



# CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved  
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0701-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to the above address. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

<b>A. CONTRACT LINE ITEM NO.</b>	<b>B. EXHIBIT</b>	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER _____	
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<b>D. SYSTEM/ITEM</b> F100-PW-100/-200/-220 Engines	<b>E. CONTRACT/PR NO.</b>	<b>F. CONTRACTOR</b>
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<b>1. DATA ITEM NO.</b> A002	<b>2. TITLE OF DATA ITEM</b> Test / Inspection Report	<b>3. SUBTITLE</b> Nsn-2840-00-335-2668 Noun: Igniter Flame Holder Assy First Article Test / Inspection Report
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<b>4. AUTHORITY (Data Acquisition Document No.)</b> DI-NDTI-80809B / T	<b>5. CONTRACT REFERENCE</b>	<b>6. REQUIRING OFFICE</b> DSCR-JLTB
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<b>7. DD 250 REQ</b> SD	<b>9. DIST STATEMENT REQUIRED</b>	<b>10. FREQUENCY</b> 1Time	<b>12. DATE OF FIRST SUBMISSION</b> 30DATC	<b>14. DISTRIBUTION</b>		
<b>8. APP CODE</b> N/A	A	<b>11. AS OF DATE</b> See Block 16	<b>13. DATE OF SUBSEQUENT SUBMISSION</b> N/A			
				a. ADDRESSEE	Draft	Final
					Reg	Repro

<b>16. REMARKS</b>	
Nsn-2840-00-335-2668 , Part# 4034812 (77445).	
Block 4. Tailored:	
The First Article Test / Inspection Report shall satisfy all the requirements in the approved Pre-Production / First Article Test Plan. All drawing requirements must be satisfied including dimensions, visual inspections, non-destructive inspections, manufacturing processes, as well as material requirements. The Test Report shall identify the sub-vendor(s) utilized to perform the manufacturing and inspection processes as well as proof that the sub-vendor(s) are OEM(Pratt and Whitney) certified to perform the processes. A copy of the process sheets used to manufacture the First Articles shall be included in the Test Report.	
Additional guidelines for the Test Report are contained in LPF-QAR-003.	
DID-Element 10.2.6.4.2 Test / inspection results. Shall include certification(s) of material and process(es), material shall be acquired and external process(es) to be performed by Pratt and Whitney approved sources and labs.	
Block 7. The Report shall be submitted along with a copy of all the drawings to OC-ALC for evaluation and approval. Copies shall be submitted to the DSCR-PCO and the local DCM Office.	
Block 11. Report is due no later than 220-days after contract award.	
Block 12. The Vendor shall submit this FAT Report with the FAT Samples due at Tinker AFB for First Article Testing. FAT Qty-04 each shall apply, with Qty-02 each provided assembled and another Qty-02 each provided un-assembled for testing. All un-assembled pieces shall be properly marked to sample lot and drawing references.	
Block 14. Distribution as follows: A copy of the contract and drawing(s) shall be provided with the First Article Test Report to:	
1. DCM - QAR , Vendor DCM Office	
2. Defense Supply Center Richmond(DSCR) Attn: DSCR-JLP 8000 Jefferson Davis Highway Richmond, VA 23297-5877	
3. OC-ALC / ENRS 3001 Staff Drive, Ste T69 Tinker AFB, OK 73145-3036 Attn: FA Monitor	
Note: OC-ALC address applies to plans and reports only. See contract requirements for FAT Sample address.	
<b>15. TOTAL</b> →	0 2 2

<b>17. PRICE GROUP</b>
<b>18. ESTIMATED TOTAL PRICE</b>

<b>G. PREPARED BY</b> <i>Joseph Kesyk</i>	<b>H. DATE</b> 01-06-2003	<b>I. APPROVED BY</b> <i>Joseph Kesyk</i>	<b>J. DATE</b> 01-06-2003
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**INSTRUCTIONS FOR COMPLETING DD FORM 1423**  
(See DoD 5010.12-M for detailed instructions.)

**FOR GOVERNMENT PERSONNEL**

- Item A. Self-explanatory.
- Item B. Self-explanatory.
- Item C. Mark (X) appropriate category: TDP - Technical Data Package; TM - Technical Manual; Other - other category of data, such as "Provisioning," "Configuration Management," etc.
- Item D. Enter name of system/item being acquired that data will support.
- Item E. Self-explanatory (to be filled in after contract award).
- Item F. Self-explanatory (to be filled in after contract award).
- Item G. Signature of preparer of CDRL.
- Item H. Date CDRL was prepared.
- Item I. Signature of CDRL approval authority.
- Item J. Date CDRL was approved.
- Item 1. See DoD FAR Supplement Subpart 4.71 for proper numbering.
- Item 2. Enter title as it appears on data acquisition document cited in Item 4.
- Item 3. Enter subtitle of data item for further definition of data item (optional entry).
- Item 4. Enter Data Item Description (DID) number, military specification number, or military standard number listed in DoD 5010.12-L (AMS DL), or one-time DID number, that defines data content and format requirements.
- Item 5. Enter reference to tasking in contract that generates requirement for the data item (e.g., Statement of Work paragraph number).
- Item 6. Enter technical office responsible for ensuring adequacy of the data item.
- Item 7. Specify requirement for inspection/acceptance of the data item by the Government.
- Item 8. Specify requirement for approval of a draft before preparation of the final data item.
- Item 9. For technical data, specify requirement for contractor to mark the appropriate distribution statement on the data (ref. DoDD 5230.24).
- Item 10. Specify number of times data items are to be delivered.
- Item 11. Specify as-of date of data item, when applicable.
- Item 12. Specify when first submittal is required.
- Item 13. Specify when subsequent submittals are required, when applicable.
- Item 14. Enter addressees and number of draft/final copies to be delivered to each addressee. Explain reproducible copies in Item 16.
- Item 15. Enter total number of draft/final copies to be delivered.
- Item 16. Use for additional/clarifying information for Items 1 through 15. Examples are: Tailoring of documents cited in Item 4; Clarification of submittal dates in Items 12 and 13; Explanation of reproducible copies in Item 14.; Desired medium for delivery of the data item.

**FOR THE CONTRACTOR**

**Item 17.** Specify appropriate price group from one of the following groups of effort in developing estimated prices for each data item listed on the DD Form 1423.

a. Group I. Definition - Data which is not otherwise essential to the contractor's performance of the primary contracted effort (production, development, testing, and administration) but which is required by DD Form 1423.

Estimated Price - Costs to be included under Group I are those applicable to preparing and assembling the data item in conformance with Government requirements, and the administrative and other expenses related to reproducing and delivering such data items to the Government.

b. Group II. Definition - Data which is essential to the performance of the primary contracted effort but the contractor is required to perform additional work to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, or quality of the data item.

Estimated Price - Costs to be included under Group II are those incurred over and above the cost of the essential data item without conforming to Government requirements, and the administrative and other expenses related to reproducing and delivering such data item to the Government.

c. Group III. Definition - Data which the contractor must develop for his internal use in performance of the primary contracted effort and does not require any substantial change to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, and quality of the data item.

Estimated Price - Costs to be included under Group III are the administrative and other expenses related to reproducing and delivering such data item to the Government.

d. Group IV. Definition - Data which is developed by the contractor as part of his normal operating procedures and his effort in supplying these data to the Government is minimal.

Estimated Price - Group IV items should normally be shown on the DD Form 1423 at no cost.

**Item 18.** For each data item, enter an amount equal to that portion of the total price which is estimated to be attributable to the production or development for the Government of that item of data. These estimated data prices shall be developed only from those costs which will be incurred as a direct result of the requirement to supply the data, over and above those costs which would otherwise be incurred in performance of the contract if no data were required. The estimated data prices shall not include any amount for rights in data. The Government's right to use the data shall be governed by the pertinent provisions of the contract.

OC-ALC/LPFR QUALITY ASSURANCE REQUIREMENTS  
FOR  
FIRST ARTICLE TEST PLANS AND REPORTS

Page 1  
LPF-QAR-003  
Rev: D  
05 Jan 01

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1. This document provides guidelines for the preparation of first article test plans/test reports for F100 engine parts where referenced within the first article data of a contract.
  
  2. **FIRST ARTICLE QUANTITY.** The quantity of first articles shall be per the contract. The quantity of articles allowed for destructive testing, in accordance with the contract, shall be tested per the first article procedure in its entirety, to include the destructive testing. The remaining articles shall only be tested per the nondestructive portions of the procedure.
  
  3. **TESTING REQUIREMENTS.**
    - 3.1. Testing shall consist of, but shall not be limited to, the verification of the following.
      - 3.1.1. Dimensional conformance including finish requirements.
      - 3.1.2. Conformance to non-destructive inspection requirements (FPI, Ultra-sonic, Eddy Current, X-ray, visual)
      - 3.1.3. Conformance of material properties to include mechanical, metallurgical and chemical.
      - 3.1.4. Conformance to other required processes, specifications, and standards listed on the drawing including sub-tier specifications and standards, special requirements as described in the engineering instructions (EI), quality plans, etc.
    - 3.2. First articles shall be serialized. Serial Numbers are to be identified prior to commencement of testing unless otherwise specified.
    - 3.3. Dimensional Inspection.
      - 3.3.1. All dimensions, as listed on the assembly drawing and detail drawings, to include drawing notes, shall be measured where possible on all first articles 100% (no sampling allowed).
      - 3.3.2. A tabular format shall be used with drawing dimension, tolerance, measurement, and instrument/gage/tooling/serial number used.
      - 3.3.3. All tooling and gaging used for inspection and acceptance/rejection of first articles shall have calibrations from a laboratory traceable to NIST and in accordance with ISO 10012-1 (formerly MIL-STD-45662), listed in a (tooling & gaging table) table, table shall include nomenclature, serial number, calibration frequency, next calibration date, range, least increment, and accuracy. Listing shall also include alignment tools and constraint fixtures.
      - 3.3.4. Inspection results shall be presented in a table showing the feature measured, dimension and tolerance, actual reading and gage serial number used.
    - 3.4. Nondestructive Inspections (NDI), including Fluorescent Penetrant Inspections (FPI), Ultrasonic Testing (UT), Eddy Current (EC), Radiographic Testing (x-ray), and visual inspections, shall meet the following:

OC-ALC/LPFR QUALITY ASSURANCE REQUIREMENTS  
FOR  
FIRST ARTICLE TEST PLANS AND REPORTS

Page 2  
LPF-QAR-003  
Rev: D  
05 Jan 01

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- 3.4.1. All first articles shall receive 100% of the inspections identified on the QAD. Sampling shall not be allowed.
- 3.4.2. NDI shall be per the applicable specification(s).
- 3.4.3. Sources used shall be Pratt&Whitney approved per the OC-ALC/LPFR letter granting source approval to the contractor.
- 3.4.4. NDI results shall be presented in a table showing the feature inspected, acceptance/rejection criteria used, results and gage/master serial number used. In cases where photographic standards within a VIS specification are applied to an NDI, the inspection report shall include a copy.
- 3.4.5. Inspection Masters/Transfer Masters shall have current calibrations. A copy of the calibration(s) shall be included into the report.
- 3.4.6. Level III or Level II inspectors, as applicable, shall be required. A copy of the inspector's certification(s) shall be included into the report.
- 3.5. Visual Inspections shall include:
- 3.5.1. Specific visual inspections per a Pratt&Whitney Visual Inspection Standard (VIS) document shall be called out of the applicable VIS and cited as specific inspections.
- 3.5.2. Visual inspection results shall be presented in a table showing the feature inspected, acceptance/rejection criteria used, results, and gage/master serial number used (as applicable).
- 3.5.3. In cases where photographic standards within the VIS are used, the inspection report shall include a copy.
- 3.6. Material properties testing shall include mechanical properties, metallurgical properties, and chemical composition tests, as applicable, per the material specifications and the following:
- 3.6.1. Composition, heat treat condition, and other characteristics/properties, as listed in the technical requirements section, acceptance section, and/or quality sections of the specification(s) so as to verify that the materials and processes are sound, clean, and free of imperfections detrimental to the performance of the part or assemblies.
- 3.6.2. In some cases a material suppliers certification will not be sufficient and the Contractor shall have redundant testing performed.
- 3.6.3. Metallurgical microanalysis, as applicable, for raw materials, weldments, brazements, and coatings shall be conducted. Results shall include the complete laboratory report including photomicrographs.
- 3.6.4. Mechanical testing, as applicable, per manufacturing specifications and the drawing(s).

OC-ALC/LPFR QUALITY ASSURANCE REQUIREMENTS  
FOR  
FIRST ARTICLE TEST PLANS AND REPORTS

Page 3  
LPF-QAR-003  
Rev: D  
05 Jan 01

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3.6.5. In cases where the applicable specifications require test reports, these shall accompany the First Article Test Report (FATR).

4. SUBMITTAL.

4.1. The First Article Test Plan (FATP) shall be delivered to the Contracting Officer in accordance with the schedule as listed in the contract, or Form DD1423. The FATP shall provide a detailed description of specific testing instructions to be used. Generalized instructions will not be acceptable.

4.2. The First Article Test Report (FATR) shall be delivered to the Contracting Officer in accordance with the schedule as listed in the contract, or Form DD1423. All laboratory test results, including those resultant from testing conducted at the contractor's facility and including sub-vendor testing, shall be provided with the FATR in their complete form as provided by the testing laboratory(ies).

5. DISPOSITION OF PARTS.

5.1. When required by the contract, the remnants from destructive testing shall be delivered with the First Article Test Report.

5.2. When required by the contract and following the completion of non-destructive testing, one article shall be delivered to the Contracting Officer and packaged in accordance with contract requirements. Marking on the package shall be **UNSERVICEABLE - Condition Code "R"**. Deliver this part with the First Article Test Report. The other(s) shall be handled in accordance with the contract.

6. GENERAL REQUIREMENTS.

6.1. All First Articles and all Production Articles shall be fabricated from material whose metallurgical state is in compliance with the drawing requirements, as well as all sub-tier specifications and standards referenced therein.

6.2. All First Articles and all Production Articles shall be new manufactured under this contract. No items manufactured under previous contracts shall be delivered without approval.

6.3. The subcontractors previously identified by the contractor as sources to be employed, to include laboratory testing, shall be the only sources used. If the contractor wishes to employ a subcontractor other than previously identified, they shall substantiate that the new source is OEM approved for the specific testing required. A change in the address of a source shall be construed as a change of source. Employment of alternate sources shall only be authorized by OC-ALC/LPFR.

6.4. Engineering Instructions shall take precedence over all other technical instructions.

----- **END OF DOCUMENT** -----

## DATA ITEM DESCRIPTION

**Title:** Contractor's Configuration Management Plan

**Number:** DI-CMAN-80858B

**Approval Date:** 20000930

**AMSC Number:** D7392

**Limitation:** N/A

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** D/DUSD(AT&L)SE

**Applicable Forms:** N/A

**Use, Relationships:** The Contractor's Configuration Management (CM) Plan describes the contractor's configuration management program, how it is organized, how it will be conducted, and the methods procedures and controls effective configuration identification, change control, status accounting, and audits of the total configuration, including hardware, software and firmware. The principle use is to provide the government a basis for review, evaluation and monitoring of the CM program and its proposed components.

This Data Item Description (DID) contains the content and preparation instructions for the data product resulting from the work task specified in the contract.

Data Item Description submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from <http://www.geia.org/836/>

This DID supersedes DI-CMAN-80858A.

### Requirements:

1. Reference documents. The applicable issue of any documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.
2. Format and content. The Contractor's CM Plan shall be prepared in contractor format. The Contractor's CM Plan content shall be in accordance with the contractor's processes and procedures, or as specified in the contract. The following references may be useful in defining content: ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraphs 5.2.5 and 5.3.3); ISO 10007, Quality Management-Guidelines for Configuration Management; and MIL-HDBK-61, Configuration Management Guidance (Section 2 and Appendix A).

END OF DI-CMAN-80858B

## DATA ITEM DESCRIPTION

Form Approved  
OMB No. 0704-0188

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1. TITLE  TEST/INSPECTION REPORT	2. IDENTIFICATION NUMBER  DI-NDTI-80809B
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3. DESCRIPTION/PURPOSE

3.1 The test/inspection report is used to document test/inspection results, findings, and analyses that will enable the government or contracting agency to evaluate compliance with system requirements, performance objectives, specifications, and test/inspection plans.

4. APPROVAL DATE (YYMMDD)  970124	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)  F/AFMC-DOP	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
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7. APPLICATION/INTERRELATIONSHIP

7.1 This data item description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

7.2 This DID is applicable to engineering (developmental), preliminary qualification, qualification, and acceptance testing.

7.3 This DID supersedes DI-NDTI-80809A and DI-MISC-80653.

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER  F7231
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10. PREPARATION INSTRUCTIONS

10.1 Format. Contractor format is acceptable. Organize the information required by paragraph 10.2 and its subparagraphs in a manner that facilitates presentation and understanding

10.2 Content. The test/inspection report shall contain the following information, as applicable.

10.2.1 Cover and title page. The following information shall appear on the outside front cover and title page:

- a. Report date.
- b. Report number (contractor or government)
- c. Contractor's name, address, and commercial and government entity code.
- d. Contract number and contract line item number or sequence number (if applicable).
- e. Type of test/inspection (for example, first article acceptance test, quality conformance inspection, developmental test, qualification test, environmental test).
- f. Identification of item tested/inspected.
- g. Date or period of test/inspection.
- h. Name and address of requiring government activity.
- i. Security classification, downgrading and declassifying information, if applicable.

(Continued on page 2)

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

DI-NDTI-80809B

Block 10, Preparation Instructions (continued)

10.2.2 Table of contents. The table of contents shall identify the following:

- a. The title and starting page of each major section, paragraph, and appendix of the report.
- b. The page, identifying number, and title of each illustration (for example; figure, table, photograph, chart, and drawing).

10.2.3 Introduction. The introduction shall include the following information:

10.2.3.1 Test/inspection objective(s). The specific test/inspection objective(s) as specified in the contract tasking document.

10.2.3.2 Item(s) tested/inspected. Complete identification of the item(s) tested/inspected including the following:

- a. Nomenclature.
- b. National stock number.
- c. Model number, part number, and serial number
- d. Type of item (for example, prototype, production item, laboratory model).
- e. Serial or lot number.
- f. Applicable engineering changes.
- g. Production item specification, if applicable.
- h. Date of manufacture.

10.2.3.3 Test/inspection requirements. Complete identification of the test/inspection requirements correlated to contractual requirements including the following:

- a. Required test/inspection parameters.
- b. Performance requirements, acceptance or compliance limits, and environmental criteria.

10.2.4 Summary. Complete test/inspection report summary including the following:

- a. A brief discussion of the significant test/inspection results, observations, conclusions, and recommendations covered in greater detail elsewhere in the report.
- b. Proposed corrective actions and schedules for failures or problems encountered.
- c. Identification of deviations, departures, or limitations encountered, referenced to the contract requirements.
- d. Tables, graphs, illustrations, or charts as appropriate to simplify the summary data.

10.2.5 Reference documents. Complete identification of all documents referenced in the test/inspection report including the following, as applicable:

- a. Prior test/inspection reports on the same item.
- b. Test/inspection plans and procedure documents.
- c. Prior certifications of compliance.
- d. Contractor's file designation where test/inspection records are maintained.
- e. Input parameters used.

The applicable issue of the documents cited therein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

DI-NDTI-80809B

10.2.6 Body of report. The body of the test/inspection report shall be as follows:

10.2.6.1 Test equipment identification. Complete identification of each item of test equipment used in the test/inspection including the following:

- a. Nomenclature.
- b. Model number.
- c. Serial number.
- d. Manufacturer.
- e. Calibration status.
- f. Accuracy data.
- g. Comments, if applicable.

10.2.6.2 Test/inspection facility installation and set-up. Complete description of the physical set-up used in conducting the test/inspection to include the following:

- a. Location or orientation of the item.
- b. Location, orientation, or settings of test equipment and instrumentation.
- c. Location, orientation, or settings of sensors and probes.
- d. Location or orientation of interconnections, cables, and hoop-ups.
- e. Electrical power, pneumatic, fluidic, and hydraulic requirements.

Drawings, illustrations, and photographs may be used for clarification.

10.2.6.3 Test/inspection procedures. Complete description of the procedures used in conducting the test/inspection to include the following:

- a. Item selection and inspection that verified suitability for test/inspection.
- b. Summarized sequence of testing/inspection steps, including a description of how the item was operated during the test/inspection, and any control conditions imposed.

10.2.6.4 Test/inspection results and analysis. A copy of all test/inspection results and analysis to include the following:

10.2.6.4.1 Recorded data. The actual recorded data (for example, log book entries, oscillographs, instrument readings, plotter graphs). If the recorded data is extensive, provide it in an appendix.

10.2.6.4.2 Test/inspection results. Identification of all test/inspection results to include the following:

- a. Matrices comparing results achieved against test/inspection objectives or requirements.
- b. A discussion of these matrices as to their significance, and how they compare to any prior test/inspections.
- c. Calculation examples.
- d. Discussion of anomalies, deviations, discrepancies, or failures, including their impact, causes, and proposed corrective actions. The discussion shall address discrepancies between design requirements and the tested/inspected configuration.

10.2.6.5 Conclusions. Test/inspection conclusions distinguished between objective and subjective to include the following:

- a. The effectiveness of the test/inspection procedures in measuring item performance.

DI-NDTI-80809B

- b. The success or failure of the item to meet required test/inspection objectives.
- c. The need for repeat, additional, or alternative tests/inspections.
- d. The need for item redesign or further development.
- e. The need for improved test/inspection procedures, techniques, or facilities.
- f. The adequacy and completeness of the test/inspection requirements.

10.2.6.6 Recommendations. Recommendations appropriate to the test/inspection results and conclusions including the following:

- a. Acceptability of the item tested/inspected (pass or fail).
- b. Additional testing/inspection required.
- c. Redesign required.
- d. Problem resolution.
- e. Test/inspection procedure or facility improvements.
- f. Disposition of items tested/inspected.
- g. Documentation changes required.
- h. Testing/inspection improvements.

10.2.7 Authentication. The following certifications shall be included, as applicable:

10.2.7.1 Authentication of test/inspection results. A statement that the test/inspection was performed in accordance with applicable test/inspection plans and procedures, and that the results are true and accurate. The authentication shall include the signature of the contractor personnel that performed the test(s)/inspection(s), a contractor representative authorized to make such certification, and any government witnesses.

10.2.7.2 Authentication of prior validation. A statement identifying those requirements not tested/inspected or measured that were previously validated. Include identification of the data and method employed for such validation (for example, prior test/inspection, analytical verification, equivalent item, and so on). The authentication shall include the signature of a contractor representative authorized to make such authentication and any government witness.

10.2.7.3 Authentication of acceptability. A statement that the item tested/inspected either passed or failed item acceptability requirements. This authentication shall include the signature of a contractor representative authorized to make such authentication and any government witness.

10.2.8 Appendices. Appendices shall be used to append detailed test/inspection data, drawings, photographs, or other documentation too voluminous to include in the main body of the report. This includes referenced documentation not previously provided by the government, and test/inspection reports from any associated test/inspection activity that may have performed some of the testing/inspecting requirements.

**QUALIFICATION REQUIREMENTS  
FOR MANUFACTURE OF F100 ENGINE PARTS**

Page 1

P/N:  
NSN:

Rev: 0  
20-Dec-01

**I. HARDWARE DESCRIPTION**

A. Nomenclature:

B. Function:

C. Material Composition:

**II. REFERENCE DOCUMENTS**

A. LPF-QAR-004: "General Quality Assurance Requirements For F100 Engine Components."

**III. JUSTIFICATION FOR QUALIFICATION REQUIREMENTS**

Ref.: FAR Subpart 9.2, AFMCFAR Subpart 5309.2

The following paragraphs provide the justification for qualification requirements for this part.

A. Criticality of Part:

This is a Critical Application Item (CAI) used on the F-15 and F-16 aircraft primary propulsion system, the Pratt & Whitney F100 engine. Failure of this part can result in secondary damage to the engine and subsequent mission abort.

B. Complexity of Part:

This part is not complex to manufacture, however, it is used in a critical location and must therefore require strict process control and quality standards.

C. Government Risk:

The following paragraphs document the reasons why the risk to the government of buying this part from an unqualified source is compound.

1. The probability of an unqualified source producing an unsatisfactory part is moderate.
2. The probability of an unqualified source failing to produce within schedule is moderate.
3. A high potential exists for an unqualified source to underestimate the manufacturing difficulty and miss critical delivery schedules.
4. Untimely delivery critically impacts end item overhaul/repair schedules. Failure to deliver on schedule may result in additional high cost emergency procurements.

QUALIFICATION REQUIREMENTS  
FOR MANUFACTURE OF F100 ENGINE PARTS

Page 2

P/N:  
NSN:

Rev: 0  
20-Dec-01

5. An inferior part can cause extensive damage to the end item resulting in a high cost of repair.
- D. There are no costs incurred by an offeror for qualification testing and testing evaluation under the requirements of paragraphs VI.A or VI.B. However, the offeror's development of a Source Approval Request (SAR) package to be submitted for Government evaluation may cost as much as \$2500. In addition, the cost incurred by offerors for Government evaluation of their SAR submitted under the requirements of paragraphs VI.A or VI.B may be as much as \$1,200. This cost may be borne by the Government if it is in the best interest of the Government to qualify alternate sources.

IV. JUSTIFICATION FOR QUALIFICATION PRIOR TO CONTRACT AWARD

Ref.: AFMCFAR Subpart 5309.2

The following paragraphs provide the rationale for requiring a demonstration of the qualification requirements prior to contract award.

- A. The risk of default by the contractor must be minimized as the shortest combined administrative and production lead-time is over 18 months.
- B. The technical risk must also be minimized due to the criticality of the part (Reference the section "Criticality of Part" in paragraph III.A).
- C. The manufacturing and processing techniques are critical to performance and reliability (Reference the section "Criticality of Part" in paragraph III.A).
- D. The risk to the government in determining a potential vendor's capability without an actual demonstration of that capability must be minimized. The expertise that is required to manufacture this part is not commonly available or easily obtained and therefore must be demonstrated. (Reference the section "Complexity of Part" in paragraph III.B).

V. DATA AND DOCUMENTATION REQUIREMENTS

The following paragraphs document the data that must be submitted with a request for source approval. All documentation submitted shall be the latest revision published. Documentation shall be bound (preferably a three ring binder) with a table of contents and corresponding sections tabbed.

- A. The potential Offeror must substantiate that they possess latest revision of the following data by providing a copy in the source approval package, or must provide DCAS or other government representative written verification that the potential vendor has the latest revision of the following data:
1. Drawing Number: (Including all sub-assembly or detail drawings specified on this drawing number)

**QUALIFICATION REQUIREMENTS  
FOR MANUFACTURE OF F100 ENGINE PARTS**

Page 3

F/N:  
NSN:

Rev: 0  
20-Dec-01

2. No QAD for top level drawings. As applicable, include the QAD for each sub-assembly or detail part listed on the above drawing.
  3. All applicable specifications called out on the drawing, and/or assembly and detail drawings, and on the QAD (as applicable). These include:
    - a) Process Specifications
    - b) Inspection Processes
    - c) Material Specifications
- B. The potential Offeror's Quality Assurance System must meet or exceed the requirements described in the attached document LPP-QAR-004.
- C. The vendor shall supply a list of all manufacturing and inspection processes that will be performed, both in-house or by sub-vendors. The vendor shall substantiate that sources to be employed for any significant process, including themselves, with the exception of conventional metal removal processes, are currently approved by Pratt & Whitney for the specific process required or another OEM for an equivalent process. The vendor must supply the name and address of each certified vendor to be used. In all cases where process approval is relative to an OEM process specification other than Pratt & Whitney, the vendor shall provide the complete specification and demonstrate the equivalence of the specifications.

**VI. SUBSTANTIATION OF MANUFACTURING CAPABILITY**

The following paragraphs document the methods to be used to substantiate a vendor's capability to manufacture this item.

- A. A vendor who has manufactured the item for the prime contractor or for other US DoD users of the same item within the last five years may be approved as a source for the part provided that the vendor was responsible for all material procurement, inspection, and finishing of the end item, i.e., the prime manufacturer did not add any value to the end item. The vendor must submit evidence of the scope of work for the part indicating that they had primary responsibility for all operations necessary for the completion of the part for delivery to the customer. This evidence shall include MANUFACTURING PROCESS SHEETS.
- B. Other vendors will be considered for approval on the basis of their ability to manufacture a similar item for the prime contractor, US DoD, or a NATO country. The following conditions must be met for approval by similarity:
  1. Submit evidence of the successful manufacture and sale of the similar item, to include purchase orders and shipping documents reflecting production quantities within the last five years. This evidence must document that the vendor had primary responsibility for all operations necessary to produce the similar item, and that the similar item was accepted by the customer. Also include a summary of quality deficiencies experienced within the last two years of production of the similar item(s) with coordination from the Q. A. manager.

QUALIFICATION REQUIREMENTS  
FOR MANUFACTURE OF F100 ENGINE PARTS

Page 4

P/N:  
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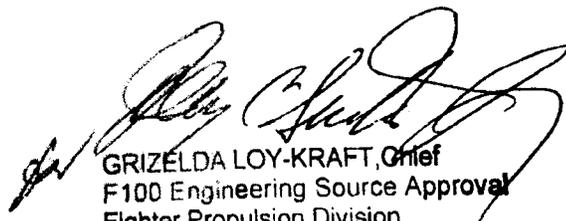
Rev: 0  
20-Dec-01

The vendor shall provide SPECIFIC similarities and differences between the subject part and the similar part.

2. The vendor shall substantiate that the similar component(s) submitted will satisfy the following criteria:
  - a) Fabricated of the same alloy or an alloy from the same alloy family, e.g. Alpha Titanium's, Inconels, Austenitic Stainless Steels.
  - b) Illustrates the ability of the vendor, in conjunction with their sub-vendors, to perform all significant processes to be employed and maintain requisite tolerances and surface finish requirements.
  - c) The data must also show that the manufacturing and inspection/test processes for the similar part demonstrate the full range of difficulty required for the subject part. Included in this data shall be complete MANUFACTURING PROCESS SHEETS for the similar item.
3. A first article requirement may be included in any contract resulting from approval based upon similarity. The estimated cost of first article testing is \$1,500.00. These tests may include material properties analysis, dimensional analysis, and possibly rig test. At least three first articles would be required with one first article requiring destructive testing.

VII. RESPONSIBLE ENGINEERING ORGANIZATION

The responsible organization for establishing these qualification requirements is the F100 Engine Engineering Branch, within the Fighter Propulsion Division of the Oklahoma City Air Logistics Center, Tinker Air Force Base, Oklahoma.

  
GRIZELDA LOY-KRAFT, Chief  
F100 Engineering Source Approval  
Fighter Propulsion Division  
Propulsion Directorate

Expires in  
7 years

GENERAL QUALITY ASSURANCE REQUIREMENTS  
FOR  
F100 ENGINE COMPONENTS

Page 1  
LPF-QAR-004  
Rev: C  
19 DEC 00

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1 APPLICATION

These requirements apply to all F100 engine parts.

2 PURPOSE

This document establishes the minimum technical requirements that prospective sources must satisfy to obtain engineering approval of their quality system. All documentation provided as evidence of compliance with requirements specified herein must be in English. Engineering source approval shall be valid for five years from the date of the OC-ALC letter notifying the contractor of engineering source approval.

3 REQUIREMENTS

3.1 The Offeror must provide a Quality Assurance Manual that accurately portrays their current quality assurance system. The Quality Assurance System must meet or exceed the requirements as described in this document. Additionally, the Quality Assurance System must satisfy one of the following:

3.1.1 Certified to ISO 9002 by the American National Standards Institute (ANSI) or the International Standards Organization (ISO) in Geneva, Switzerland, or

3.1.2 Previously certified within the last three (3) years to MIL-I-45208A plus paragraphs 3.1 through 3.5, 5.1, 5.2, 6.1, and 6.2 of MIL-Q-9858A by the DCMC or other appropriate government Quality Assurance Representative, or

3.1.3 Approved by the Original Equipment Manufacturer (OEM).

3.2 Proof of certification/approval must be provided and must be dated within the last three (3) years. The decision to approve or disapprove the Quality Assurance System shall only be made after a thorough review of the Offeror's Quality Assurance Manual by the cognizant engineering authority, OC-ALC/LPFR.

3.3 Copies of the latest document(s) which describe and govern the quality assurance system in effect at the Offeror's facility(ies). If provided within the last year and no significant changes have been incorporated this requirement may be waived. However, OC-ALC/LPFR as the cognizant engineering activity for the F100 engine reserves the right to request an additional copy in the event the previous submittal cannot be located.

3.4 P&W documentation identifying the specific conditions/restrictions (i.e., specific P/Ns, components, processes, or material this status applies to, production testing required for material release, testing the LCS supplier is authorized to perform, etc.) imposed by P&W with regard to Laboratory Control at Source (LCS) Supplier status if Offeror is a P&W-approved LCS Supplier. The fact that a sub-vendor is a P&W LCS Supplier shall not relieve the Supplier of the responsibility of conducting follow-on quality assurance surveillance to ensure that sub-vendors are providing conforming material.

GENERAL QUALITY ASSURANCE REQUIREMENTS  
FOR  
F100 ENGINE COMPONENTS

Page 2  
LPF-QAR-004  
Rev: C  
19 DEC 00

- 3.5 Evidence that the emphasis in quality assurance planning is placed upon controlling processes to preclude generation of non-conformance's and is supplemented by sufficient inspections or tests to assure effective process control.
- 3.6 Offeror procedures/specifications governing the control of significant processes proposed for use in the fabrication of the approval item for assuring that:
- 3.6.1 Only Purchaser approved sources are used for raw material, significant processes, and major sub-components and adequate consideration is given to a source's capability and performance prior to placing an order.
  - 3.6.2 The quality acceptance standards imposed in routine production acceptance both in-house and by sub-vendors are complete and approved by P&W and the test methods employed in routine production acceptance are sufficient to verify compliance with these standards.
  - 3.6.3 Fabrication performed in-house and by sub-vendors is accomplished in accordance with work instructions specified in manufacturing process sheets, schedules, and/or technical control plans which define the exact sequence of all production operations and all process variables and all critical parameters of manufacturing operations which may directly affect material structure, mechanical properties, surface finish and/or direction or lay of the cutting action. The procedure shall also assure that work instructions have been approved by the customer.
  - 3.6.4 All inspection of characteristics, which serves as the basis for final acceptance of a characteristic, including in-process inspections, are performed in accordance with work instructions specified in inspection method sheets which define all characteristics specified on the applicable P&W drawings and Quality Assurance Documents (QAD's), the classification of each characteristic, the Acceptable Quality Level (AQL) for each classification of characteristic, sample size, frequency of inspection, the specific inspection methodology to be utilized, and the required instrumentation. The procedure(s) shall also assure that all inspection method sheets have been approved by the customer.
  - 3.6.5 Specific Offeror audit procedures/guidelines which pertain to process and product audits performed both in-house and at sub-vendor facilities. These procedures shall, as a minimum assure:
    - 3.6.5.1 Strict adherence to the sequence, parameters, and all other significant process variables of manufacturing operations defined on manufacturing process sheets approved by the customer is maintained both in-house and at sub-vendors' facilities. Specific procedures for auditing and/or controlling requisite significant processes must be provided.
    - 3.6.5.2 Dedicated equipment is properly maintained and calibrated and is capable of adequately performing its intended application.
    - 3.6.5.3 General housekeeping and manufacturing practices employed do not adversely affect the quality of the end product.

GENERAL QUALITY ASSURANCE REQUIREMENTS  
FOR  
F100 ENGINE COMPONENTS

Page 3  
LPF-QAR-004  
Rev: C  
19 DEC 00

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- 3.6.5.4 Established process controls and production acceptance plans are providing products which conform to the Purchaser requirements.
- 3.6.6 Specific Offeror procedures for assuring that certificates of test or conformance provided by sub-vendors of raw material and significant processes are complete and supported by process data and numerical test results from an OEM-approved laboratory for the requisite testing, are representative of material received, and the material is in conformance with Purchaser requirements.
- 3.6.7 Adequate records are retained for documenting sub-vendor lists, sub-vendor quality ratings, layout inspection reports, all Purchaser and OEM approvals, component traceability, and objective evidence of conformance to product, process, and quality acceptance requirements; and are available to the Purchaser upon request.
- 3.6.8 Evidence of a system for controlling non-conforming material to ensure:
- 3.6.8.1 The classification of all non-conforming characteristics in terms of critical, major, and minor is approved by the Purchaser.
- 3.6.8.2 Final disposition of all non-conforming critical and major characteristics including rework and repair is approved by the Purchaser prior to implementation.
- 3.6.8.3 Effective control of non-conforming material at sub-vendor facilities.

----- **END OF DOCUMENT** -----