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MILITARY STANDARD

SUPPLIER QUALITY ASSURANCE

PROGRAM REQUIREMENTS



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FOREWORD

1. This Military Standard is approved for use by all Departments and Agencies of the Department of Defense.
2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of help in improving this document should be addressed to: HQ Air Force Materiel Command, Attn: ENME, Wright-Patterson AFB, OH 45433-5001 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.
3. The purpose of this standard is to establish a Supplier Quality Assurance Program to assure the quality of products and services being supplied to a prime contractor under government contracts.

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SUPPLIER QUALITY ASSURANCE PROGRAM REQUIREMENTS

1. SCOPE

1.1 Purpose. The purpose of this standard is to establish contractor requirements and procedures for an effective quality assurance program for government acquisitions involving subcontracts when Higher-level Quality Assurance requirements, FAR 46.202-3, and this standard are requirements of the prime contract. The prime contractor shall tailor and include these requirements in purchase documents to suppliers.

1.2 Application. The prime contractor shall provide and maintain a documented quality assurance program that will assure subcontracted products conform with the requirements of the prime contract. Nothing in this standard shall be interpreted as establishing privity of contract between the government and the prime contractor's suppliers. This standard shall be in addition to and not take preference over other contract requirements.

2. APPLICABLE DOCUMENTS

2.1 Government documents. The following documents form a part of this document to the extent referenced herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation. Documents referenced in these documents are for guidance only and shall not be considered contractual unless they are also cited by name or number in the contract.

STANDARDS

Military

DOD-STD-2168

Defense System Software Quality Program

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robins Avenue, Philadelphia, PA 19111-5094.)

2.2 Other Government documents. The following other Government documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

REGULATIONS

FAR 46.202-3

Higher-level Contract Quality Requirements

(Unless otherwise indicated, copies of Federal Acquisition Regulations are available from the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402-0001.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

MIL-STD-1535B**3. DEFINITIONS**

3.1 Computer Software (or Software). A combination of associated computer instructions and computer data definitions required to enable the computer hardware to perform computational or control functions.

3.2 Registered Components (Critical Items). That limited number of critical items whose failure in operation would most probably be catastrophic and complex parts which, because of their nature, function, or processing have a deficiency potential warranting traceability (see 4.5.2.1 and 4.5.2.2).

3.3 Group I Purchases. This group includes (a) purchases for products or services that are either complex or have critical application and for which conformance to contract requirements cannot or should not, for economical reasons, be fully determined on receipt, and (b) purchases requiring direct shipment from the supplier to the government.

3.4 Group II Purchases. This group includes purchases for products or services for which conformance to contract requirements may be adequately determined by the purchasing contractor upon receipt.

3.5 Group III Purchases. This group includes purchases for products or services for which there are no contractual quality requirements specified and for which requirements of this standard do not pertain.

3.6 Nonconformance. A departure from the requirements specified in the contract, specification, drawing, or other approved product description.

3.7 Pre-award Survey. An evaluation of a prospective supplier's capability to perform under the terms of a proposed contract.

3.8 Products. All supplies and services, including hardware, software, firmware, data or portions thereof, which are produced, purchased, developed, or otherwise supplied to DoD.

3.9 Redundant Inspection/Test. Any verification of a quality characteristic performed by a higher-tiered supplier or prime contractor when that quality characteristic has been previously, properly verified by the sub-tiered suppliers.

3.10 Supplier. The terms subcontractor, supplier, vendor, seller, or any other term used to identify the source from which the prime contractor obtains products are considered to be synonymous for the purpose of this standard.

4. GENERAL REQUIREMENTS

During the earliest practical phase of contract performance and prior to production and award of subcontracts, the contractor shall establish and institute a program which, in consonance with applicable administrative and technical requirements, will promote continuous improvement and assure effective control over the quality of all products and services purchased by the contractor in support of government prime contracts. The management of the program shall minimize redundant inspections and maximize use of statistical methods and techniques commensurate with suppliers' and products' quality history.

4.1 Classification of purchases. The prime contractor's supplier quality assurance program shall provide for a classification of purchases as either Group I, Group II, or Group III (see 3.3, 3.4, and 3.5). The supplier quality assurance program shall apply to all purchases in support of government contracts that are classified as Group I or Group II. The requirements for subcontractor support to the prime contractor are contained in documents identified as contracts, purchase orders, purchase requests, and other similar terms. All such documents and the products or services they describe shall be controlled in accordance with this standard. The extent to which this standard is applicable to sub-tier purchases shall be described in the prime contractor's written procedures and contained in the purchase document issued to the first-tier supplier.

MIL-STD-1535B**4.2 Selection of supplier.**

4.2.1 Determining the supplier's capability. The prime contractor's program shall include procedures for the determination, prior to issuance of the purchase document, of the capability of the prospective suppliers, whether existing or new, to produce the products or to supply the services in accordance with the contractual requirements. For each prospective new supplier of Group I purchases, the prime contractor shall perform a Pre-award Quality Survey as described in 4.2.2. Satisfactory recent (within the past 12 months) quality history of a product or service with a function and design complexity comparable to that of an intended purchase, or other valid evidence of satisfactory quality performance, shall be an acceptable basis for issuance of a new purchase document without additional survey activity.

4.2.2 Pre-award survey of prospective suppliers. When the prime contractor performs a pre-award survey of the supplier's facility, the results shall be documented, available for review, and serve as a basis for required corrective action.

4.2.2.1 Survey elements. The following factors, appropriate to the products or services to be furnished, should be considered for evaluation during the survey:

- a. Management organization and approach
- b. Inspection planning, controls, capability, and management
- c. Product/commodity visibility and defect prevention program
- d. Product/commodity performance analysis
- e. Past experience with the type of product or service to be supplied
- f. Configuration Management System
- g. Procedural control of hardware/software design and development documents and associated changes
- h. Control of nonconforming products
- i. Corrective Action/Continuous Improvement Program
- j. Product Discipline
- k. Personnel availability/qualifications/certification
- l. Review/audit capabilities
- m. Calibration capability and resources

4.2.2.2 Hardware specific. The following factors apply only to hardware products:

- a. Manufacturing/computer facilities
- b. Capability/condition of manufacturing equipment
- c. Control and maintenance of inspection equipment and production tools used as a medium of inspection
- d. Material storage and handling
- f. Control of nondestructive testing and special processes

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4.2.2.3 Software specific. The following factors apply only to computer software products:

- a. Software media controls
- b. Software development standards and procedures
- c. Existing software development, test and support tools, methods and measurements
- d. Software validation/verification methodologies
- e. Software library controls
- f. Independence and qualifications of evaluators

4.2.3 Periodic audit of suppliers. Each active supplier of Group I procurements shall be subjected to a periodic review/audit. The type and frequency shall be defined in the prime contractor's procedures. The purpose of the reviews/audits will be to determine the continued capability of the supplier to control the quality of the products or services specified by the contract.

4.3 Supplier rating

4.3.1 Supplier rating system. The supplier rating system shall be devised by the prime contractor and described in written procedures. Each supplier shall be rated for quality of performance for each type of commodity/product being purchased. The system shall consider applicable inspection and test results when available from sources such as field personnel, as well as receiving inspection, and subsequent supplier responsible line rejects. The system shall yield the necessary basic data to provide visibility of supplier quality performance and trends. These data shall be periodically updated to reflect current supplier ratings and shall be used by purchasing personnel.

4.3.2 Rating. The supplier quality rating system must provide adequate separation and identification of suppliers having a satisfactory rating from those having other than a satisfactory or acceptable rating. The rating shall be predicated on a history of quality performance. The supplier's quality rating shall be given consideration equal to other performance indicators when selecting suppliers. The prime contractor's program shall describe the precautions that shall be implemented when products are obtained from suppliers which are rated below the satisfactory level established in the contractor's rating system.

4.4 Purchasing data

4.4.1 Responsibility. The prime contractor's supplier quality assurance program shall provide for a review of purchase documents to assure applicable quality requirements are included or referenced in the documentation for compliance by the supplier. Government quality requirements (FAR 46.202-3 and DOD-STD-2168) may be tailored, as applicable, for each purchase document. The tailoring of government quality requirements will not compromise compliance with requirements imposed on the prime contractor. The review shall be accomplished as early as possible in the procurement cycle to assure the incorporation of government requirements applicable to the specific purchase. The office responsible for this review shall be identified in the contractor's procedures.

4.4.2 Purchase document evaluation. Prime contractor evaluation of the purchase documents shall be accomplished to assure that an adequate description, appropriate for the products to be provided, is included in the documentation.

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4.4.2.1 All purchases. The evaluation shall assure instructions are included in all purchase documents for the following as appropriate:

- a. Manufacturing requirements
- b. Inspection and testing
- c. Material specifications and standards
- d. Control of registered components
- e. Special qualifications, approval, or certifications
- f. Nondestructive tests
- g. Control of hardware/computer software documentation and changes
- h. Applicable product and process specifications
- i. Reliability and maintainability
- j. Safety factors
- k. Preservation, packaging, marking, and packing
- l. Product storage and handling
- m. Contractor source quality control
- n. Government source quality assurance
- o. Shipping instructions
- p. Age control/shelf life
- q. Government-furnished equipment
- r. Contractor-furnished equipment
- s. Test reports
- t. Control of tool and test equipment
- u. Nonconforming products
- v. Control of manufacturing methods, materials, and processes
- w. Applicable workmanship standards
- x. Reviews/audits
- y. Identification of hardware and software deliverables
- z. Statistical Process Control Program

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4.4.2.2 Software purchases. In addition to 4.4.2.1, the following applies to computer software products as appropriate:

- a. Software qualification/acceptance testing
- b. Traceability between requirements and qualification/acceptance tests
- c. Software Development Plan
- d. Software Quality Program Plan
- e. Software specifications, standards, and programming conventions
- f. Software media control

4.5 Prime contractor control at supplier's facility

4.5.1 Control of quality. The prime contractor is responsible for assuring all products and services purchased from suppliers conform to the contract requirements. To comply with this responsibility, it may be necessary to assign prime contractor employees to the supplier's facility. The extent of prime contractor involvement at the supplier's facility will depend on the classification of the purchase and the supplier's demonstrated capability to conform to specified requirements. Purchases falling into the Group I classification or products with a history of quality problems shall be given primary consideration for the assignment of contractor source quality assurance personnel at the subcontractor's facility. The prime contractor's field representative may be assigned functions such as the following:

- a. Performing complete or sampling inspection of product characteristic
- b. Assuring the adequacy of, and conformance to, the controls for special manufacturing processes
- c. Assuring the adequacy of, and conformance to, the controls for inspection and test equipment
- d. Verifying conformance to configuration management procedures for engineering drawings and computer software
- e. Determining conformance to the supplier's established quality program/inspection system
- f. Evaluating the methods for controlling nonconforming products and assuring the correction of the cause of nonconformance
- g. Documenting results of evaluations and inspection performed
- h. Indicating acceptability of products contained in each shipment, as applicable
- i. Verify that qualification and acceptance tests are conducted to approved procedures
- j. Verifying compliance with applicable requirements of 4.2 to include timely notification to management when discrepancies/deficiencies are discovered

4.5.2 Control of registered components (critical items). The prime contractor must maintain strict control of registered components and their processing regardless of manufacturing/process location. When a registered component is purchased, the subcontractor is required to document in detail the critical methods and processes that will be used. The sub-contractor must submit to the prime contractor for analysis and acceptance the following information:

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- a. The methods and the type of critical processing to be used (subject to limitations imposed because of proprietary information)
- b. The location within the processing cycle where inspections, audits, or walk throughs will take place
- c. The attributes of the products which will be inspected at each inspection point
- d. The materials and methods of preservation and packaging to be used to protect the product
- e. The handling and transportation precautions necessary to protect the product

Revision or variation to any of the above listed controls shall not take place until the prime contractor has approved the revision.

4.5.2.1 Government identified. Parts, components, assemblies, or systems identified as "Registered Components" in the government contract or work order shall be controlled in accordance with 4.5.2. Documented procedures for items in this category shall be submitted by the prime contractor to the government for approval prior to their implementation.

4.5.2.2 Contractor identified. When not specified in the government contract or work order, the prime contractor shall be responsible for identifying and controlling registered components in accordance with the criteria for selection, manufacture, and inspection specified in 4.5.2. Detailed procedures governing the manufacture, inspection, and control of registered components identified by the prime contractor shall be documented as a part of the contractor's total quality control program and subject to review and subsequent disapproval by the government whenever they fail to accomplish their objective.

4.6 Receipt of purchased products

4.6.1 Receiving inspection. Products and services produced by outside sources for incorporation in the contract end item shall be subject to inspection/audit at time of receipt prior to further processing within the prime contractor's plant or shipment to another location. Objective quality evidence submitted by the supplier may be used by a prime contractor in lieu of receiving inspection/audit. The use of such evidence does not relieve the prime contractor of responsibility to meet all contract requirements. In addition to verifying that the products and services comply with requirements of the purchase document, the products and services will also be verified against the latest applicable engineering changes or software specifications.

4.6.2 Discrepancy reporting

4.6.2.1 Discrepant products. Nonconforming products shall be identified and processed in accordance with the prime contractor's procedures for controlling nonconforming products. The prime contractor shall report the receipt of any nonconforming products to the responsible supplier in accordance with established procedures. Nonconforming material records will be maintained and available for review by the government Quality Assurance Representative (QAR).

4.6.2.2 Discrepant purchase documents. Products received that conform to requirements of the purchase document, but fail to conform to the latest applicable engineering revision, will be placed in "hold status" pending resolution of the conflicting purchase/engineering documents. Subsequent handling of the product, if nonconforming, shall be in accordance with the prime contractor's established procedures.

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5. DETAILED REQUIREMENTS. The prime contractor is responsible for complying with the requirements specified in the contract. The written procedures developed by the prime contractor for implementing requirements of this standard shall be subject to review by the government QAR and disapproval when the contractor's procedures do not accomplish their objectives. The government reserves the right to perform inspections, verifications, and evaluations deemed necessary to ascertain the prime contractor's conformance to requirements of this standard and the adequacy of implementing procedures.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Data. Data generated by the requirements of this standard are not intended to be delivered to the government unless indicated in the contract on a DD Form 1423, but shall be required for "on site" inspection, conformance verification, and program validation.

6.2 Tailoring. The requirements contained in this document should be tailored by purchasing activities to reflect the phase of the product in the Acquisition Life Cycle (reference DoD 5000.1 and DoD 5000.2). Existing contractor systems that satisfy the intent of these requirements should be utilized to the maximum extent possible.

6.3 Subject term (key word) listing

Control of quality (supplier)
Pre-award surveys
Purchase, classification of
Registered components (critical items)
Supplier's capability
Supplier's rating

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian:

Army - AR
Navy - OS
Air Force - 10
DLA - DH

Preparing Activity:

Air Force - 10

Review Activities:

Army - AV, ME, GL, CR, TM
Navy - AS
Air Force - 11, 12, 13, 15, 16, 17, 18, 19 22, 26

(Project QCIC-0118)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, not to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-STD-1535B2. DOCUMENT DATE (YYMMDD)
920817

3. DOCUMENT TITLE

Supplier Quality Assurance Program Requirements

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)
(1) Commercial7. DATE SUBMITTED
(YYMMDD)(2) AUTOVON
(If applicable)

8. PREPARING ACTIVITY

A. NAME

HQ AFMC/ENME

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787-7712

C. ADDRESS (Include Zip Code)

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