

FACILITIES MAINTENANCE AND ENGINEERING
GENERAL SPECIFICATION
REQUIREMENTS FOR EQUIPMENT AND /OR MATERIAL SUPPLIERS

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1.0 PURPOSE

The purpose of this specification is to identify requirements for equipment and/or material suppliers. The requirements are identified in Sections 2.0-9.0 below.

2.0 DOCUMENT SUBMITTAL REQUIREMENTS

2.1 Identification

Document submittal requirements are summarized in the controlling specification.

2.2 Engineering Documents

All documentation related to the contract, which are required to be submitted for review shall be in the English language. Engineering documents, including drawings, calculations, reports and specifications shall have all dimensions or units expressed in the English system.

All documents submitted for review shall display a system for revision control, a system for an issue date of the document, and a system for approval by a representative of the entity creating the document.

Documents resubmitted for review shall clearly show all changes made to them from previous revisions. Drawings shall show the changes clouded with an annotation of the revision number/letter. For documents, other than drawings, a vertical line with an annotation of the revision number/letter in the margin of the changed area is acceptable.

2.2.1 Operation and Maintenance (O&M) Manuals

(a) The contractor shall submit, for review, an Operation and Maintenance (O&M) Manual for every contract requiring equipment to be supplied. The O&M Manual shall contain instructions for handling, installation, operation, and maintenance.

(b) In general, data shall pertain only to the items engineered for Science Applications International Corporation (SAIC)-Frederick.

(c) The spine and front cover of each O&M manual shall be printed and contain the information identified below.

1. Contract Number

2. Work Order Number

3. Building Number

4. Type of Equipment

(d) The O&M manual shall contain an identification of the suppliers name, and, as applicable, names, addresses and phone numbers of sub-suppliers, nearest material, equipment and parts suppliers, and service organizations.

2.2.2 O&M Manual Format

(a) O&M Manuals will include literature, data sheets, etc. required for operation and maintenance of the equipment. Nomenclature used to reference each item shall be consistent throughout manuals.

(b) Data shall be functionally complete for all equipment and systems.

(c) Data shall include drawings, diagrams (including wiring diagrams), pictures, or actual photographs (when they add to the understanding and clarity of the text), as necessary to describe the equipment provided.

(d) Precautions and warnings relative to the life safety and equipment shall be included where applicable.

(e) Commercial information (brochures, catalogs, etc.) for many items of equipment shall be utilized under the following conditions:

1. If the publication of the sub-assembly or component part manufacturer does not contain operation, maintenance and parts breakdown data, meeting the intent of these requirements, the supplier shall arrange for its sub-assembly manufacturer to provide information that will meet these requirements.

2. Where a sub-assembly or component part item is of such a nature that local repair normally is not employed, and the item is usually returned to the factory as a unit for overhaul, reference shall be made to such fact in the O&M Manuals, and the specific information concerning its repair and parts breakdown may be omitted.

3. The pages shall be punched and fitted to a loose-leaf binder. The use of foldout page should be kept to a minimum.

(f) If handbooks of sub-assembly equipment or other components are included as part of the O&M Manuals as permitted herein, these associated handbooks shall be noted under the "Manufacturer's Catalog" heading of the index.

(g) O&M Manuals for engineered equipment shall include as applicable:

1. Title

2. Table of Contents

3. Installation Instructions

Installation Instructions shall include, as applicable, the following:

(a) Handling and rigging procedures.

(b) Equipment installation procedures including assembly methods, special precautions, sequence of work and adjustment requirements.

(c) Set points for all relays, instruments, meters, and other devices requiring calibration.

(d) Allowable temperature, pressure, flow, vibration levels, etc., to test and verify operation of mechanical equipment.

(e) Start-up instructions should include a step-by-step startup sequence or checklist.

4. Operation Instructions

Operation instructions shall include, as applicable, the following:

- (a) Starting instructions, detailed and specific, for all equipment furnished, noting the step-by-step procedures to be followed. Precautions and critical points to be observed shall be noted and emphasized as required.
- (b) Operation instructions, detailed and specific, for all equipment furnished. Included shall be precautions and critical points to be observed. There will be a tabulation of possible operating difficulties with the probable cause listed and remedial action recommended to be taken.
- (c) Shutdown instructions, detailed and specific, for all equipment furnished, noting the step-by-step procedure to be followed for shutting down the equipment.

5. Maintenance Instructions

Maintenance instructions for engineered equipment will include, as applicable, the following:

- (a) Disassembly instructions complete, detailed and specific for major assemblies of all equipment furnished, noting the step-by-step procedure to be followed. Precautions and critical points to be observed will be noted and emphasized as required.
- (b) Maintenance instructions complete, detailed and specific for major equipment furnished, including preventive maintenance instructions and lubrication information. Schedules covering test and inspections to be performed after various periods of operation will be included. A summary description and identification of special tools required and furnished for maintenance will also be included.
- (c) Settings, clearance and adjustment data tabulated for major equipment, covering instrument settings for operation, alarm and shutdown, and operating clearances and adjustments required for proper operation. Also, a tabulation of recommended operation conditions for all equipment and systems. Whenever instrumentation is provided with the manufacturer's equipment, calibration procedures and instrument data sheets for this instrumentation will be provided.

6. Parts Catalog

Parts Catalog shall include, as applicable, the following:

- (a) Detailed replacement parts drawings and list, including applicable specific replacement part drawings and lists. These drawings and documents shall include all information required for ordering replacement parts, such as part name, part number, equipment serial number, technical specifications, quality assurance requirements, etc.
- (b) Special handling procedures required by any particular parts will be noted including shelf limits.

7. Associated Publications

The Associated Publications section of the O&M Manuals will be utilized when it is not feasible to include existing publications on sub-assembly or associated equipment components in the O&M Manuals.

3.0 DEVIATIONS

A deviation is a departure from the requirements of the contract documents, which the supplier proposes to incorporate in the completed item, or provided service. Examples of contract documents include, but are not limited to, contract documents, specifications, drawings, data sheets, and any supplier documents, which require review for permission to proceed with work. The supplier shall submit a written deviation request promptly after detection of the deviation.

The supplier shall identify and document conditions that do not meet requirements of the contract documents and reviewed submitted supplier documents (i.e., drawings, procedures, test results, etc.). Those deviations, along with the supplier's suggested corrective actions(s), shall be transmitted via correspondence for review and disposition. Any deviation is considered unacceptable until approved in writing.

The supplier shall submit the deviation, including technically valid information that is sufficient for evaluation, within five (5) working days after detection of the non-conforming condition. If this time limit cannot be met, notification by telephone, FAX, or other means is acceptable, at which time a revised submittal date shall be established. Deviations identified by lower-tier organizations shall be submitted through the prime supplier.

The deviation will be reviewed and the results of the review of the deviation will be forwarded, via a letter, to the supplier. The letter will also indicate any Buyer or Seller document(s) requiring a change to reflect the changed condition.

4.0 FABRICATION

(a) Use suppliers standard procedures and those of sub-suppliers for fabrication and manufacture of items covered by this order, except when specified in the base specification, provided they do not render these items unsuitable for service and conditions specified therein. Where suppliers (or sub-supplier's) standard procedures conflict with applicable codes or other standards, apply the most stringent requirements to fabrication and manufacture of equipment specified.

(b) Furnish all equipment neatly finished and free of burrs and fins.

(c) Pre-assemble all components furnished under the contract in the supplier's shops to the maximum extent consistent with shipping, handling, and erection.

5.0 COMPONENT IDENTIFICATION

The supplier shall place a non-corroding metal tag securely affixed to the component by pins, metal screws, or stainless steel wire. The metal tag shall contain provided component identification number.

6.0 CLEANING AND PAINTING

(a) Clean and coat exterior ferrous metal surfaces in accordance with supplier's standard practice, unless specified otherwise.

(b) Unless specified otherwise, do not paint machined faces and fittings, end preparations for field welding, parts to be embedded in concrete, nonferrous parts, and nameplates. Employ suitable means, such as coating with grease or preservative, to provide protection of ferrous surfaces during shipment and storage.

7.0 SHIPPING, HANDLING, AND STORAGE

7.1 Preparation for Shipment

(a) Prepare equipment for shipment, after shop tests have been completed, so that handling can be done in a safe and expeditious manner without distorting equipment or materials, or exposing them to undue risk or damage. Repair shall be sufficient to allow field storage in a heated and covered building.

(b) Special storage conditions are to be identified.

(c) Assemble, match mark, and suitably package all components in order to provide for rapid and accurate erection and installation.

(d) All openings shall be closed with suitable caps or covers to prevent debris from entering the equipment.

7.2 Handling and Storage

(a) Provide protection for the most severe climatic conditions expected that would prevent rusting, weathering, entry of foreign material, or other damage.

(b) Provide protection for equipment from damage during shipping, handling, and storage.

(c) Provide inspection and maintenance requirements for short-term and long-term outside preserved storage to protect the equipment.

8.0 CODES AND STANDARDS

Whenever compliance with referenced standards or codes is specified, it is understood that the latest edition or revision of such standard or code, and all amendments and supplements thereto in effect on the date of the purchase order/contract, shall apply unless otherwise expressly stated in the technical specifications.

In case of conflict between the contract documents and standards or codes, such conflicts shall be identified to Buyer for resolution prior to shipment of equipment.

9.0 CORRESPONDENCE

Correspondence is to be forwarded to the individual(s) identified in the contract documents.