

# PROCUREMENT STANDARD TEXT CODES

## Revision H - Dated 16 August, 2004



Launch Systems Group

THE CODES LISTED HEREIN ARE ADDITIONAL REQUIREMENTS THAT MAY BE REFERENCED IN ORBITAL'S PURCHASE DOCUMENTS. THE FIRST PORTION OF THIS FORM LISTS THE CODES AND THEIR TITLES SORTED BY THEIR CODE GROUPS. THE SECOND PORTION OF THIS FORM CONTAINS THE TEXT FOR EACH CODE. ALL AVAILABLE CODES ARE LISTED HEREIN. ONLY CODES THAT ARE SPECIFICALLY LISTED IN ORBITAL'S PURCHASE DOCUMENTS APPLY TO THAT SPECIFIC ORDER.

### Code Listing Format:

#### GROUP

Series

Code Title

#### 0000 TEXT CODE REVISION CONTROL

##### **0010 CURRENT REVISION IDENTIFICATION**

*0014.1 Code List FM61-281 Revision H Dated 16 August, 2004 Applies*

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### 0100 BASIC QUALITY REQUIREMENTS

#### 0110 QUALITY SYSTEM

0111.3 *Basic Quality System Requirements*

0112.1 *Supplier's Responsibilities for Continuous Approval as an Orbital Supplier*

#### 0120 CERTIFICATE OF CONFORMANCE

0121.4 *Certificate of Conformance Required*

#### 0130 NONCONFORMING MATERIALS

0131.4 *Nonconforming Materials Requirements*

#### 0140 CORRECTIVE ACTION

0141.5 *Corrective Action Requirements*

#### 0150 CONFIGURATION MANAGEMENT

0153.2 *Order of Precedence*

#### 0160 RECORDS RETENTION

0162.3 *Records Retention Requirements*

#### 0170 PROHIBITED ACTIVITIES

(For Future Use)

#### 0180 GROUP PURCHASE

0181.3 *Group 1 Purchase*

0182.3 *Group 2 Purchase*

0183.3 *Group 3 Purchase*

0184.3 *Group 4 Purchase*

0185.1 *Group 5 Purchase*

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### **0200 QUALITY SYSTEMS**

#### **0210 ANSI/ASQ/ISO 9001**

- 0211.3 Quality System Complying With ANSI/ASQ/ISO 9001 Required*
- 0212.2 Quality System Complying With ANSI/ASQ/ISO 9001:2000 Required*

#### **0220 ANSI/ASQ/ISO 9002**

- 0221.3 Quality System Complying With ANSI/ASQ/ISO 9002 Required*

#### **0230 ANSI/ASQ/ISO 9003**

- 0231.3 Quality System Complying With ANSI/ASQ/ISO 9003 Required*

#### **0240 SAE AS9100**

- 0241.4 Quality System Complying With SAE AS9100 Required*

#### **0250 (RESERVED FOR FUTURE USE)**

#### **0260 QUALITY ASSURANCE PLAN**

- 0261.3 Quality Assurance Plan Submittal and Approval Required*

#### **0270 SOFTWARE QUALITY ASSURANCE PLANNING**

- 0271.2 SEI Software CMM Level 2 Required*
- 0272.2 SEI Software CMM Level 3 Required*
- 0273.3 Software Quality Assurance Plan Approval Required*
- 0274.4 Software Development Plan Approval Required*
- 0275.1 Software Requirements Specification Approval Required*

#### **0280 SOFTWARE QUALITY ASSURANCE PROCESSES**

- 0281.3 Software Quality Metrics Required*
- 0282.3 Software Processes Periodic / Milestone Status Reporting Required*
- 0283.2 Software Processes Periodic / Milestone Auditing Required*
- 0284.4 Software Test Plan and Software Test Procedure Approval Required*
- 0285.2 Software Verification and Software Validation Required*

#### **0290 SOFTWARE CONFIGURATION MANAGEMENT**

- 0291.4 Software Configuration Management Plan Approval Required*
- 0292.2 Software Change Tracking Required*
- 0293.4 Software Configuration Metrics Required*
- 0294.4 Software Configuration Management Periodic / Milestone Status Reporting Required*
- 0295.2 Software Configuration Management Periodic / Milestone Auditing Required*

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**0300 CALIBRATION**

**0310 CALIBRATION SERVICES**

*0311.3 Requirements for Calibration Services*

**0400 SUPPLIED PROPERTY CONTROL**

**0410 GOVERNMENT PROPERTY**

*0411.4 Government Property Provided*

**0420 ORBITAL PROPERTY**

*0421.3 Orbital Property Provided*

**0430 SPECIAL TOOLING**

*0431.2 Special Tooling Requirements*

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### **0500 MANUFACTURING**

#### **0510 MANUFACTURING AND INSPECTION PLANS**

*0511.4 Manufacturing Plan Approval Required*

#### **0520 ESD**

*0521.3 ESD Precautions Required*

#### **0530 PROCESS SOURCES**

*0531.3 Approved Process Sources Required*

*0532.1 Approved Welding Process Sources Required*

*0533.2 Approved Nondestructive Testing (NDT) Process Sources Required*

#### **0540 SUBTIER SUPPLIER CONTROL**

*0541.3 Subtier Supplier Identification Submittal Required*

*0542.3 Subtier Supplier Identification and Approval Required*

*0543.3 Subtier Supplier List Submittal Required*

*0544.3 Subtier Supplier List Approval Required*

#### **0550 MANUFACTURING BASELINE**

*0551.4 Manufacturing Baseline Review Required*

*0552.4 Manufacturing Baseline Approval Required*

#### **0560 EXPLOSIVE MATERIAL**

(For future use)

#### **0570 UNRELEASED PRODUCT DEFINITION**

*0571.3 Delivery Hold – Unreleased Product Definition*

#### **0580 PROCESS CONTROL**

*0581.3 Notification of Changes to Processes Required*

*0582.1 Approval of Changes to Processes Required*

#### **0590 SUPPLIER SUPPORT OF ORBITAL MANUFACTURING PROCESS**

*0591.3 Orbital Supplied Manufacturing Traveler Completion Required*

*0592.1 Documentation Requirements for PWB and CCA Manufacturing Support*

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### 0600 TESTING

#### **0610 FINAL ACCEPTANCE TEST PROCEDURE**

0611.3 *Final Acceptance Test Procedure Approval Required*

0612.3 *Final Acceptance Test Report Submittal Required*

#### **0620 IN-PROCESS TESTING**

0621.2 *Test Report History Submittal Required*

0622.4 *Notification of Testing Required*

0623.3 *Test Failure Notification Required*

### 0700 INSPECTIONS

#### **0710 INSPECTION RECORDS**

0711.4 *Inspection Records Requirements*

#### **0720 FIRST ARTICLE INSPECTION**

0721.2 *First Article Inspection Required*

0722.1 *First Article Inspection per SAE AS9102 Required*

#### **0730 CLOSE OUT PHOTOGRAPHS**

0731.1 *Close Out Photographs Required*

0732.1 *Close Out Photographs Required – Items that include Printed Wiring Assemblies*

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### **0800 ON-SITE INSPECTION**

#### **0810 ORBITAL SOURCE INSPECTION**

*0811.3 Orbital Final Acceptance at Source (Source Inspection) Required*

*0812.1 Orbital Acceptance of Bare Printed Wiring Board Required Prior to Subsequent Operations*

#### **0820 ORBITAL SOURCE SURVEILLANCE**

*0821.4 Orbital Source Surveillance Notice*

#### **0830 GOVERNMENT SOURCE INSPECTION**

*0831.3 Government Source Inspection Required*

#### **0840 CONTRACT KICK-OFF MEETING**

*0841.1 Contract Kick-Off Meeting at Supplier's Facility Required*

#### **0850 ENVIRONMENTAL LOT ACCEPTANCE TESTING**

*0851.1 Pre-Environmental Lot Acceptance Test (Pre-ELAT) Inspection at Source Required*

### **0900 TRACEABILITY AND IDENTIFICATION**

#### **0910 DATE/LOT CODE**

*0911.3 Single Date Code Required*

*0912.3 Date/Lot Code Part Identification Required*

#### **0920 SHELF LIFE**

*0921.2 Shelf Life Requirements*

#### **0930 TRACEABILITY FOR ORBITAL DESIGN CONTROLLED ITEMS**

*0931.4 Traceability Requirements for Orbital Design Controlled Items*

#### **0940 TRACEABILITY FOR SUPPLIER DESIGN CONTROLLED ITEMS**

(For Future Use)

#### **0950 MANUFACTURER'S IDENTIFICATION**

*0951.1 Manufacturer's Identification Required*

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### 1000 CONFIGURATION MANAGEMENT

#### **1010 CONFIGURATION MANAGEMENT PLAN**

1011.3 *Configuration Management Plan Submittal Required*

1012.3 *Configuration Management Plan Approval Required*

#### **1020 AS-BUILT**

1021.2 *As-Built Configuration Record Required*

1022.2 *As-Designed / As-Built Configuration Record Required*

### 1100 PROGRAM SPECIFIC REQUIREMENTS

#### **1110 GROUND-BASED MIDCOURSE DEFENSE PROGRAM**

1111.1 *Parts, Materials, and Processes (PMP) Management Plan Approval Required*

### 1200 NONCONFORMING MATERIAL

#### **1210 MRB DELEGATION**

(For Future Use)

#### **1220 MRB – ORBITAL DESIGNED PRODUCTS**

(For Future Use)

#### **1230 MRB – SUPPLIER DESIGNED PRODUCTS**

(For Future Use)

#### **1240 NONCONFORMANCES IN SUPPLIER DESIGNED PRODUCTS**

1241.1 *Requirements for Notification of Nonconformance in Supplier Designed Items*

1242.1 *Requirements for Approval of Nonconformance in Supplier Designed Items*

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### 1300 CERTIFICATIONS

#### **1310 MANUFACTURER'S CERTIFICATIONS**

1311.3 *Manufacturer's Certifications Submittal Required*

#### **1320 MATERIAL/PROCESS CERTIFICATIONS**

1321.3 *Material/Process Certifications Submittal Required*

1322.1 *Material Certifications Submittal Required*

1323.1 *Process Certifications Submittal Required*

#### **1330 NONDESTRUCTIVE TEST CERTIFICATIONS**

1331.3 *Nondestructive Test (NDT) Certifications Submittal Required*

#### **1340 X-RAY CERTIFICATIONS**

1341.4 *X-Ray Certifications Submittal Required*

1342.3 *X-Ray Certifications and Film Submittal Required*

#### **1350 SAMPLE MATERIAL**

1351.3 *Sample Material Submittal Required*

1352.2 *Sample Printed Wiring Board Submittal Required*

#### **1360 FEDERAL AVIATION ADMINISTRATION CERTIFICATIONS**

1361.3 *FAA TSO Authorization Required*

1362.3 *FAA Airworthiness Certification Documentation Required*

### 1400 PROCESS IMPROVEMENT

#### **1410 SUPPLIER QUALITY METRICS**

1411.3 *Supplier Quality Metrics Submittal Required*

#### **1420 KEY CHARACTERISTICS**

1421.1 *Key Characteristics Inspection and Documentation Process Required*

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### 1500 GIDEP

#### 1510 GIDEP REQUIREMENTS

1511.3 *GIDEP Participation Required*

#### 1520 GIDEP ALERTS

1521.2 *GIDEP Alert Pertains To This Order*

1522.2 *Matrix Connectors Prohibited*

### 1600 SUBSEQUENT PROCESSING

#### 1610 SUBSEQUENT ORBITAL PROCESSING

1611.2 *Subsequent Orbital Processing Required – Calibration*

1612.2 *Subsequent Orbital Processing Required – Testing*

1613.2 *Subsequent Orbital Processing Required – Inspection*

1614.2 *Subsequent Orbital Processing Required - Identification*

1615.3 *Subsequent Orbital Processing Required - Government Property Control*

#### 1620 SUBSEQUENT DATA VALIDATION

1621.3 *Subsequent Test Data Validation Required - Certification Test Report Validation*

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### 1700 DESIGN

#### **1710 DESIGN BASELINE**

1711.3 *Design Baseline Review Required*

1712.3 *Design Baseline Approval Required*

#### **1720 DATA SUBMITTAL**

1721.3 *Supplier Drawing Submittal Required*

#### **1730 DESIGN CHANGE CONTROL**

1731.3 *Requirements for Approval of Changes in Supplier's Design*

1732.1 *Requirements for Notification of Changes in Supplier's Design*

#### **1740 DESIGN CONTROL**

1741.3 *Part Substitutions Prohibited*

1742.3 *Obsolete Parts Prohibited*

#### **1750 ENGINEERING DIRECTED RESTRICTIONS**

(For Future Use)

### 1800 SHIPPING, PACKAGING, AND HANDLING

#### **1810 ELECTRONIC ITEMS**

1811.1 *Packaging Requirements for Printed Wiring Board (PWB) Shipments*

1812.1 *Packaging Requirements for Electrostatic Discharge (ESD) Sensitive Item Shipments*

1813.1 *Packaging Requirements for Moisture Sensitive Surface Mount Device Shipments*

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### **1900 MISCELLANEOUS SUPPLY CHAIN DIRECTION**

#### **1910 AMENDMENTS TO EXISTING PURCHASE DOCUMENTS**

1911.1 *Amended Order – All Previous Quality Requirements Apply*

#### **1920 STATEMENT OF WORK DIRECTION**

1921.1 *See Statement of Work (SOW) for Quality Requirements*

#### **1930 PROHIBITED ITEMS**

1931.1 *Restrictions on Electrical Connectors Manufactured by Aero-Electric Connector, Inc.*

#### **1940 TRAINING**

1941.1 *Training to the Requirements of Orbital's Document TM-8575 is Required*

1942.1 *Training to the Requirements of Orbital's Document TM-455 is Required*

#### **1950 WARRANTY RETURNS**

1951.1 *Warranty Return, All Previous Quality Requirements Apply*

### **8000 SAFETY**

#### **8010 MATERIAL SAFETY DATA SHEETS**

8011.2 *MSDS Submittal Required*

#### **8020 OZONE DEPLETING SUBSTANCES**

8021.2 *Labeling of Ozone Depleting Substances Required*

#### **8030 AIR POLLUTION REPORTING**

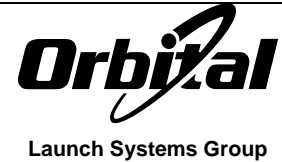
8031.2 *Chemical Inventory for Air Pollution Reporting (Maricopa County)*

#### **8040 MERCURY**

8041.2 *Mercury Free Statement Required*

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### STANDARD TEXT

#### **0014.1 CODE LIST FM61-281 REVISION H DATED 16 AUGUST, 2004 APPLIES**

Additional requirements for the goods/services listed herein are included in the referenced text codes and form a part of this purchase document. For the text portion of each code, see Orbital's document FM61-281 "Procurement Standard Text Codes" Revision H dated 16 August, 2004. This document is available from Orbital's Procurement Agent.

#### **0111.3 BASIC QUALITY SYSTEM REQUIREMENTS**

As a minimum, the supplier shall maintain a basic quality system contained in a quality manual and shall submit the quality manual to Orbital Quality Assurance upon request. The manual shall clearly and effectively describe the deployment of the managing quality system in place at the supplier's facility and the methods used to monitor and report on the system's effectiveness. The manual, at a minimum, shall describe the supplier's processes for: contract review; supplier quality management; control of inspection, measuring and test equipment that ensures calibration traceable to the National Institute of Standards and Technology (NIST) standards; control of nonconforming products; control of quality records; control of design; control of manufacturing processes. Any perceived or actual approval of supplier's program by Orbital does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

#### **0112.1 SUPPLIER'S RESPONSIBILITIES FOR CONTINUOUS APPROVAL AS AN ORBITAL SUPPLIER**

The supplier must notify Orbital Supplier Quality Assurance via the Orbital Procurement Agent of any changes in the supplier's name and/or addressing information. Changes of this nature will be reviewed by Orbital for any actions required to maintain status as an approved Orbital supplier. Failure to notify Orbital may jeopardize continued approval as an Orbital supplier.

#### **0121.4 CERTIFICATE OF CONFORMANCE REQUIRED**

The supplier shall include in the shipping documentation package to Orbital a "Certificate of Conformance", or equivalent document, stating that the materials and/or services supplied meet all purchase requirements. The Certificate of Conformance shall include, or provide reference to other documents that include, as a minimum:

- a. Supplier's Name.
- b. Orbital's Purchase Document Number.
- c. Orbital's Purchase Document Line Item Number(s) that the shipment is fulfilling.
- d. Part/Material Numbers and Revision Levels, if applicable.
- e. Manufacturer's Part Numbers, if applicable.
- f. Quantity of item(s), if applicable.
- g. All Serial Numbers, Lot Numbers, and/or Date Codes, if applicable.
- h. Shelf Life Requirements, if applicable.
- i. Any exclusions to the requirements of the applicable drawings, specifications, purchase document requirements, or design configuration requirements and the method by which such exclusions were authorized by Orbital (e.g. via an Orbital Discrepancy Report (DR) and the DR number).
- j. Date, and signature or stamp of authorized representative of the supplier.
- k. In the event that an item(s) is being delivered to Orbital that was previously returned to the supplier from Orbital via Orbital's DR, state the DR number.

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### 0131.4 NONCONFORMING MATERIALS REQUIREMENTS

Upon the discovery of a departure from Orbital's purchase documents requirements, the supplier shall contact their Orbital Procurement Agent as soon as practical and provide the contact with all the information available. The supplier shall support Orbital in the investigation of the discrepancy to the extent necessary for Orbital's disposition. Orbital's final disposition and direction will be provided to the supplier via Orbital's Discrepancy Report (DR) Form FM61-222 with the disposition stated in Part II bearing the signature of the cognizant Orbital Quality Assurance Engineer in the block provided. Disposition of any departures from purchase documents requirements must be specifically approved by the Orbital Quality Assurance Department in this manner prior to shipment. Letters, verbal agreements, or methods other than this are not acceptable and may result in delays of product acceptance and contract schedules. Previous dispositions of similar nonconformances shall not be considered as precedents and shall require separate documentation and dispositions. All actions required by the supplier to ensure containment of identified nonconformances within the supplier's system which prevents shipments of similar defects prior to the above process are expected. Submittal or resubmittal of nonconforming material which has been determined acceptable by Orbital by this means shall be identified on the Certificate of Conformance and in the shipping documentation package with the corresponding Orbital DR number. For example: "Repaired per DR #12345".

### 0141.5 CORRECTIVE ACTION REQUIREMENTS

Supplier is obligated to support an investigation into any hardware discrepancies or systemic quality concerns discovered by Orbital pertaining to the goods or services being supplied and which Orbital formally requests via Orbital's Discrepancy Report (DR) form or Supplier Corrective Action Request (SCAR) form. Orbital may generate this request at any time prior to or subsequent to delivery of the goods or services being supplied. A response shall be furnished within the time period requested and via the applicable DR or SCAR form and shall state all actions to be accomplished by the supplier to correct the issue and prevent recurrence. If the supplier's investigation reveals that no actions can be accomplished or there are no actions required by the supplier, the response shall state as such and include the justification for this response.

### 0153.2 ORDER OF PRECEDENCE

In the event of any inconsistency or conflict between or among the provisions of this Contract / Purchase Order, such inconsistency or conflict shall be resolved by the following descending order of precedence:

- a. Typed provisions set forth in this Contract / Purchase Order.
- b. The Statement of Work (SOW) set forth and included in this Contract / Purchase Order.
- c. Other incorporated or referenced documents.
- d. Specifications attached hereto or incorporated by reference.

Buyer's specifications shall prevail over those of the United States Government, and both of the foregoing shall prevail over specifications of the supplier or sub-tier suppliers.

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### **0162.3 RECORDS RETENTION REQUIREMENTS**

The supplier shall maintain objective evidence that verifies that the requirements of this order have been satisfied. The records shall be maintained in a safe and accessible location for a period of five years beginning with the date of delivery of the item to Orbital. After this retention period, Orbital shall be notified of the intent to dispose of any records and shall be given the opportunity for further retention at Orbital's facility.

### **0181.3 GROUP 1 PURCHASE**

This group identification number is for Orbital internal tracking purposes, only.

### **0182.3 GROUP 2 PURCHASE**

This group identification number is for Orbital internal tracking purposes, only.

### **0183.3 GROUP 3 PURCHASE**

This group identification number is for Orbital internal tracking purposes, only.

### **0184.3 GROUP 4 PURCHASE**

This group identification number is for Orbital internal tracking purposes, only.

### **0185.1 GROUP 5 PURCHASE**

This group identification number is for Orbital internal tracking purposes, only.

### **0211.3 QUALITY SYSTEM COMPLYING WITH ANSI/ASQ/ISO 9001 REQUIRED**

In addition to any basic quality system requirements of this order, the supplier shall maintain a quality system complying with ANSI/ASQ/ISO 9001. Registration with or certification by an independent third party certification body or registrar is not required, but evidence of such registration or certification to this quality standard may show compliance to this requirement without further actions by Orbital or the supplier. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements of the quality standard as set forth herein. Orbital's approval of the supplier's system does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

### **0212.2 QUALITY SYSTEM COMPLYING WITH ANSI/ASQ/ISO 9001:2000 REQUIRED**

In addition to any basic quality system requirements of this order, the supplier shall maintain a quality system complying with ANSI/ASQ/ISO 9001:2000. Registration with or certification by an independent third party certification body or registrar is not required, but evidence of such registration or certification to this quality standard may show compliance to this requirement without further actions by Orbital or the supplier. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements of the quality standard as set forth herein. Orbital's approval of the supplier's system does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

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### **0221.3 QUALITY SYSTEM COMPLYING WITH ANSI/ASQ/ISO 9002 REQUIRED**

In addition to any basic quality system requirements of this order, the supplier shall maintain a quality system complying with ANSI/ASQ/ISO 9002. Registration with or certification by an independent third party certification body or registrar is not required, but evidence of such registration or certification to this quality standard may show compliance to this requirement without further actions by Orbital or the supplier. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements of the quality standard as set forth herein. Orbital's approval of the supplier's system does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

### **0231.3 QUALITY SYSTEM COMPLYING WITH ANSI/ASQ/ISO 9003 REQUIRED**

In addition to any basic quality system requirements of this order, the supplier shall maintain a quality system complying with ANSI/ASQ/ISO 9003. Registration with or certification by an independent third party certification body or registrar is not required, but evidence of such registration or certification to this quality standard may show compliance to this requirement without further actions by Orbital or the supplier. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements of the quality standard as set forth herein. Orbital's approval of the supplier's system does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

### **0241.4 QUALITY SYSTEM COMPLYING WITH SAE AS9100 REQUIRED**

In addition to any basic quality system requirements of this order, the supplier shall maintain a quality system complying with The Society of Automotive Engineers document SAE AS9100. Registration with or certification by an independent third party certification body or registrar is not required, but evidence of such registration or certification to this quality standard may show compliance to this requirement without further actions by Orbital or the supplier. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements of the quality standard as set forth herein. Orbital's approval of the supplier's system does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements. For questions regarding SAE and for ordering SAE documents, contact the SAE website at <http://www.sae.org>.

### **0261.3 QUALITY ASSURANCE PLAN SUBMITTAL AND APPROVAL REQUIRED**

Supplier shall create a Quality Assurance Plan unique to the requirements of this item and submit the plan within 30 days after issuance of this purchase order/subcontract to the Orbital Procurement Agent for review and approval by Orbital Quality Assurance. The Quality Assurance Plan shall describe the overall process by which the supplier will assure this item's conformance to all requirements, the processes to be used to meet all quality flowdown requirements, and the processes for assuring the quality of products from sub-tier suppliers. Any supplier documents referenced in the Quality Assurance Plan shall accompany the submittal.

### **0271.2 SEI SOFTWARE CMM LEVEL 2 REQUIRED**

SEI software CMM level 2 shall be required. In addition to the basic quality system requirements of this order, supplier shall maintain a quality system complying with SEI software CMM level 2. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements as set forth herein. Orbital's approval of supplier's program does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

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### **0272.2 SEI SOFTWARE CMM LEVEL 3 REQUIRED**

SEI software CMM level 3 shall be required. In addition to the basic quality system requirements of this order, supplier shall maintain a quality system complying with SEI software CMM level 3. Orbital reserves the right to conduct surveillance at the supplier's facility to determine that the supplier's quality system meets the requirements as set forth herein. Orbital's approval of supplier's program does not constitute acceptance of goods or services nor relief of purchase order or subcontract requirements.

### **0273.3 SOFTWARE QUALITY ASSURANCE PLAN APPROVAL REQUIRED**

Supplier shall create a Software Quality Assurance Plan unique to the requirements of this item and submit the plan prior to work beginning on the item to the Orbital Procurement Agent for review and approval by Orbital Software Quality Assurance. The Software Quality Assurance Plan shall describe the overall process by which the supplier shall assure this item's fitness for use and conformance to all requirements stated herein. The plan shall include the methods by which any unique quality requirement beyond the supplier's established quality system is assured. Any format for the plan may be used, such as using section headings aligned with the contents of an industry quality standard (such as IEEE, ISO, or SAE AS). The plan may be included in another document or be a separate document. Whatever format used, the plan shall describe the methods employed for all aspects of the software quality assurance of the item.

### **0274.4 SOFTWARE DEVELOPMENT PLAN APPROVAL REQUIRED**

Supplier shall create a Software Development Plan unique to the requirements of this item and submit the plan prior to work beginning on the item to the Orbital Procurement Agent for review and approval by Orbital Software Quality Assurance and Software Engineering. The Software Development Plan shall describe the overall software development process by which the supplier shall develop this item for use and conformance to all requirements stated herein. Any format for the plan may be used, such as using section headings aligned with the contents of an industry quality standard (such as IEEE, ISO, or SAE AS). The plan may be included in another document or be a separate document. Whatever format used, the plan shall describe the methods employed for all aspects of the software development of the item.

### **0275.1 SOFTWARE REQUIREMENTS SPECIFICATION APPROVAL REQUIRED**

Supplier shall create and maintain a Software Requirements Specification (SRS). Supplier shall submit this SRS and any revisions to Orbital for review and approval by Orbital Software Quality Assurance and Software Engineering prior to the start of the implementation or coding phase of development. Any format for the specification may be used, such as using section headings aligned with the contents of an industry standard (such as IEEE). This specification may be included in another document or be a separate document.

### **0281.3 SOFTWARE QUALITY METRICS REQUIRED**

The supplier shall submit to the Orbital Procurement Agent software quality metrics for Orbital Software Quality Assurance review. Software quality metrics shall be identified in the procurement document requirements, such as the Statement of Work (SOW). Software quality metrics presented shall be defined and utilized. Definitions of these metrics shall include reporting frequency, threshold, and corrective action.

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### **0282.3 SOFTWARE PROCESSES PERIODIC / MILESTONE STATUS REPORTING REQUIRED**

The supplier shall submit software processes periodic and/or milestone status reports to the Orbital Procurement Agent for review by Orbital Software Quality Assurance. For periodic status reporting, a time interval, such as 3 months, shall be selected. For milestone reporting, selected milestones shall be identified. The time interval and/or milestones shall be identified in the procurement document requirements, such as the Statement of Work (SOW). The status reports shall provide updates of program progress and accomplishment of important activities.

### **0283.2 SOFTWARE PROCESSES PERIODIC / MILESTONE AUDITING REQUIRED**

Software processes periodic and/or milestone auditing shall be required. For periodic auditing, a time interval, such as 6 months, shall be selected. For milestone auditing, selected milestones shall be identified. The time interval and/or milestones shall be identified in the procurement document requirements, such as the Statement of Work (SOW). These audits shall evaluate compliance with appropriate processes and standards as defined in the plans and the procurement document requirements, such as a SOW.

### **0284.4 SOFTWARE TEST PLAN AND SOFTWARE TEST PROCEDURE APPROVAL REQUIRED**

Supplier shall create a Software Test Plan and Software Test Procedure unique to the requirement of this item and submit the plan and procedure prior to beginning tests on the item to the Orbital Procurement Agent for review and approval by Orbital Software Quality Assurance and Software Engineering. Supplier shall provide objective evidence that the plan's and procedure's testing criteria and accuracy assure this item's fitness for use and conformance to all requirements stated herein. Orbital reserves the right to witness the testing at the supplier's facility.

### **0285.2 SOFTWARE VERIFICATION AND SOFTWARE VALIDATION REQUIRED**

Software verification and software validation shall be required. The supplier shall provide verification that the developed software meets all of the requirements. The supplier shall provide validation that the finished product performs as needed. Orbital reserves the right to witness the verification and validation at the supplier's facility.

### **0291.4 SOFTWARE CONFIGURATION MANAGEMENT PLAN APPROVAL REQUIRED**

Supplier shall create a Software Configuration Management Plan unique to the requirements of this item and submit the plan prior to work beginning on the item to the Orbital Procurement Agent for review and approval by Orbital Software Quality Assurance and Software Configuration Management. The Software Configuration Management Plan shall describe the overall process by which the supplier shall assure this item's fitness for use and conformance to all requirements stated herein. The plan shall describe the methods employed for all aspects of the software configuration management of the item. Any format for the plan may be used, such as using section headings aligned with the contents of an industry standard (such as IEEE, ISO, or SAE AS). The plan may be included in another document or be a separate document.

### **0292.2 SOFTWARE CHANGE TRACKING REQUIRED**

Software change tracking shall be required. Supplier shall track and status all software modifications by type, such as enhancement or discrepancy, through the use of a software problem-tracking tool. Supplier shall track and status revisions of software releases through a defined Software Configuration Management process.

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### **0293.4 SOFTWARE CONFIGURATION METRICS REQUIRED**

The supplier shall submit to the Orbital Procurement Agent software configuration metrics for review by Orbital Software Quality Assurance and Software Configuration Management. Software configuration metrics shall be identified in the procurement document requirements, such as the Statement of Work (SOW). Software configuration metrics shall be defined and utilized. Definitions of these metrics shall include reporting frequency, threshold, and corrective action.

### **0294.4 SOFTWARE CONFIGURATION MANAGEMENT PERIODIC / MILESTONE STATUS REPORTING REQUIRED**

The supplier shall submit software configuration management periodic and/or milestone status reports to the Orbital Procurement Agent for review by Orbital Software Quality Assurance and Software Configuration Management. For periodic status reporting, a time interval, such as 3 months, shall be selected. For milestone reporting, selected milestones shall be identified. The time interval and/or milestones shall be identified in the procurement document requirements, such as the Statement of Work (SOW). The reports shall provide updates of program progress and accomplishment of important activities.

### **0295.2 SOFTWARE CONFIGURATION MANAGEMENT PERIODIC / MILESTONE AUDITING REQUIRED**

Software Configuration Management periodic and/or milestone auditing shall be required. For periodic auditing, a time interval, such as 6 months, shall be selected. For milestone auditing, selected milestones shall be identified. The time interval and/or milestones shall be identified in the procurement document requirements, such as the Statement of Work (SOW). These audits shall evaluate compliance with appropriate processes and standards as defined in the plans and the procurement document requirements, such as the SOW.

### **0311.3 REQUIREMENTS FOR CALIBRATION SERVICES**

Items supplied on this order require a calibration service and shall be calibrated by an organization whose system is in compliance with ISO/IEC 17025 using standards traceable to the National Institute of Standards and Technology (NIST). All certifications and supporting data shall be included in the shipping documentation package from the calibration service.

### **0411.4 GOVERNMENT PROPERTY PROVIDED**

Item(s) furnished to the supplier in conjunction with this order are the property of the U.S. Government. The subcontractor assumes total responsibility for care and maintenance of said property unless otherwise agreed to in this purchase order or subcontract. The supplier shall maintain accurate inventory and use records for the property and provide this information to Orbital upon request. Supplier shall not remove any markings or tags from the property. Supplier agrees not to sell, assign, loan, lease, mortgage, borrow against, pledge, or otherwise create a legal or equitable interest in the item(s) or otherwise permit the item(s) to be subject to any legal process. Orbital will provide to the supplier a form DD1149 which shall be used when transporting government property back to Orbital.

### **0421.3 ORBITAL PROPERTY PROVIDED**

Item(s) furnished to the supplier in conjunction with this order are the property of Orbital or Orbital's customer. The subcontractor assumes total responsibility for care and maintenance of said property unless otherwise agreed to in this purchase order or subcontract. The supplier shall maintain accurate inventory and use records for the property and provide this information to Orbital upon request. Supplier shall not remove any markings or tags from the property. Supplier agrees not to sell, assign, loan, lease, mortgage, borrow against, pledge, or otherwise create a legal or equitable interest in the item(s) or otherwise permit the item(s) to be subject to any legal process.

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### **0431.2 SPECIAL TOOLING REQUIREMENTS**

This purchase order includes special tooling that will remain the property of Orbital or the U.S. Government. The referenced special tooling shall be stored at the supplier's location. The supplier shall take reasonable care of said tooling. Supplier shall not remove any markings from the property. Supplier agrees not to sell, assign, loan, lease, mortgage, borrow against, pledge, or otherwise create a legal or equitable interest in the special tooling or otherwise permit the tooling to be subject to any legal process. Supplier shall attach an Orbital supplied property tag to the special tooling identified on this purchase order/subcontract. The supplier shall maintain inventory records for the identified item(s). Copies of such records shall be made available to Orbital upon request.

### **0511.4 MANUFACTURING PLAN APPROVAL REQUIRED**

The supplier shall submit to the Orbital Procurement Agent for approval by Orbital Quality Assurance, a manufacturing plan for the item(s) being supplied prior to delivery of the item(s) to Orbital, or when otherwise directed via contract or Statement of Work, whichever is sooner. As a minimum, the item's plan shall delineate the sequence of the item's manufacturing operations to be performed, the manufacturing processes that are employed in the manufacture of the item, the methods for measuring manufacturing process performance (metrics), the points within the manufacturing sequence where inspection is to be performed, the type of each inspection specified, and, if applicable, the specifications that define each inspection requirement. A detailed flowchart of the manufacturing process is acceptable as the plan. This plan shall also include the name of all sub-tier suppliers performing any operations on the item and the methods for assuring the sub-tier suppliers' manufacturing processes are measured and controlled. Any changes (including change of sub-tier supplier or if additional sub-tier suppliers are used) to the plan shall be submitted to Orbital for approval. Copies of any supplier documents referenced in this plan shall be furnished with this submittal.

### **0521.3 ESD PRECAUTIONS REQUIRED**

Items furnished on this order are electrostatic discharge (ESD) sensitive and shall be handled during manufacture, assembly, and transportation per the requirements of NHB 5300.4 (3L), MIL-STD-1686, or ANSI/EIA 625-1994. The item(s) and its subassemblies and details shall be protected from ESD damage during delivery from sub-tier suppliers and packaged in conductive or static-dissipative packages, tubes, carriers, conductive bags, etc., as appropriate for the item(s) being delivered to the supplier. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0531.3 APPROVED PROCESS SOURCES REQUIRED**

This contracted effort requires that certain processes shall be performed by sources that have been approved by Orbital or Orbital's customer. The processes affected are identified in the notes section of the purchase order. A list of the approved sources for the listed processes is available from Orbital's Quality Assurance Department via Orbital's Procurement Agent. This requirement applies to all levels of sub-tier suppliers down to the facility performing the listed processes. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0532.1 APPROVED WELDING PROCESS SOURCES REQUIRED**

All welding processes noted on the Orbital drawings for this order shall be performed by sources that have been approved by Orbital. A list of the approved sources for welding processes is available from Orbital's Quality Assurance Department via Orbital's Procurement Agent. This requirement applies to all levels of sub-tier suppliers down to the facility performing the process. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

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### **0533.2 APPROVED NONDESTRUCTIVE TESTING (NDT) PROCESS SOURCES REQUIRED**

All Nondestructive Testing (NDT) processes noted on the Orbital drawings for this order shall be performed by sources that have been approved by Orbital which includes NDT personnel qualification in accordance with the requirements of NAS410. A list of the approved sources for NDT processes is available from Orbital's Quality Assurance Department via Orbital's Procurement Agent. This requirement applies to all levels of subtier suppliers down to the facility performing the process. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0541.3 SUBTIER SUPPLIER IDENTIFICATION SUBMITTAL REQUIRED**

Supplier shall notify Orbital Quality Assurance via Orbital's Procurement Agent of the subtier supplier used and/or planned for the product/service as specifically identified in the purchase order. Any change to the subtier supplier used requires re-notification to Orbital Quality Assurance.

### **0542.3 SUBTIER SUPPLIER IDENTIFICATION AND APPROVAL REQUIRED**

Supplier shall notify Orbital Quality Assurance via Orbital's Procurement Agent for approval of the subtier supplier used and/or planned for the product/service as specifically identified in the purchase order. Quality Assurance shall review the decision to use the individual subtier supplier and, upon approval, provide the supplier with written approval to proceed with the use and/or planned use of the subtier supplier. Any change to the subtier supplier used requires re-notification to Orbital Quality Assurance and re-approval of the particular subtier supplier.

### **0543.3 SUBTIER SUPPLIER LIST SUBMITTAL REQUIRED**

For supplier's procurements other than standard hardware, raw materials, non-metallic packaged commodities, or those items procured from a distribution facility, supplier shall submit for review to Orbital Quality Assurance via Orbital's Procurement Agent a statement listing all subtier suppliers used and/or planned in support of this order. The list shall contain the name, location, and products/services provided of each subtier supplier listed. Any change to this list requires re-submittal of the list to Orbital Quality Assurance.

### **0544.3 SUBTIER SUPPLIER LIST APPROVAL REQUIRED**

For supplier's procurements other than standard hardware, raw materials, non-metallic packaged commodities, or those items procured from a distribution facility, supplier shall submit for approval to Orbital Quality Assurance via Orbital's Procurement Agent a statement listing all subtier suppliers used and/or planned in support of this order. The list shall contain the name, location, and products/services provided of each subtier supplier listed. Orbital Quality Assurance shall review the submitted list and, upon approval, provide the supplier with written approval to proceed with the use and/or planned use of the subtier suppliers on the list. Any change to the approved list requires re-submittal and re-approval of the list by Orbital Quality Assurance.

### **0551.4 MANUFACTURING BASELINE REVIEW REQUIRED**

The supplier shall provide for the Orbital Quality Assurance review, all documentation to be used to manufacture and verify the item(s) on this order. Documentation provided shall include, but not be limited to, manufacturing procedures, work instructions, travelers, manufacturing process procedures, manufacturing process performance measures (metrics), inspection and test procedures/data sheets, material/component traceability, and equipment maintenance procedures and records. Methods of assuring the quality assurance and consistency of subtier components and processes shall also be provided during this review. The documentation shall be provided to Orbital Quality Assurance prior to the start of manufacturing of the item(s) on this order.

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### **0552.4 MANUFACTURING BASELINE APPROVAL REQUIRED**

The supplier shall provide for the Orbital Quality Assurance review and approval, all documentation to be used to manufacture and verify the item(s) on this order. Documentation provided shall include, but not be limited to, manufacturing procedures, work instructions, travelers, manufacturing process procedures, manufacturing process performance measures (metrics), inspection and test procedures/data sheets, material/component traceability, and equipment maintenance procedures and records. Methods of assuring the quality assurance and consistency of subtier components and processes shall also be provided during this review. The documentation shall be provided to Orbital Quality Assurance prior to the start of manufacturing of the item(s) on this order.

### **0571.3 DELIVERY HOLD - UNRELEASED PRODUCT DEFINITION**

Supplier shall not allow delivery of the item(s) listed in this order to Orbital until this order has been revised and updated deleting this text. This order is being placed prior to all of the technical requirements being defined, approved, and documented within Orbital's internal design, configuration management, and procurement processes. The item(s) on this order are being initiated using preliminary, un-released product definition sometimes referred to as "red-lined drawings" to allow initial actions in support of unique program requirements. Therefore, the supplier shall not use the technical data requirements provided in this order for final product acceptance.

### **0581.3 NOTIFICATION OF CHANGES TO PROCESSES REQUIRED**

The supplier shall notify Orbital Quality Assurance via the Orbital Procurement Agent of any proposed or inadvertent changes to fabrication methods, special processes, or test methods prior to incorporation of such changes. The supplier shall notify Orbital Quality Assurance via the Orbital Procurement Agent of any changes to facility locations or suppliers involving the manufacture, assembly, special processing, or test (including Nondestructive Testing) of items. This also applies if changes in the above conditions have occurred since fabrication of the same parts under previous purchase order(s). The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0582.1 APPROVAL OF CHANGES TO PROCESSES REQUIRED**

The supplier shall notify Orbital Quality Assurance via the Orbital Procurement Agent of any proposed or inadvertent changes to fabrication methods, special processes, or test methods and shall obtain Orbital Quality Assurance approval from the Orbital Procurement Agent prior to incorporation of such changes. The supplier shall notify Orbital Quality Assurance via the Orbital Procurement Agent of any changes to facility locations involving the manufacture, assembly, special processing, or test (including Nondestructive Testing) of items. This also applies if changes in the above conditions have occurred since fabrication of the same parts under previous purchase order(s). The supplier shall not proceed without written approval from Orbital Quality Assurance via the Orbital Procurement Agent. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0591.3 ORBITAL SUPPLIED MANUFACTURING TRAVELER COMPLETION REQUIRED**

An Orbital Manufacturing Traveler has been included in the purchasing documents package for this item(s). This traveler shall be completed by the supplier for the process(es) identified on the traveler. The completed traveler shall be included in the shipment of the item(s) on this order.

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### **0592.1 DOCUMENTATION REQUIREMENTS FOR PWB AND CCA MANUFACTURING SUPPORT**

For all Printed Wiring Board (PWB) and Circuit Card Assembly (CCA) operations done by suppliers in support of Orbital's manufacturing of this order, any rework that was accomplished by the supplier must be documented and a copy of the documentation provided with the shipping documents package. Documentation includes, but is not limited to; the supplier's reject document, the supplier's rework routing that includes what requirements/specifications the rework complies to, and the documentation that the supplier accepted the rework process performed. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0611.3 FINAL ACCEPTANCE TEST PROCEDURE APPROVAL REQUIRED**

The supplier shall submit a final acceptance test procedure for this item to the Orbital Procurement Agent for review and approval by Orbital Quality Assurance at least 30 days prior to final acceptance testing of the item. Upon approval, this document shall be utilized to accomplish subject tests. As-run procedures with supporting test documentation shall be incorporated into the supplier's final acceptance test report. In the event the supplier performs the item's final test prior to procedure approval (as identified in the purchase order/subcontract), the supplier shall be responsible for the cost to repeat the item's final test and the replacement of necessary test hardware as determined by Orbital.

### **0612.3 FINAL ACCEPTANCE TEST REPORT SUBMITTAL REQUIRED**

A legible and reproducible copy of the supplier's final acceptance test report for this item must accompany each item's shipment. The report shall list purchase order/subcontract number, item name, part and serial number, drawing or specification number (including revision and amendments, if applicable), a copy of the as-run test procedure and associated data, and shall be authenticated by an authorized supplier representative attesting compliance to all applicable requirements.

### **0621.2 TEST REPORT HISTORY SUBMITTAL REQUIRED**

The supplier shall submit an entire test data report history for this item upon successful completion of the item's final acceptance testing. The test report history includes data on all testing accomplished during the manufacture of the item through final acceptance testing and shall include, as a minimum:

- a. Copies of all recorded test results from the as-run test procedures used during all phases of the item's testing through final acceptance testing including all special testing performed on the item, any noteworthy observations, anomalies, or unexpected events. All data shall be annotated with appropriate test conductor and quality inspector signatures and/or stamps applied.
- b. Copies of all environmental data sheets such as thermal chamber temperature strip charts.
- c. Copies of all major and minor nonconformances, failure assessment, and corrective actions dispositioned.
- d. Serial numbers, lot numbers, date codes, and all other identifications used to track the item tested to the design and purchase documents requirements.

There shall be no failure assessments that have not been dispositioned and resolved upon successful completion of the acceptance testing.

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### **0622.4 NOTIFICATION OF TESTING REQUIRED**

Orbital and Orbital's customers shall be authorized to witness any testing performed by the supplier, subtier suppliers, or subcontracted vendors in support of this order. Specific test points may be identified by Orbital for test witnessing during the development, qualification, and manufacturing phases. The supplier shall notify the Orbital representative requesting the witness of the times that the identified tests will be accomplished in sufficient time for the Orbital representative(s) to witness these tests. Any lack of sufficient notification and the possible test delays resulting from non-notification of identified tests shall be the responsibility and cost of the supplier and/or test agency. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0623.3 TEST FAILURE NOTIFICATION REQUIRED**

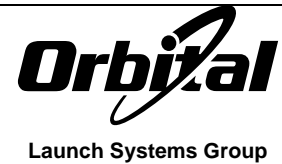
The supplier shall notify Orbital Quality Assurance via the Orbital Procurement Agent of any failures encountered during qualification and/or acceptance testing and/or in-process testing of any items on this order within 24 hours of the time of the failure. For electrical items, tests include any activity where electrical energy is applied to parts and assemblies such as hi-pot testing, or other board or piece part functional tests. Upon request by Orbital, a copy of the initial written failure report shall be provided to Orbital within a time requested by Orbital. Failure report closure may also be requested to be conducted with Orbital participation either in person or via teleconferencing. The test set-up and failed item shall not be disturbed until Orbital has received and concurred with the failure recovery action plan. This plan may be worked out via teleconference between Orbital and the supplier. The supplier shall document the plan, agreed on by both Orbital and the supplier, and transmit to Orbital via the method requested by Orbital. Any test failures shall render the unit nonconforming and shall be dispositioned in accordance with Orbital's nonconforming material procedures. Actions taken in support of the recovery plan directed herein shall support any material review board actions and Orbital's final disposition of the product. For details regarding the documentation and process required for final acceptance, see the "Nonconforming Material Requirements" section of Orbital's purchase documents package. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0711.4 INSPECTION RECORDS REQUIREMENTS**

Supplier shall provide all inspection reports at the time of delivery for items on this purchase order. Reports shall include: the test and/or inspection procedure document number and revision level; part number inspected; serial, lot, batch, or date code numbers, as applicable; identification of each inspection point; the results of each inspection point; and the identification of the person performing the inspection. Inspection results outside of the required limits that have been accepted shall reference the Orbital Discrepancy Report (DR) by which the departure was accepted. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

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### 0721.2 FIRST ARTICLE INSPECTION REQUIRED

The supplier shall perform a First Article Inspection (FAI) of this item. A FAI demonstrates that the manufacturing process is capable of producing an article fully compliant to all design requirements. The supplier shall submit a FAI report (FAIR) that documents the FAI. Document SAE AS9102 may be used as a guide in assuring compliance to this requirement. Orbital requires that a FAI shall be accomplished for the item on this order by the supplier and at the supplier's facility using the inspection equipment and methods available at the supplier's facility. One item shall be inspected and the item supplied for the FAI shall be representative of the lot being supplied on this order. The FAIR shall be submitted to Orbital Quality Assurance for review and approval prior to the delivery of any items on this order. A FAIR shall be created for the first order of the item on this order and the FAIR shall be updated and re-submitted for any changes to the design of the item from the original order.

Any form may be used to comply with the requirements set forth herein. The form shall show:

- a. Part number, revision, purchase order number, and all traceability identification of the part.
- b. The name of the person completing the fair and the date of completion.
- c. Every dimension appearing in the design requirements.
- d. Actual results of all inspections of every dimension appearing in the design requirements and notation of conforming/nonconforming results. Units of measure recorded in the fair shall be the same as designated in the design requirements.
- e. Every design note and a notation that each has been complied with and the method used to confirm compliance.
- f. The identification of any special tooling used.
- g. The identification of any deviations or waivers obtained for a particular design requirement listed adjacent to the affected characteristic or note.
- h. Required and actual hardness values obtained and the method by which obtained.
- i. Reference to any previous FAI performed, as in the updating, revision, supplement, or "delta" of a previous fair.
- j. Any nonconformances discovered during the FAI and the disposition of the nonconformance and the method by which the disposition was approved by Orbital.

FAI requirements continue to be imposed and applicable after initial compliance and may require subsequent updating and re-submittals.

Partial or complete re-accomplishment of the FAI for affected characteristics is required for the following events:

- a. A change in the design affecting interchangeability, reliability, environmental qualification, or safety.
- b. A change in manufacturing sources, processes, inspection methods, location, tooling or materials with the potential of affecting interchangeability, reliability, or safety.
- c. When required as part of corrective action for an item with repetitive rejection history.
- d. A change in numerical control program or translation to another media.
- e. A natural or man-made occurrence which may adversely affect the manufacturing process.
- f. A lapse in production of the item for two years.

Supplier shall include one copy of the complete FAIR with the first shipment. Additionally, any required addendum reports shall be included in the shipment that the addendum was created for. Relief from this FAI requirement may only be obtained in support of unique program requirements and shall only be authorized by, and with a written waiver of FAI requirement by, Orbital's quality assurance department.

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### **0722.1 FIRST ARTICLE INSPECTION PER SAE AS9102 REQUIRED**

The supplier shall perform a First Article Inspection (FAI) of this item per the Society of Automotive Engineers (SAE) document AS9102. For questions regarding SAE and for ordering SAE documents, contact the SAE website at <http://www.sae.org>. The supplier shall complete a FAI report (FAIR) in compliance with AS9102 requirements on the forms directed therein and submit the FAIR to Orbital Quality Assurance for approval via the Orbital Procurement Agent prior to the delivery of any items on this order. Partial or complete re-accomplishment of the FAI may be required for deliveries subsequent to the original FAI as directed per AS9102 and also require submittal and approval prior to deliveries of the items. A FAIR shall be performed for an item representative of the lot of the items on order. This includes all details and sub-assemblies which constitute the end-item ordered. The FAI shall not be considered complete until all non-conformities have been resolved and the FAI is reviewed and approved by Orbital Quality Assurance.

### **0731.1 CLOSE OUT PHOTOGRAPHS REQUIRED**

Included with the Product Acceptance Data Package / Manufacturing Log Book shall be close out photographs of each item being delivered. The close out photographs shall be a series of photographs which document areas internal to the item that cannot be inspected without disassembly of the item. The Supplier shall ensure that the photographs are of sufficient quality and clarity to allow Orbital to verify that final assembly of the item is consistent with the details documented in the Design and Manufacturing Baselines. Each photographic frame shall also capture a tag, which documents the part number and serial number of the item being photographed. Orbital may from time to time direct that particular assembly steps be photographed and included in the Close Out Photograph package.

### **0732.1 CLOSE OUT PHOTOGRAPHS REQUIRED – ITEMS THAT INCLUDE PRINTED WIRING ASSEMBLIES**

Included with the Product Acceptance Data Package / Manufacturing Log Book shall be close out photographs of each item being delivered. The close out photographs shall be a series of photographs which document areas internal to the item that cannot be inspected without disassembly of the item. As a minimum, these photographs shall show the top and bottom surfaces of each Printed Wiring Assembly immediately prior to assembly into the housing, and the routing and securing of all internal wire harnesses prior to close out. The Supplier shall ensure that the photographs are of sufficient quality and clarity to allow Orbital to verify that final assembly of the item is consistent with the details documented in the Design and Manufacturing Baselines. Each photographic frame shall also capture a tag, which documents the part number and serial number of the item being photographed. Orbital may from time to time direct that particular assembly steps be photographed and included in the Close Out Photograph package.

### **0811.3 ORBITAL FINAL ACCEPTANCE AT SOURCE (SOURCE INSPECTION) REQUIRED**

Orbital final acceptance at source (Source Inspection) is required. Final inspection and acceptance of the parts/materials on this order shall be accomplished on-site by an authorized representative of Orbital Quality Assurance. Prior to presentation of the order for Orbital Source Inspection, the item shall have completed all applicable manufacturing, testing, and inspection requirements and meet all requirements of the purchase documents as directed and amended therein. The supplier shall provide reasonable facilities, equipment, and assistance, including access to all quality records and related data for contracted goods. Compliance to this requirement shall be denoted by a stamp and/or signature of the authorized Orbital quality representative on the supplier's final certification document to be included in the shipping documents package. Orbital requires at least ten business days notice prior to the expected time of the presentation of the item to Orbital for final source inspection. Relief from this source inspection requirement may only be obtained with a written waiver of source inspection requirement by Orbital's Quality Assurance department.

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### **0812.1 ORBITAL ACCEPTANCE OF BARE PRINTED WIRING BOARD REQUIRED PRIOR TO SUBSEQUENT OPERATIONS**

Inspection of the bare Printed Wiring Board(s) (PWB) included in the item(s) on this order must be accomplished by an Orbital Quality Assurance Representative or Orbital Quality Assurance designated organization prior to subsequent operations being performed on the PWB. Subsequent operations are defined as any actions done in the placement of any electrical/mechanical components on the bare PWB. Prior to presentation of the PWBs for this inspection, the PWBs shall have completed all applicable manufacturing, testing and inspection, been accepted by the supplier, and meet all of the requirements of the purchase documents as directed and amended therein up to the point of subsequent operations being started. The supplier shall provide reasonable facilities, equipment, and assistance, including access to all quality records and related data for the PWBs. Compliance to this requirement shall be denoted by a stamp and/or signature of the authorized Orbital Quality Assurance representative on Orbital's PWB Source Inspection Record Form or the acceptance certificate/document of the designated organization with either to be included in the shipping documents package of the final item. Orbital desires at least 3 business days advance notice prior to the expected time of the presentation of the PWBs to Orbital for inspection. Relief from this inspection requirement may only be obtained via a written waiver of inspection requirement by Orbital Quality Assurance.

### **0821.4 ORBITAL SOURCE SURVEILLANCE NOTICE**

All items of this purchase order or subcontract are subject to in-process quality surveillance by Orbital and/or Orbital's customer. At any time, Orbital may notify the supplier of specific requests for on-site surveillance. Orbital reserves the right to request the opportunity to witness any actions in support of this order. The supplier shall provide no less than three business days advance notification to Orbital's procurement representative before items are ready for any requested Orbital source surveillance. The supplier shall not proceed without Orbital present or an Orbital QA written authorization to proceed. The supplier shall provide reasonable facilities and assistance, including all quality records and related data for contracted goods, upon request. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **0831.3 GOVERNMENT SOURCE INSPECTION REQUIRED**

Government inspection is required prior to shipment from your plant. Upon receipt of this order, the supplier shall promptly notify the government representative who normally services the supplier's plant. If none, the supplier shall notify the nearest Army, Navy, Air Force or defense supply agency inspection office. If the representative or office cannot be located, the supplier shall notify Orbital Quality Assurance immediately. The delegated government representative may review work instructions and identify mandatory inspection points that the government must accept prior to further processing of the item.

### **0841.1 CONTRACT KICK-OFF MEETING AT SUPPLIER'S FACILITY REQUIRED**

The supplier shall host an Orbital Contract Kick-Off Meeting prior to the supplier starting the manufacturing process for the items on this order. This meeting is held to ensure that the supplier understands all contractual requirements including technical, quality assurance, and schedule expectations. Orbital may provide representatives from any Orbital function including Quality Assurance, Engineering, Contracts, and technical representatives as appropriate to ensure success of this meeting. Subjects to be covered may include, but are not limited to: Contract review; Quality flowdown requirements; Drawing requirements; Statement Of Work (SOW) review; Specifications applicability; Unit delivery schedule; Shipping requirements; Design / manufacturing baseline discussions; Subtier supplier identification; Special process controls; Configuration / document control; Inspection expectations.

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### **0851.1 PRE-ENVIRONMENTAL LOT ACCEPTANCE TEST (PRE-ELAT) INSPECTION AT SOURCE REQUIRED**

A Pre-ELAT (Environmental Lot Acceptance Test) inspection at source is required on this order. Prior to item(s) being chosen for ELAT testing, an inspection of the item(s), relative documentation and all Nondestructive Test (NDT) and in-process testing documentation, will be accomplished on-site by an authorized representative of Orbital Quality Assurance. Prior to presentation of the item(s) for Orbital inspection, the item(s) shall have completed all applicable manufacturing, in-process testing and inspection, and meet all of the requirements of the purchase documents as directed and amended therein up to the point of ELAT. The supplier shall provide reasonable facilities, equipment, and assistance, including access to all quality records and related data for the contracted items(s). Compliance to this requirement shall be denoted by a stamp and/or signature of the authorized Orbital Quality Assurance representative on the Pre-ELAT Source Inspection Record to be included in the shipping documents package. The ELAT samples shall then be chosen for testing. Final acceptance of the item(s) will be completed pending acceptance of ELAT results. Orbital requires at least 10 business days advance notice prior to the expected time of the presentation of the item(s) to Orbital for Pre-ELAT inspection. Relief from this inspection requirement may only be obtained via a written waiver of source inspection requirement by Orbital Quality Assurance.

### **0911.3 SINGLE DATE CODE REQUIRED**

All items on this order must be from the same date/lot code.

### **0912.3 DATE/LOT CODE PART IDENTIFICATION REQUIRED**

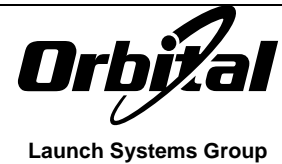
Supplier shall assure items on this purchase order are identified with the manufacturer's date/lot code. The date/lot code shall identify either the date of manufacture of the item(s) or the manufacturing lot from which the item(s) originated, or both. If a date code is used, the date code shall identify the date(s) of manufacture in a method that prevents ambiguity and provides positive identification of a date or range of dates that include a year identifier. The date/lot code shall be physically marked on each item or on the item's bag, package, container, or strip mount. The quantity and date/lot code shall be individually listed on the packing slip or certification document.

### **0921.2 SHELF LIFE REQUIREMENTS**

If any product supplied, or any product used in a part or assembly supplied, is considered age sensitive by the product's manufacturer, the shipping documents shall state the shelf life and any unique environmental storage conditions required. The supplier shall assure that a minimum of 75% of the shelf life is remaining at time of shipment to Orbital. If the product requires unique environmental storage conditions, the exterior package shall be prominently marked indicating the type of storage required.

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### 0931.4 TRACEABILITY REQUIREMENTS FOR ORBITAL DESIGN CONTROLLED ITEMS

For all Orbital design controlled items (e.g.: those items that are build-to-print and items that are procured to an Orbital source control drawing) the supplier shall maintain documentation that assures all sub-assemblies, piece parts of sub-assemblies, and detail piece parts of the item that have traceability data available maintain that data with the manufacturing records of the item ordered. All software/firmware in the item shall be identifiable by major and minor revision. Orbital designed circuit boards shall be identifiable by lot/batch/serial numbers as defined by the design, drawing number and applicable revision, and be traceable to the lot(s) of material/components used. When two or more traceable components are joined in an assembly, the manufacturing and inspection documentation shall identify each part by drawing number, revision, and lot/batch/serial number. No end item lot/batch/serial numbers shall be duplicated within the manufacturing of the same part number or material/component specification number. When material/components are scrapped, the lot/batch/serial numbers shall not be reassigned or used again. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### 0951.1 MANUFACTURER'S IDENTIFICATION REQUIRED

The supplier shall identify the manufacturer of the item(s) on this order to support item traceability. This identification shall be noted in the supplier's shipping documentation package such as on the supplier's Certificate of Conformance or packing/shipping document. This identification may be in the form of the full manufacturer's name or in an abbreviation that in any event will positively identify the manufacturer of the item(s) being supplied.

### 1011.3 CONFIGURATION MANAGEMENT PLAN SUBMITTAL REQUIRED

Supplier shall submit a Configuration Management Plan to the Orbital Procurement Agent that describes the configuration management system that will control all elements of the supplier's and subtier suppliers' design and design change process of the items on this order for review by Orbital Quality Assurance. Any subsequent changes to the system shall require updating of the plan and re-submittal to Orbital. As a minimum, the plan shall describe the following design process steps:

- a. Design and Development Planning.
- b. Design Input.
- c. Design Output.
- d. Design Review.
- e. Design Verification and Validation.
- f. Design Changes.

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### **1012.3 CONFIGURATION MANAGEMENT PLAN APPROVAL REQUIRED**

Supplier shall submit a Configuration Management Plan to the Orbital Procurement Agent that describes the configuration management system that will control all elements of the supplier's and sub-tier suppliers' design and design change process of the items on this order for Orbital Quality Assurance review and approval. Any subsequent changes to the system shall require updating of the plan and re-submittal to Orbital for approval. As a minimum, the plan shall describe the following design process steps:

- a. Design and Development Planning.
- b. Design Input.
- c. Design Output.
- d. Design Review.
- e. Design Verification and Validation.
- f. Design Changes.

### **1021.2 AS-BUILT CONFIGURATION RECORD REQUIRED**

Included with each shipment shall be a document listing all the actual part numbers and revisions used in the item(s) being supplied. All serial numbers, lot and batch numbers, date codes, and other traceability data of the individual components that form the system being delivered shall be included. All departures from the Orbital designed configuration baseline and the as-built configuration being supplied shall be reconciled with and approved by Orbital prior to shipment with the method of acceptance of each departure noted on the document.

### **1022.2 AS-DESIGNED / AS-BUILT CONFIGURATION RECORD REQUIRED**

Included with each shipment shall be a document listing all the part numbers and revisions required in the design baseline and all the actual part numbers and revisions used in the item(s) being supplied. All serial numbers, lot and batch numbers, date codes, and other traceability data of the individual components that form the system being delivered shall be included. All departures from the as-designed configuration baseline and the as-built configuration being supplied shall be reconciled with and approved by Orbital prior to shipment with the method of acceptance of each departure noted on the document.

### **1111.1 PARTS, MATERIALS, AND PROCESSES (PMP) MANAGEMENT PLAN APPROVAL REQUIRED**

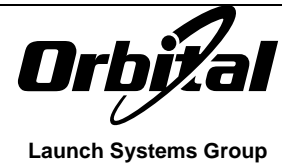
The supplier shall create and deploy a Parts, Materials, and Processes (PMP) Management Plan for the item(s) on this order to the requirements of Orbital Document TM-17409 "Ground-Based Midcourse Defense (GMD) Parts, Materials, and Processes Management Plan". This document is available from Orbital's Procurement Agent. The supplier shall submit the plan to Orbital Quality Assurance via the Orbital Procurement Agent for review and approval prior to delivery of the item(s) on this order.

### **1241.1 REQUIREMENTS FOR NOTIFICATION OF NONCONFORMANCE IN SUPPLIER DESIGNED ITEMS**

The design of the item(s) to be delivered per this order is controlled by the supplier. Notification of any nonconformance(s) of the item(s) to the supplier's design that is intended for delivery to Orbital must be provided to the Orbital Procurement Agent prior to delivery for review by Orbital Quality Assurance. A description of each nonconformance and the supplier's disposition of each nonconformance must be included in the shipping documents package. A copy of the supplier's nonconformance and disposition document may be used to fulfill this requirement.

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### **1242.1 REQUIREMENTS FOR APPROVAL OF NONCONFORMANCE IN SUPPLIER DESIGNED ITEMS**

The design of the item(s) to be delivered per this order is controlled by the supplier. Notification of any nonconformance(s) of the item(s) to the supplier's design that is intended for delivery to Orbital must be provided to the Orbital Procurement Agent prior to delivery for review and approval by Orbital Quality Assurance. A description of each nonconformance and the supplier's disposition of each nonconformance must be included in the shipping documents package. A copy of the supplier's nonconformance and disposition document may be used to fulfill this requirement.

### **1311.3 MANUFACTURER'S CERTIFICATIONS SUBMITTAL REQUIRED**

For purchases other than electrical connectors and backshells, the supplier shall include a copy of the original manufacturer's certifications for the items on this order in the shipping documentation package. The certifications shall have been created by the original manufacturer and shall certify that the items were manufactured to the standards and/or specifications applicable to the items.

### **1321.3 MATERIAL/PROCESS CERTIFICATIONS SUBMITTAL REQUIRED**

The supplier shall include certification(s) for the material(s) and/or process(es) used in this order and include them in the shipping documentation package. Certification(s) shall include, as a minimum; the nomenclature(s) of the material(s) and/or process(es) used; the specification(s) that the material(s) and/or process(es) conform to; and the person/agency that has certified the material(s) and/or process(es) used.

### **1322.1 MATERIAL CERTIFICATIONS SUBMITTAL REQUIRED**

The supplier shall include certification(s) for the material(s) used in this order and include them in the shipping documentation package. Certification(s) shall include, as a minimum; the nomenclature(s) of the material(s) used; the specification(s) that the material(s) conform to; the method of certification; and the person/agency that has certified the material(s) used.

### **1323.1 PROCESS CERTIFICATIONS SUBMITTAL REQUIRED**

The supplier shall include certification(s) for the process(es) used in this order and include them in the shipping documentation package. Certification(s) shall include, as a minimum; the nomenclature(s) of the process(es) used; the specification(s) that the process(es) conform to; the method of certification; and the person/agency that has certified the process(es) used. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **1331.3 NONDESTRUCTIVE TEST (NDT) CERTIFICATIONS SUBMITTAL REQUIRED**

Supplier shall include with each shipment a certificate that lists the Nondestructive Tests (NDT) performed, the specification(s) used, NDT method used, and the results of the inspection. The supplier shall maintain records to include the procedures/techniques used signature or stamp of the employee performing the NDT, the NDT certification level of the employee, and the results. Identification of any sub-contracted testing services performed shall be clearly noted with the name and location of the facility.

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### **1341.4 X-RAY CERTIFICATIONS SUBMITTAL REQUIRED**

All items in this purchase order/subcontract requiring radiographic inspection shall be processed in accordance with applicable specifications, standards, and requirements as directed in this purchase order/subcontract. All findings shall be reported on an X-Ray certification, which shall contain the name of the individual reading the film and the signature and title of an authorized laboratory representative. Two legible and reproducible copies of the certification shall accompany the part(s). The X-Ray film shall be retained by the supplier per Orbital's records retention requirements and made available to Orbital upon request. A control number shall be assigned to each part, appear on each film, and be referenced on each report for a method of cross-referencing each film exposure and report. The X-Ray views must also be identified.

### **1342.3 X-RAY CERTIFICATIONS AND FILM SUBMITTAL REQUIRED**

All items in this purchase order/subcontract requiring radiographic inspection shall be processed in accordance with applicable specifications, standards, and requirements as directed in this purchase order/subcontract. All findings shall be reported on an X-Ray certification which shall contain the name of the individual reading the film and the signature and title of an authorized laboratory representative. The X-Ray film and two legible and reproducible copies of the certification shall accompany the part(s). The film becomes the property of Orbital. A control number shall be assigned to each part, appear on each film, and be referenced on each report for a method of cross-referencing each film exposure and report. The X-Ray views must also be identified.

### **1351.3 SAMPLE MATERIAL SUBMITTAL REQUIRED**

Supplier shall submit a sample of the raw material used to produce indicated items on this order. A 3-inch sample shall be submitted for items produced from linear stock unless a different length is otherwise noted in the purchase documents. A 3-inch by 3-inch sample shall be submitted for items produced from flat stock, forgings, or castings unless a different size is otherwise noted in the purchase documents. Samples are to be identified by purchase order number, part number, and material specification, as applicable.

### **1352.2 SAMPLE PRINTED WIRING BOARD SUBMITTAL REQUIRED**

The supplier shall furnish test samples, coupons, and microsections for each Printed Wiring Board (PWB) included in the item(s) on this order traceable by lot, panel, or serialization to the Printed Wiring Boards (PWBs) included in this order. This requirement applies to both PWBs being delivered as end items and any PWBs included as details of assemblies on this order. Acceptance testing results per IPC-6012, Class 3 requirements shall also be submitted with the samples, coupons, and microsections. If these requirements have been complied with on previous deliveries of items from the same traceable lot, batch, or serialization of the PWBs being delivered, samples are not required. Instead, include a statement as such which includes Orbital's purchase document number, line item number, and supplier's shipper number that contained the samples, coupons, and microsections. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **1361.3 FAA TSO AUTHORIZATION REQUIRED**

The product supplied shall have been manufactured in accordance with the United States Federal Aviation Administration (FAA) Technical Standard Order requirements of FAA FAR Part 21.

### **1362.3 FAA AIRWORTHINESS CERTIFICATION DOCUMENTATION REQUIRED**

Proper United States Federal Aviation Administration (FAA) tags/certifications and/or original manufacturer's certifications are required for receipt and acceptance of items included on this purchase order.

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### **1411.3 SUPPLIER QUALITY METRICS SUBMITTAL REQUIRED**

This procurement requires the monthly submission of supplier quality metrics to Orbital Quality Assurance via the Orbital Procurement Agent. The metrics shall illustrate that the supplier's manufacturing and quality processes are in control or that appropriate actions are being taken to correct the issue. The monthly quality metrics typically presented during management review are usually sufficient to meet the intent of this requirement. Graphs showing rolling test yields, defects per unit, defects per month, DPMO, or other graphical representations of quality, coupled with Pareto charts of major defects and any resulting actions are examples that may be appropriate. Metrics may be reported by any combination of part number, product line, area, process, or other discriminator that is related to the product being procured. Delivery and customer satisfaction/compliant performance are typically included.

### **1421.1 KEY CHARACTERISTICS INSPECTION AND DOCUMENTATION PROCESS REQUIRED**

Items on this order contain Key Characteristics that are noted with a flag symbol that contains the word "KEY" inside the symbol. The KEY symbol may be on the drawing or in referenced specifications. Key Characteristics are defined as features of a material or part whose variation has significant influence on product fit, performance, service life, or manufacturability. The supplier shall incorporate a process by which all designated Key Characteristics are 100% inspected with the actual result recorded and tracked on a Statistical Control Chart that depicts variation in the feature. The Statistical Control Chart shall maintain all previous inspection results for the Key Characteristic starting with the first item delivered with this requirement in order to calculate upper and lower control limits and identify trends in the manufacturing process for each Key Characteristic. The Statistical Control Chart for each Key Characteristic noted shall include upper and lower control limits and the upper and lower design tolerance points (if provided) for the Key Characteristic being charted. The Statistical Control Chart shall be updated with the information obtained from the lot of items being delivered and a copy of the chart is to be included in each shipment.

### **1511.3 GIDEP PARTICIPATION REQUIRED**

The supplier shall be a participant in the Government Industry Data Exchange Program (GIDEP). The supplier shall compare all relevant published Alerts, Safe-Alerts, diminishing sources, and problem advisories against the components and parts lists used in the conduct of this contract. The supplier shall provide a GIDEP report to Orbital Quality Assurance via the Orbital Procurement Agent on a monthly basis identifying all GIDEP alerts reviewed for the previous month. The report shall also identify whether products covered by this procurement are affected by an Alert and include an impact assessment and corrective action plan. The supplier shall develop correction/mitigation plans to correct or mitigate impacts resulting from a GIDEP Alert or Safe-Alert and obtain Orbital approval prior to implementation. The supplier shall support these assessments for both delivered and on-order items.

### **1521.2 GIDEP ALERT PERTAINS TO THIS ORDER**

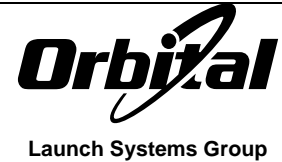
This purchase order/subcontract contains parts that are affected by a GIDEP. Supplier shall include in the shipping documentation package an impact assessment stating that the supplier has investigated the GIDEP alert and has determined that the alert does not pertain to the individual goods or services being delivered with this shipment. See line item for details.

### **1522.2 MATRIX CONNECTORS PROHIBITED**

As per GIDEP AX8-A-96-01 all matrix MIL-Spec Series I and II and MIL-C-38999 Series III connectors with insert configuration of '35' and date code before 9539 shall not be accepted under this purchase order.

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### **1611.2 SUBSEQUENT ORBITAL PROCESSING REQUIRED – CALIBRATION**

Note to Orbital Receiving Inspection: In-house calibration is required after receipt. Direct item(s) to metrology.

### **1612.2 SUBSEQUENT ORBITAL PROCESSING REQUIRED – TESTING**

Note to Orbital Receiving Inspection: In-house testing is required upon receipt.

### **1613.2 SUBSEQUENT ORBITAL PROCESSING REQUIRED – INSPECTION**

Note to Orbital Receiving Inspection: Inspect per requirements of quality engineer-prepared inspection record.

### **1614.2 SUBSEQUENT ORBITAL PROCESSING REQUIRED - IDENTIFICATION**

Note to Orbital Receiving Inspection: Device requires inspection per applicable Orbital TM and (following acceptance) re-identification per applicable drawing.

### **1615.3 SUBSEQUENT ORBITAL PROCESSING REQUIRED - GOVERNMENT PROPERTY CONTROL**

Note to Orbital Receiving Inspection: Item becomes the property of the government upon final acceptance by Orbital. Contact the Orbital Government Property Administrator upon receipt of this item.

### **1621.3 SUBSEQUENT TEST DATA VALIDATION REQUIRED - CERTIFICATION TEST REPORT VALIDATION**

The following is for Orbital internal tracking purposes, only: Upon Orbital's receipt of the item(s) on this order, Orbital Receiving Inspection shall contact the cognizant Orbital Quality Assurance Engineer for this order who then shall initiate the process for the validation of the certification test report(s) per Orbital's TM-2897.

### **1711.3 DESIGN BASELINE REVIEW REQUIRED**

Supplier shall create a design baseline tree, or equivalent, for this item in support of a design baseline review by Orbital Quality Assurance and Engineering. The item's design baseline shall include specifications, a complete set of the item's drawings (both hardware and software) and any alternate/substitute parts lists including revision levels, and including those generated by the customer, the supplier, and all sub-tier suppliers. The design baseline tree hierarchically documents each element of the design from the end item assembly drawing down to the lowest assembly level. In the event of issues rising from the proprietary rights of suppliers and sub-tier suppliers of information requested herein, Orbital and the supplier shall mutually decide on the method of documentation which shall satisfy any proprietary rights concerns while still conforming to the requirements stated herein. The design baseline tree shall be made available to Orbital and Orbital's customer in support of this design baseline review. The supplier shall assist in this review to the extent necessary for the final completion of the review. Any subsequent changes to this design baseline shall be submitted to the Orbital Procurement Agent.

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### **1712.3 DESIGN BASELINE APPROVAL REQUIRED**

Supplier shall create a design baseline tree, or equivalent, for this item in support of a design baseline review and approval by Orbital Quality Assurance and Engineering. The item's design baseline shall include specifications, a complete set of the item's drawings (both hardware and software) and any alternate/substitute parts lists including revision levels, and including those generated by the customer, the supplier, and all sub-tier suppliers. The design baseline tree hierarchically documents each element of the design from the end item assembly drawing down to the lowest assembly level. In the event of issues rising from the proprietary rights of suppliers and sub-tier suppliers of information requested herein, Orbital and the supplier shall mutually decide on the method of documentation which shall satisfy any proprietary rights concerns while still conforming to the requirements stated herein. The design baseline tree shall be made available to Orbital and Orbital's customer in support of this design baseline review and approval. The supplier shall assist in this review to the extent necessary for the final completion of the review and approval by Orbital. Any subsequent changes to this design baseline shall be submitted to the Orbital Procurement Agent for review and approval by Orbital Quality Assurance and Engineering.

### **1721.3 SUPPLIER DRAWING SUBMITTAL REQUIRED**

Supplier shall provide a complete set of the drawings that define the item in this purchase order/subcontract to the Orbital Procurement Agent. The set of drawings shall include all drawings from the end item assembly drawings down to the lowest assembly level. All drawings shall be forwarded to the Orbital address listed on this order and to the attention of the procurement representative listed herein.

### **1731.3 REQUIREMENTS FOR APPROVAL OF CHANGES IN SUPPLIER'S DESIGN**

All Class I changes require the approval of Orbital prior to implementation. Class I changes are defined as any change that affects mechanical or electrical interfaces, performance, reliability, qualification status, safety, and/or interchangeability. All Class II changes shall be submitted to Orbital at least 5 business days prior to implementation for concurrence of classification. Class II changes are defined as any change not identified as a Class I change. All change notifications shall include the effectivity of the change. All submittals shall be provided to Orbital through the Purchasing/Subcontracts representative listed herein. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **1732.1 REQUIREMENTS FOR NOTIFICATION OF CHANGES IN SUPPLIER'S DESIGN**

All design changes to the item(s) on this order shall be provided to Orbital for review at least 5 business days prior to implementation. All submittals shall be provided to Orbital through the Purchasing/Subcontracts representative listed herein. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **1741.3 PART SUBSTITUTIONS PROHIBITED**

Part and/or material substitutions for items stated on Orbital design requirements are not allowed. Any deviations from Orbital's drawing, specification, and/or purchase document requirements shall have written authorization from Orbital with documentation of the Orbital approval included in the shipping documents package. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

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### **1742.3 OBSOLETE PARTS PROHIBITED**

There shall be no parts used in the design that are known to be obsolete by the original manufacturer. Following approval of the design baseline, the supplier shall notify Orbital of any impending parts obsolescence for evaluation. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **1811.1 PACKAGING REQUIREMENTS FOR PRINTED WIRING BOARD (PWB) SHIPMENTS**

Each Printed Wiring Board (PWB) and PWB coupon delivered shall be packaged individually in heat-sealable bags that meet either MIL-PRF-131 Class I, or MIL-DTL-117 Type III Class E Style 2. A desiccant and humidity indicator card that is capable of indicating if a 30%, 40% and 50% Relative Humidity has been reached shall be placed inside each bag and the bags shall be heat sealed. There shall be adequate space between the heat seal and the item to allow opening and resealing of the bag a minimum of three times. At a minimum, the part number, date code and the panel location designator (or S/N) shall appear on each individual bag.

### **1812.1 PACKAGING REQUIREMENTS FOR ELECTROSTATIC DISCHARGE (ESD) SENSITIVE ITEM SHIPMENTS**

Items furnished on this order are electrostatic discharge (ESD) sensitive and shall be handled per the requirements of NHB 5300.4 (3L), MIL-STD-1686, or ANSI/EIA 625-1994. The item(s) on this order shall be protected from damage during delivery and packaged in conductive or static-dissipative packages, tubes, carriers, conductive bags, etc., as appropriate for the item(s), for shipment. The packaging for the item(s) on this order must be clearly labeled to indicate that it contains electrostatic sensitive goods.

### **1813.1 PACKAGING REQUIREMENTS FOR MOISTURE SENSITIVE SURFACE MOUNT DEVICE SHIPMENTS**

All moisture sensitive surface mount devices shall be heat sealed inside a moisture barrier bag also containing desiccant and a humidity indicator card. The moisture barrier bag, desiccant and the humidity indicator card shall meet the requirements of IPC/JEDEC J-STD-033A, section 3.3.2, except that Kraft paper desiccant pouches are not allowed because their sulphur content can affect the lead finish of some devices. There shall be adequate space between the devices and the heat seal to allow opening and resealing the bag a minimum of three times. The bags shall be labeled according to IPC/JEDEC J-STD-033A, section 3.3.3. To minimize repacking at Orbital, there shall be no more than five tubes per bag or one tray or reel per bag. Tray, tube and tape and reel materials shall be specified to be 125 degrees Centigrade tolerant. This will allow the baking of moisture sensitive devices at board assembly facilities to remove moisture when required.

### **1911.1 AMENDED ORDER – ALL PREVIOUS QUALITY REQUIREMENTS APPLY**

This is an amendment to an existing order. In addition to any quality requirements that may be stated in this amendment, all quality requirements stated in previous versions of this order apply to this amendment unless otherwise specified in this amendment. Quality requirements that continue to be applicable for this order may have previously been stated in Procurement Standard Text Codes, Statements of Work (SOWs), design definition documentation, General Terms and Conditions, and/or contractual requirements of previous versions of this order.

### **1921.1 SEE STATEMENT OF WORK (SOW) FOR QUALITY REQUIREMENTS**

Quality requirements of this order are included in the Statement of Work (SOW) referenced in this order. Quality requirements in addition to those listed in the SOW may be imposed via design definition documentation, General Terms and Conditions, contractual notes and/or articles that may also form a part of this order.

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### 1931.1 RESTRICTIONS ON ELECTRICAL CONNECTORS MANUFACTURED BY AERO-ELECTRIC CONNECTOR, INC.

Electrical connectors with the prefixes listed below that have been manufactured by AERO-ELECTRIC CONNECTOR, INC. shall NOT be used in, nor accepted for, fulfillment of this order. This restriction applies to deliveries of both individual electrical connectors and assemblies that contain electrical connectors.

MS24266 (Military Specification Sheet Number) Connectors, Plug, Electrical Straight, Miniature

- All part numbers

MS27467 (Detail Specification Sheet) Connectors, Plug, Electrical, Straight, Crimp Type, Bayonet Coupling, Series I

- All part numbers

MS27473 (Detail Specification Sheet) Connectors, Plug, Electrical, Straight, Crimp Type, Bayonet Coupling, Series II

- All part numbers

MS27484 (Detail Specification Sheet) Connectors, Plug, Electrical, Straight, Crimp Type, Bayonet Coupling, EMI, Series II

- All part numbers

MS3475 (Military Standard) Connectors, Plug, Electric, RFI Shielded, Series 2, Crimp Type, Bayonet Coupling, Classes L,S, and W

- All part numbers

MS3476 (Military Standard) Connectors, Plug, Electric, Series 2, Crimp Type, Bayonet Coupling, Classes A, L, S, and W

- All part numbers

M83723 (Detail Specification Sheet MIL-DTL-83723 and MIL-C-83723) Connectors, Electrical, (Circular, Environment Resisting), Plug, (Bayonet Coupling, Crimp Socket Contact), (Series III, Classes A, G, K, R, and W)

- M83723/75 part numbers

- M83723/76 part numbers

- M83723/77 part numbers

- M83723/78 part numbers

- M83723/86 part numbers

- M83723/87 part numbers

- M83723/91 part numbers

- M83723/92 part numbers

- M83723/95 part numbers

- M83723/96 part numbers

- M83723/97 part numbers

- M83723/98 part numbers

### 1941.1 TRAINING TO THE REQUIREMENTS OF ORBITAL'S DOCUMENT TM-8575 IS REQUIRED

This order contains items to be manufactured in accordance with Orbital's document TM-8575 "Orbital Sciences Corporation, Launch Systems Group (LSG) Cable Design, Assembly and Inspection Procedures" available from Orbital's Procurement Agent. The supplier must ensure that all technicians involved in the manufacturing, testing, and inspections of the items on this order are trained to the applicable portions of the contractually directed revision of this document. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

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### **1942.1 TRAINING TO THE REQUIREMENTS OF ORBITAL'S DOCUMENT TM-455 IS REQUIRED**

This order contains items to be manufactured in accordance with Orbital's document TM-455 "Orbital Sciences Corporation, Launch Systems Group (LSG) Workmanship Standards" available from Orbital's Procurement Agent. The supplier must ensure that all technicians involved in the manufacturing, testing, and inspections of the items on this order are trained to the applicable portions of the contractually directed revision of this document. The supplier shall ensure that these requirements are flowed down through the supply chains that support the item(s) on this order.

### **1951.1 WARRANTY RETURN, ALL PREVIOUS QUALITY REQUIREMENTS APPLY**

This is a warranty return of an item previously delivered to Orbital. If the item is to be returned to Orbital, or if a replacement item is to be delivered to Orbital, in addition to any quality requirements that may be stated in this order, all quality requirements stated in the item's original order apply unless otherwise specified in this order or amended by the conditions of the warranty. Quality requirements that continue to be applicable for this order may have previously been stated in Procurement Standard Text Codes, Statements of Work (SOWs), design definition documentation, General Terms and Conditions, and/or contractual requirements of the original order. All deliveries to Orbital of items or documentation pertaining to this order must reference Orbital's purchase document number for this warranty return.

### **8011.2 MSDS SUBMITTAL REQUIRED**

This order is subject to full compliance with the Code of Federal Regulations (CFR) Title 49, Parts 100-199. In compliance with OSHA 1910.1200, Orbital requires one copy of the Material Safety Data Sheet (MSDS) be shipped with the order. All certifications, identifications, markings, etc., and associated paper work are considered part of the performance of this order.

### **8021.2 LABELING OF OZONE DEPLETING SUBSTANCES REQUIRED**

Seller shall comply with 40 CFR Part 82.100-124, protection of stratospheric ozone; labeling in the performance of this order. The regulation applies to (1) products manufactured with a process using a Class I substance, (2) products that contain a Class I substance, and/or (3) containers containing a Class I or Class II substance. It also applies to products manufactured by Orbital or another supplier that will be provided to supplier as furnished property for processing.

### **8031.2 CHEMICAL INVENTORY FOR AIR POLLUTION REPORTING (MARICOPA COUNTY)**

### **8041.2 MERCURY FREE STATEMENT REQUIRED**

The material to be supplied under this purchase order is to be supplied to the U.S. Navy for shipboard use on submarines. Materials furnished under this order shall be free from contamination by the presence of mercury. The supplier and all sub-tier suppliers shall certify compliance with this requirement. The following statement, signed and dated by an authorized representative of the supplier, must be included on a certification sheet included in the shipping documentation package and traceable to this specific order:

"The undersigned hereby certifies that the material and/or parts furnished are free from mercury contamination. Mercury bearing instruments and equipment which might have caused mercury contamination were not used in the manufacture, fabrication, assembly, or testing of any material furnished under this order/contract."