in accordance with SSTD-8070-0005-CONFIG.
- c. Responsibilities for the use and control of this SSTD and for the review and approval of revisions or cancellation of this SSTD shall be as specified in SSTD-8070-0005-CONFIG and the applicable documents referenced therein.

#### 5.0 **REQUIREMENTS**

#### 5.1 General Form and Content of Specification

Each specification shall contain the following sections:

- a. Scope
- b. Applicable Documents
- c. Requirements
- d. Quality Assurance Provisions

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- e. Preparation for Delivery
- f. Notes (not mandatory in all specifications)
- 5.1.1 Scope
  - a. The Scope shall state the designated name of the type of equipment or material the specification covers and a brief statement of intended use.
  - b. If more than one (1) type of the same equipment is included in the specification or considerable detail information is required to explain the intended use, it shall be placed in the Notes section (See Sec. 5.1.6)
- 5.1.2 Applicable Documents
  - a. Applicable Documents shall list all codes, specifications, and standards which are referenced in the specification. They should be referenced by title and number.
  - b. Refer to nationally recognized specifications and/or government specifications.
  - c. If the specification being prepared requires reference to more than one specification, be sure any conflicts are eliminated.

#### 5.1.3 Requirements

This section shall state essential requirements and descriptions applying to the equipment, including individual performance characteristics of each component which makes up the complete equipment.

#### 5.1.3.1 Functional

Under this heading, all requirements to be met to assure that the item will perform the function for which it is intended should be stated unless the specific method of meeting these is covered in Section 5.1.3.3. Some of these items to be considered are:

- 1. Operating Capacity
- 2. Dimensional Limitations
- 3. Weight Limitations

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- 4. Duty Cycle
- 5. Controls
- 6. Cycling Speeds
- 7. Connections
- 8. Temperature; ambient and operating
- 9. Environment Conditions
- 10. Maintainability
- 11. Unit and Part Interchangeability
- 12. Finish
- 13. Precision Cleaning Needs

#### 5.1.3.2 Design Requirements

Under this heading, more specific requirements are stated such as, but not limited to, the following:

- 1. Materials
- 2. Component Specifications
- 3. Finish, Tolerances, and Methods
- 4. Dimensions and Tolerances
- 5. Maximum Stress Levels of Safety Factors
- 6. Methods or Processes of Construction
- 7. Cleanliness and Method of Cleaning
- 8. Product Fabrication and/or Assembly

#### 5.1.3.3 Documentation

Any item which is to be totally or partially designed by the vendor shall include all necessary documentation such as, but not limited to:

- a. Parts List (This list should list parts by Federal Supply Number, Industrial Specification or the manufacturer of the parts name and parts number, if possible.)
- b. Preventative Maintenance Requirements & Instructions
- c. Lubricants Needed
- d. Operating Instructions
- e. Overhaul Instructions

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#### 5.1.3.4 Marking And Identification

Considerations for identity and maintainability of identity during handling, storage, installation, and operations are:

- a. Method of Marking and/or ID Tag Material
- b. Location
- c. Necessary Information, including:
  - 1. Trademark or Manufacturer's Name
  - 2. Specification Number
  - 3. Part Number
  - 4. Federal Stock Number
  - 5. Contract Number
  - 6. Size
  - 7. Capacity
  - 8. Temperature
  - 9. Material
  - 10. Intended Use
- 5.1.4 Quality Assurance Provisions
  - a. This section shall contain requirements concerning sampling, inspection, and tests as applicable.
  - b. Requirements stated in Section 5.1.3 of this SSTD shall be supported by tests in this section. Some of the items to specify are:
    - 1. Certifications Required
    - 2. Specific Tests to be Performed
    - 3. Test Results Required
    - 4. Number of Items Tested
    - 5. Who Does the Testing
    - 6. Where Tests are to be Performed
    - 7. Who Must Witness the Tests
    - 8. Who is to Keep the Test Records
    - 9. How are Test Samples Taken
    - 10. Good Workmanship Requirement
    - 11. Cleanliness or Method of Cleaning and Certification of Clean Levels

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- c. The vendor's warranty/guarantee must comply with contractual requirements, and a vendor's certificate of conformance must be included with all materials received.
- 5.1.5 Preparation for Delivery

This section shall cover the applicable requirements for preserving and packaging. Considerations in packaging are:

- a. Material
- b. Construction
- c. Identification
- 5.1.6 Notes
  - a. This section shall contain definitions and information of a general or explanatory nature, which are not properly a part of the preceding sections.
  - b. It shall contain no requirements of the vendor.
  - c. It shall include any necessary amplification of the statement in Section 5.1.1 and any information to help Purchasing prepare inquiries or orders.

#### 5.2 General Instructions for Specification Preparation

- 5.2.1 Style
  - a. The specification shall be reduced to its technical essence and minimum form.
  - b. The specification shall be complete in the stipulation of all requirements either directly or by reference to other documents.
  - c. Do not repeat matters covered either by reference documents or by notes on drawings forming part of the specification.
  - d. The specification shall be in clear, simple language, free of vague terms or those subject to various interpretations.

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e. The use of abbreviations shall be restricted to those not subject to possible misunderstanding.

#### 5.2.2 Shall Statement

Use the word "shall" wherever a specification expresses a requirement which is binding on either the vendor or the purchaser. Use "will", "should", or "may" wherever it is necessary to express non-mandatory provisions.

5.2.3 Definition of Terms

In cases where the proper interpretation of the specification may depend upon agreement as to the definition of terms, such definitions should be included.

5.2.4 Figures and Tables

Figures and Tables should be used whenever it is necessary to more clearly describe the item than can be stated in the text, or wherever such presentation will eliminate repetition.

#### 6.0 FORMAT

- a. Appendix A is a general sample showing the uniform format. It designates the form, general arrangement, and numbering system to be used in the preparation of formal specifications.
- b. The purpose of the format is to provide for site-wide uniformity in presenting specifications of this type. The sample format shows:
  - 1. Approval sheet
  - 2. Table of contents, which lists the sections and page numbers (When more than one page is necessary, the pages of the Table of Content are numbered with Roman numerals. These numbers are placed at the bottom center of the page.)
  - 3. The body, which illustrates the general arrangement and number system
- c. Pages are Arabic numbered consecutively, starting with the first page of the technical portion. The page numbers are placed at the bottom center of the sheet. Each page carries the specification number at the upper right-hand corner.

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- d. Each specification shall be identified by a Site-wide Operation Repair Documentation (SORD) number.
- e. The writer shall obtain the SORD number from Central Engineering Files (CEF).

#### 7.0 **REVISIONS**

- a. When a specification is approved, it becomes a matter of record and the specification shall be placed in CEF.
- b. It is important that all changes to a specification be properly recorded. This requires that the specification be revised whenever a change is required in the item covered by the specification.
- c. When a specification is revised, each revised sheet shall be identified by the latest revision date, recorded on each sheet affected (see Appendix A).
- d. The revision number and date shall be shown on the Approval Sheet (see Appendix A).

#### 8.0 NOTES

#### 8.1 Guidelines

To prevent misinterpretations of specifications, it is extremely important that every possible effort be made to present a clear, concise, and complete document. The following guidelines should be followed in preparing procurement specifications.

- a. Pattern the specification for the individual job. Use other, similar specifications as guides; do not copy unless the requirements are known to be proper and adequate for your particular job.
- b. Coordinate the draft of the specification with Quality Assurance for review and preparation of contractual quality requirements for inclusion in the final specification.
- c. Specify the minimum requirements consistent with good design principles; over specifying requirements will make the item more expensive. If the need or proposed quality is doubtful, raise the question, "Is this actually required?" If the answer is yes, the item can be justified.

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- d. Work closely and review specifications with those who have the technical expertise and with those who have the operating and/or maintenance responsibility of the final product.
- e. Work closely with the procurement and technical representatives to assist in defining the requirement. They deal constantly with vendors and can be helpful in pointing out likely trouble spots in the procurement phase. The number of revisions and delays may be fewer by obtaining such comments before the specification is in final form.
- f. Most commercial products/services come with a standard commercial warranty. If there are additional warranty expectations beyond the commercial warranty, they must be defined and justified in the requirement so they may be included in the solicitation.
- g. Remember the requirements to obtain competitive bids. Do not write a restrictive specification which limits the products to one vendor's design unless compelling reasons require "sole source" procurement.
- h. Refer to the party who will supply the purchased item as the "vendor" and the party making the purchase as the "buyer".
- i. Omit location and sizes, which should be shown on detailed design drawings.
- j. Omit intra-company instructions (e.g., bids shall be submitted to cognizant Engineering for review and evaluation).
- k. Omit instructions to inspector.
- 1. Omit names of Company employees.

#### 8.2 Other Considerations

- a. Other items which must be considered but which do not belong in a technical specification include the following:
  - 1. Items concerning instruction to bidders (e.g. qualifications of bidders, their previous experience)
  - 2. All contract matters (e.g. delivery date, date of submitting shop drawings)
  - 3. Items such as quantities and shipping instructions

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- 4. The number of copies of a bidder's design required for review and evaluation to determine the successful bidder
- 5. The number and type of vendor design drawings
- 6. The number of operating/maintenance manuals required
- b. A Certificate of Completion (COC) is required when purchase is complete. All documentation should be turned over with the COC to CEF. NASA form NF-1046 is required when the cost is more than \$5,000. The form NF-1046 will be turned over with the COC to CEF.

## 9.0 RECORDS AND FORMS

- a. Records and forms required by the procedures of this SSTD shall be maintained in accordance with SPR 1440.1.
- b. Forms necessary for this SSTD are as follows:

NASA form NF-1046, Transfer and/or Notification of Acceptance of Accountability of Real Property

c. All records and forms are assumed to be the latest edition unless otherwise indicated. Forms may be obtained from the SSC Electronic Forms repository or from the NASA SSC Forms Management Officer. Quality Records are identified in the SSC Master Records Index.

#### **10.0 ACRONYMS AND ABBREVIATIONS**

CEF	Central Engineering Files
COC	Certificate of Completion
DR	Desktop Requisition
ID	Identification
NASA	National Aeronautics and Space Administration
SCD	Specification Control Drawing
SORD	Site-wide Operation Repair Documentation
SPR	Stennis Procedural Requirement
SSC	John C. Stennis Space Center
SSTD	John C. Stennis Space Center Standard

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#### **APPENDIX A – PROCUREMENT SPECIFICATION EXAMPLE**

Approval sheet for specifications

#### SPECIFICATIONS FOR PROCUREMENT OF (TITLE THAT DESCRIBES EQUIPMENT) 5XXXX-GXXXX (IDENTIFICATION NUMBER) DATE (MONTH YEAR)

PREPARED BY:

SUBMITTED BY:

NAME ENGINEER TITLE FOR (Agency or group) NAME MANAGER TITLE

APPROVED:

NAME TITLE GROUP

### PREPARED BY: NAME OF GROUP PLACE CITY, STATE ZIP CODE

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#### SPECIFICATIONS FOR PROCUREMENT OF (TITLE THAT DESCRIBES EQUIPMENT) 5XXXX-GXXXX (IDENTIFICATION NUMBER) DATE (MONTH YEAR)

(Revision page, leave blank if no revisions)

NAME OF ORGANIZATION PLACE CITY, STATE, ZIP CODE

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# (PROCUREMENT TITLE)

# (IDENTIFICATION NUMBER)

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## (PROCUREMENT TITLE)

# (IDENTIFICATION NUMBER)

# PROCUREMENT SPECIFICATION (title)

# 1.0 SCOPE (Bold, All Caps)

(State the general description of overall work in the specification)

## 2.0 APPLICABLE DOCUMENTS

Applicable documents shall be the latest version unless otherwise specified.

DOCUMENT NUMBER, *Document Title* DOCUMENT NUMBER, *Document Title* DOCUMENT NUMBER, *Document Title* 

# **3.0 REQUIREMENTS**

# 3.1 General (Bold, Caps each word)

(Items covering information of a general nature may be included. When only one item is necessary, the Section Title should be more specific.)

# 3.2 Materials

(Often a sub-section title such as "Materials" above is broad and general, and may require subdivisions.)

3.2.1 Title (such as Carbon Steel. Caps on each word)

(Sub-division information goes here. If necessary, additional groupings may be divided as follows.)

- a. (Additional groupings. NOTE: if there is an "a.", there must be a "b.")
- b. (These groupings should be used only when information or requirements are divided into two or more groups of equal importance.)
  - 1. (If necessary, additional sub-groups can be added.)

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#### (PROCUREMENT TITLE)

# (IDENTIFICATION NUMBER)

- 2. (Use only for two or more groups.)
  - a. (Use this identification if needed.)
  - b. (Use only for two or more such groups.)

### 3.3 Design

- 3.3.1 Overall Function
- 3.3.2 Construction Characteristics

# 4.0 QUALITY ASSURANCE PROVISIONS

- 4.1 Sampling
- 4.2 Tests
- 5.0 **PREPARATION FOR DELIVERY**
- 6.0 NOTES

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