

## **PVP Advanced EO Systems Inc. Quality System Procedure**

External Provider / Supplier Quality Requirements

Level III QAP 8.4.3-01 Revision F

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### **SC-1 Quality Management System**

The Supplier shall have a quality management system that conforms to any one of the following, as applicable:

- a. SAE AS9100D Quality Management Systems – Aerospace – Requirements
- b. ISO 9001:2015 Quality Management System Requirements
- c. SAE AS9003A Inspection and Test Quality System
- d. ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
- e. NADCAP Certification for special processes (paint, chemical conversion coating, plating, welding, heat treating, NDT, etc.)
- f. In the absence of any certified quality management system that conforms to (SC-1 a-d), the supplier shall fill out and submit a PVP AEO Systems Inc. Supplier Quality Survey (Form 8.4.1-01), obtained by contacting PVP AEO Systems Inc.

### **SC-2 Quality Management System Certification**

For Supplier Clause (SC-1 a-d), independent certification/registration is required. During the course of this Order, the External Provider / Supplier shall notify PVP AEO Systems Inc. within three business days of a change in:

- a. Registration bodies, loss of their registration status.
- b. Notification of pending loss of their registration status.
- c. Adverse action taken by External Provider's customer, any Government entity (e.g., FAA, CAA, OSHA, DoD, EPA, etc.)
- d. International Government Agencies, or NADCAP, including, but not limited to and of the following;
  1. Issuance of a major Level II or Level III Corrective Action Request (CAR) associated with Buyer items, Quality Management System or processes associated with Buy items.
  2. Issuance of a major finding by a third-party registrar
  3. Suspension of Government Source Inspection (GSI)

- e. External Provider / Supplier shall provide actions taken or planned actions related to any events listed in a through d above with the written notification.
- f. External Provider / Supplier shall provide within 30 days, written notification, the *approved* corrective actions taken in response to any adverse action reported in "d" above.

### **SC-3 Calibration System**

The Supplier shall have a documented calibration system that meets the requirements of ANSI/NCSL Z540-1, ISO 17025 or ISO 10012.

### **SC-4 Record Retention**

When specified to do so, the External Provider / Supplier and the Supplier's subcontractors shall maintain verifiable objective evidence of all inspections and test performed, results obtained and dispositions of non-conforming articles. These records shall be identified to associated articles, including heat and lot number of materials, unit or lot serialization. These records shall be made available to customer and/or government representatives upon request and shall be retained in a safe, accessible location for the period specified below after date of delivery:

- a. Two (2) years
- b. Five (5) years
- c. Ten (10) years
- d. Fifteen (15) years
- e. Twenty (20) years

The External Provider / Supplier's records associated with the manufacture of serialized or lot-controlled articles will provide for continued traceability of serial numbers or lot number identification through all phases of manufacture, commencing with the raw material and continuing through final acceptance of the end item.

Records held for the required retention period shall not be destroyed without PVP/PAEO Systems written concurrence.

**SC-5 Customer Source Inspection (CSI)**

Products to be delivered on this Purchase Order require customer source inspection, tests, or both prior to delivery. The External Provider/Supplier shall notify PVP AEO Systems Inc. at least two working days in advance of the time the products will be ready for inspection or test. Upon request, the External Provider/Supplier shall make available to the PVP AEO Systems Inc. representative any measuring and test equipment, facilities, records, and personnel to facilitate the source inspection.

- a. In-process source inspection required
- b. Final source inspection required
- c. First Article source inspection required

**SC-6 Government Source Inspection (GSI)**

Products to be delivered on this Purchase Order require U.S. Government Source Inspection prior to delivery. Upon receipt of this Purchase Order, the External Provider/Supplier shall promptly notify the U.S. Government representative who normally services the External Provider/Supplier's plant, so that appropriate Government inspection planning can be accomplished. If the External Provider /Supplier cannot locate the U.S. Government representative to arrange for the required source inspection, the External Provider/Supplier shall notify PVP AEO Systems Inc. immediately. Upon request, the External Provider/Supplier shall make available to the U.S. Government representative, without additional charge, any measuring and test equipment, facilities, records, documents, and personnel to facilitate the Government source inspection.

**SC-7 Competence, Awareness & Communication**

The external provider / supplier shall ensure that its personnel have the required training and experience appropriate with the requirements necessary for the performance / execution of this purchase order, to the extent that its personnel understand:

- a. Their contribution to product or service conformity
- b. Their contribution to product safety
- c. The importance of ethical behavior

**SC-8 Electrostatic Discharge (ESD) Control Program**

The External Provider /Supplier shall document and implement an ESD Control Program in accordance with ANSI/ESD S20.20, ESD Association Standard for the Development of an Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices). Parts must be properly packaged and identified as required in ANSI/ESD-S20.20. All goods will be placed in conductive or static-dissipative packages, tubes, carriers, conductive bags, etc., for shipment. The packaging must be clearly labeled to indicate that it contains electrostatic sensitive goods. Electrical parts that may be used or shipped in conjunction with ESD sensitive parts shall be treated as ESD sensitive.

**SC-9 Protection of Electrostatic (ESD) Sensitive Devices**

All voltage sensitive devices delivered on this Purchase order, including subassemblies and assemblies containing such devices, shall be protected from static electricity and transient voltages in accordance with the drawing or specification under which the devices are procured.

**SC-10 Limited Shelf Life Materials**

With each delivery of materials on this Purchase Order that have a limited or specified shelf life, the External Provider / Supplier shall furnish the following data:

- a. Cure or manufacture date,
- b. Expiration date or shelf life,
- c. Lot or batch number, and
- d. When applicable, any special storage requirements and/or handling procedures
- e. MSDS required – The supplier shall provide the applicable/appropriate Material Safety Data Sheet along with the products being procured

The above information shall be marked on each container or certification and shall be in addition to normal identification requirements, such as material name, part or code number, drawing, specification number and revision, type, size and quantity and other markings as applicable. Upon shipment, shelf life remaining shall meet the minimum shelf life specified on the order. If no shelf is specified, 75 percent of the shelf life shall be remaining on products on this Order.

### **SC-11 Electronic Products – General Requirements**

The materials, methods, and acceptance criteria for producing soldered electrical and electronic assemblies shall meet the requirements of IPC-A-610 – “Acceptability of Electronic Assemblies,” and IPC/EIA J-STD-001 – “Requirements for Soldered Electrical and Electronic Assemblies” for the class specified below:

- a. Class 2 Dedicated Service (Industrial) Electronic Products
- b. Class 3 High Performance (Aerospace) Electronic Products

### **SC-12 First Article Inspection**

The External Provider / Supplier is required to perform first article inspection on the items in this contract / purchase order. The inspection records and data shall identify each characteristic and feature required by the design data, the allowable tolerance limits, and the actual dimension measured as objective evidence that each characteristic and feature has been inspected and accepted by the Supplier’s quality and/or inspection function. When testing is required, the parameters and results of the test shall be recorded in the same manner.

The first article inspection report must show evidence of acceptance by the External Provider /Supplier’s quality assurance representative. The first article(s) shall be produced on production equipment and using processes which will be utilized on production runs.

The following sub-clauses shall apply to this Purchase Order when specified;

- a. SAE AS9102: First article inspections shall be in accordance with current revision of SAE Aerospace Standard AS9102.
- b. Delivery of First Article Inspection Records: The Supplier shall provide one (1) reproducible copy of the First Article Inspection/Test records accompanied by variables data with the initial shipment.
- c. Retention of First Article: The Supplier shall retain the first article(s) as objective evidence and make available to PVP AEO Systems Inc. upon request. Disposal of first article is prohibited until authorized by PVP AEO Systems Inc. in writing.
- d. Delivery of First Article: The Supplier is required to deliver the first article to PVP AEO Systems Inc. for verification, as part of this Purchase Order, prior to the shipment of any balance of said Purchase Order, unless otherwise specified.

**SC-13 Configuration Management**

The External Provider / Supplier shall be responsible for controlling / tracking changes to parts and components manufactured to ensure that the product meets specified functional and physical requirements of this Purchase Order. This includes any part or component manufactured to customers' or vendors' drawings, specifications, or special process procedures. At a minimum, with each shipment, the Supplier shall submit "configuration documents," which define the requirements, designs, build / production, and verification for a configuration-controlled item. This record shall be signed and dated by an official of the Supplier's quality assurance department, and, in addition to the required information, shall include the following minimum requirements:

- a. Contract / Purchase Order number and line item number, if applicable
- b. Part number of deliverable item and all traceable / repairable sub-tiered parts
- c. Serial number, as contractually required
- d. Lot number, as contractually required
- e. Drawing number for drawings related to deliverable item(s) traceable/repairable
- f. Sub-tiered parts
- g. Revision level (baseline configuration of drawing to which hardware was built)
- h. Engineering order(s) or equivalent drawing changes as applicable
- i. Customer approved deviations and waivers as applicable

**SC-14 Special Processes**

This Purchase Order contains special processes, i.e. the application of chemical, metallurgical, nondestructive or any other manufacturing, joining, or inspection processes, controlled by Federal, Military, US Government, Industry, Customer, National, International, or other specifications.

The External Provider / Supplier shall furnish to PVPAEO Systems Inc., with the delivery of products, the certification/test report issued by the source that actually performed the process. Certifications/test reports shall include as a minimum a complete description of the special process performed (process name, applicable specification and revision, type, class, grade, etc.) and a statement that the process was performed by certified operator(s), when applicable.

The following sub-clauses apply to this Order when specified:

- a. The External Provider / Supplier is required to use special process sources approved by PVPAEO Systems Inc. or its customer(s). Contact PVPAEO Systems Inc. for a list of the approved special process sources. Use of process sources that have not been approved may result in the return of all products to the Supplier at the Supplier's expense.

### **SC-15 Sampling Inspection**

Unless otherwise specified on this Purchase Order, when the Supplier elects to use sampling inspection as a means of product acceptance for items delivered, the sampling plan shall be statistically valid, e.g. ANSI/ASQ Z1.9, and preclude the acceptance of lots whose samples have known nonconformities, e.g. zero acceptance plans, C = 0.

The following sub-clauses apply to this Order when specified:

- a. Submit to PVPAEO Systems Inc., the sampling plan to be used prior to the start of this order.

### **SC-16 100% Inspection Report**

The External Provider/Supplier shall perform 100% inspection of all characteristics on all parts delivered under this Purchase Order. The Supplier's 100% inspection report shall show the part number, drawing revision, serial numbers or other traceable identification (where applicable), and the actual values obtained during inspection versus the drawing requirements, including block data and notes, or specification. When applicable, copies of material and/or process certifications shall be attached to the inspection report.

### **SC-17 Shipping Documents**

The External Provider/Supplier shall furnish Commercial Shipping Documents/Packing Lists with each shipment containing the following information:

- a. PVPAEO Systems Inc. Purchase Order Number
- b. Part Number(s)
- c. Description
- d. Quantity ordered
- e. Quantity shipped

- f. Lot / Date code / serialization, as applicable
- g. Any handling constraints or cautions such as, but not limited to:
  - 1. Optics: Open only in clean room environments
  - 2. ESD sensitive items: Open only at approved ESD workstation
  - 3. Moisture sensitive components: Open/store only in humidity-controlled area
  - 4. Shock sensitive components: Shock monitoring should be specified if required

### **SC-18 Certificate of Conformance (C of C)**

The External Provider/Supplier shall provide on the packing list/shipper or on a separate document, a written statement titled "Certificate of Conformance" or equivalent, and is worded as follows or equivalent:

*"This is to certify that all products or services delivered on this Purchase Order (number) and packing list/shipper (number) are in conformance with all requirements of the Purchase Order. Objective evidence to support this certification will be made available for review upon request. Inspections necessary to determine the acceptability of all products under this Order were completed. All products submitted on this Order are subject to final acceptance by the customer."*

### **SC-19 Certificate of Conformance for Raw Materials (Raw Material / Mill Certificate)**

The Supplier shall include with each shipment the raw material manufacturer's test report (e.g., **mill test certificate**) that states that the lot of material furnished has been tested, inspected, and found to be in conformance with the applicable material specifications. The test certificate will list the specifications, including revision numbers or letters, to which the material has been tested and/or inspected and the identification of the material lot to which it applies.

When the material specification requires quantitative limits for chemical, mechanical, or physical properties, the test report will contain the actual test and/or inspection values obtained. For aluminum mill products (except castings), certifications for chemistry may indicate conformance within the allowed range. Certifications for physical properties will show actual values.



When organization supplies converted material produced by a raw material manufacturer, the External provider / Supplier shall submit all pre and post conversion chemical / physical tests reports.

#### **SC-20 Calibration Certificate**

The External Provider / Supplier shall submit for each item calibrated, one reproducible record of actual calibration results, including applicable graphic and tabular data. Records shall be traceable to the individual item tested, by part number, serial number and customer's order number for the item shipped. The External Provider/Supplier's calibration certificate shall include a unique calibration tracking number, tolerance range, and, when applicable, environmental conditions for each parameter calibrated. The certificate shall also state the operating error per specification, the degree of correction of out of tolerance condition, and remaining uncorrected out of tolerance condition, if applicable.

#### **SC-21 Electrical Wire and Cable Test Report**

The External Provider/Supplier shall provide certification that each shipment of electrical wire or cable furnished under this contract conforms to the applicable specifications.

For each lot or cable in each shipment, a certified test report or copy thereof shall be included with the packing sheet. The test report shall, at a minimum, include a record of the physical, chemical, or electrical (and in the case of RF cable, electronic) inspections and tests conducted to satisfy the acceptance requirements of applicable specifications, and shall include numerical results when applicable. For cable shipments, these requirements apply to both basic and finished cable.

#### **SC-22 Traceability of Products to Raw Materials**

For each lot of products delivered to PVPAEO Systems Inc., the External Provider/Supplier shall provide positive traceability of each individual product to the material certification/test report that represents the raw material from which each of the products was manufactured. Traceability may be provided by identifying the raw material heat, lot, batch, or melt number from the certification/test report on tags attached to each product and/or packaging. Heat/lot identification required by applicable specifications, such as for castings and forgings, is acceptable for traceability purposes provided it is clearly marked and not obliterated by subsequent operations.

**SC-23 Test Samples**

With each delivery of products on the Purchase Order, the External Provider/Supplier shall furnish for verification testing by PVP AEO Systems Inc., one (1) additional product or suitable test sample produced from the same material lot and processed simultaneously with the lot of products delivered. When more than one lot of material was used, a sample is required for each lot. The sample(s) shall be marked or tagged to identify the process that it represents (e.g. material, heat treat, plating, etc.) and noted on the packing list/shipper.

**SC-24 Product Serialization Requirements**

Serial numbers for all products on this Purchase Order have been assigned by PVP AEO Systems Inc. as defined in the Order or referenced documents. The External Provider/Supplier shall apply the specified serial numbers on all products and record the serial numbers on all applicable documentation. The assigned serial numbers may not be altered or replaced without written authorization from PVP AEO Systems Inc.

**SC-25 Product Serialization by the Supplier**

Products ordered on this Purchase Order shall be serialized by the External Provider/Supplier using a serialization scheme selected by the External Provider/Supplier. The External Provider/Supplier's serialization scheme shall ensure that serial numbers are not duplicated on products with the same part number. Those applicable serial numbers shall also be reflected on the External Provider/Supplier's packing slip, Invoice and/or Certificate of Conformance.

**SC-26 Acceptance Test Procedure (ATP) Approval**

Prior to initial delivery of products on this Purchase Order, the External Provider/Supplier shall submit to PVP AEO Systems Inc., for review and approval, a copy of the ATP or other quality conformance procedure that describes the final tests to be performed by the External Provider/Supplier on products scheduled for delivery to PVP AEO Systems Inc. The ATP shall include a list of equipment used and any test diagrams or sketches necessary for technical interpretation of the ATP. Any revisions to a PVP AEO Systems Inc. approved ATP shall be submitted to PVP AEO Systems Inc. for review and approval prior to incorporation into production.

**SC-27 Functional Test Data Sheets**

With each delivery of products on this Purchase Order, the External provider / Supplier shall furnish to PVPAEO Systems Inc. a functional test data sheet, which shows the actual results (values) obtained during the functional tests performed on each unit of product versus the requirements specified in the PVPAEO Systems Inc. approved Acceptance Test Procedure or specification. The test data sheets shall identify the part number and drawing revision, individual products by serial number, and meet the requirements of GTC-6.

**SC-28 Functional Test Certificate (FTC)**

The External Provider/Supplier shall include on the packing list/shipper or on a separate attached document a written statement titled "Functional Test Certificate" (FTC) that conforms with the requirements of GTC-6 and is worded substantially as follows:

*"This is to certify that all products delivered on this Purchase Order (number) and packing list/shipper (number) have been tested as required by the applicable drawing, specification, or approved acceptance/functional test procedure, and are in conformance with all requirements of the Purchase Order. Objective evidence to support this certification will be made available on request."*

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Printed Name of Authorized Individual: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_ Signature / Stamp: \_\_\_\_\_

**SC-29 Manufacturer's Catalogs, Drawing, etc.**

With the initial delivery of products on this Purchase Order, the External provider / Supplier shall furnish to PVPAEO Systems Inc. one (1) copy of the current manufacturer's catalog, drawing, blueprint, or specification which fully and clearly describes the products delivered and can be used by PVPAEO Systems Inc. to verify product conformance to requirements.

**SC-30 Equal Opportunity Clause**

The parties hereby incorporate the requirements of 41 C.F.R. Section 60-1.4(a)(7), 60-250.5, 60-300.5, and 60-741.5, if applicable.

**SC-31 Counterfeit Electronic Parts Detection and Prevention Requirements**

Seller shall meet the following additional requirements for electronic parts procured by or on behalf of Seller;

- a. Seller shall implement a counterfeit electronic parts detection and avoidance system consistent with the requirements of the latest dated version of DFARS 252.246-7007 Contractor Counterfeit Electronic Part Detection and Avoidance System and or AS5553 Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts; Avoidance, Detection, Mitigation, and Disposition as of the effective date of this contract.
- b. Seller shall include the substance of this article including this flow-down requirement, in all subcontracts for electronic parts awarded by Seller for work under this contract.
- c. Seller shall only purchase products to be delivered or incorporated as Work to buyer directly from the Original Component Manufacturer (OCM) or the Original Equipment Manufacturer (OEM) or authorized distributor chain, Aftermarket Manufacturer or Authorized Reseller.

**SC-32 Original Component Manufacturer's Certificate of Compliance required**

Seller shall provide, upon request, a copy of the original component manufacturer's certificate of compliance. PVP AEO Inc. acknowledges that an additional fee may be required to obtain this certificate.

**SC-33 Property Management / Government Owned Property**

Suppliers (in receipt of Property of the U.S. Government) shall provide a copy of the Property Management Plan/Procedures that outline the processes associated with the control, use and care of the Government's property in the supplier's possession. GDLS (General Dynamics Land Systems - C) must review and approve the plan/procedures to ensure the external provider/supplier is managing Government Property (GP) in accordance with the requirements of the GDLS-C purchase order and / or sub-contract.

In the event that the external provider / supplier does not have a defined and approved property management plan/procedures, the GDLS-C property management plan/procedures shall be used as the external provider/supplier's governing procedure.

If the external provider/supplier has Defense Contract Management Agency (DCMA) surveillance, the external provider/supplier may also submit a copy of the DMCA letter indicating approval of the external provider/supplier's current property management system. This approval will be included as a mitigating factor in the external provider/supplier's risk assessment.

Should the external provider/supplier receive an inadequate rating during future DCMA property management system analysis (PSMA), the external provider/supplier must provide notice to GDLS-C no later than 30 days after notification of non-compliance.

**Subcontractor System Analysis (for external providers/suppliers in receipt of property of the U.S. Government)**

To ensure compliance to Government regulations, GDLS-C shall conduct a Limited Desktop or an onsite property management system analysis (PMSA) of all external providers / suppliers (in receipt of property of the U.S. Government). The frequency and level of analysis shall be conducted based on the below noted risk assessment criterion:

- a. Property Valuation and number of line items comprising that value
- b. GDLS-C PMSA performance within a 3-year period
- c. DCMA approved property management system
- d. GDLS-C approved property management plan / procedures
- e. Number of loss, theft, damaged and destroyed (LTDD) submissions since last PMSA

The supplier shall be provided notification prior to conducting an on-site PMSA. The supplier is required to provide the appropriate personnel to facilitate the on-site PMSA. Upon completion of the limited desk top or on-site PMSA, GDLS-C shall brief the supplier with the analysis findings. Furthermore, a formal report shall be provided to the supplier detailing the results of the PMSA.

Based on the findings, the supplier may be required to develop and implement a corrective action plan to correct any areas of non-compliance. The corrective action plan shall be submitted GDLS-C within the timelines specified in the PMSA results report.

### **Inventory Identification / Segregation**

The supplier shall ensure that all GP is distinctively identified through the use of labeling, bar coding, decals, or stamping, as "Property of the [enter applicable Government name here]," segregated and recorded.

Property of the U.S. Government must be kept separated from other Government property and cannot be comingled or co-located with any other material. GP will arrive at your location identified as "GP" on accompanying paperwork. Additionally, Oracle will provide notification that a new PO has been created.

### **Property Control**

The supplier shall ensure that all GP is protected against:

- a. Unauthorized access or usage
- b. Theft or misappropriation
- c. The elements, including excess of dust and dirt
- d. Possible breach of security

### **Physical Inventory Report**

The supplier shall complete and submit an annual physical inventory report each year of all GP currently in their care and control. The report must include the following:

- a. Part number, name and description
- b. Quantity on hand
- c. Purchase Order number or equivalent code designation
- d. Unit value
- e. Location
- f. Quantity quarantined or identified as LTDD

The total of this inventory should equal the amount of GP received. Any discrepancies or variance to GP received must be explained in the report.

**Loss, Theft, Damage and / or Destroyed (LTDD)**

The supplier shall exclude insurance costs for GP on-site. The supplier will be relieved of liability for property when GDLS-C has been granted relief of liability for loss of Government property.

The supplier shall notify GDLS-C the next business day regarding a LTDD condition and may be responsible for the replacement or repair of any lost, misappropriated, or damage items at no additional cost to GDLS-C or our customers. The supplier must then submit a formal report to GDLS-C within 10 days of submitting the initial notice. The report shall contain:

- a. Date and facts of the incident
- b. Asset P/N or NSN (if applicable)
- c. Asset name, commercial description, manufacturer, model number and quantity of GP
- d. Accountable contract number, acquisition costs or if applicable, estimated scrap proceeds, estimated repair or replacement costs.
- e. Cause and corrective or preventative action(s) to be taken
- f. Statement indicating current or future need
- g. Statement that the property did not contain sensitive or hazardous material
- h. Copies of any supporting documentation

**Disposition Costs / Proceeds**

If the supplier is authorized by GDLS-C to scrap GP on-site, any costs associated with the scrapping or disposal activity shall be invoiced against the purchase order number provided by GDLS-C for the repair of the item. All proceeds from residual scrap material must be remitted to GDLS-C quoting the applicable purchase order.

An audit trail of these transactions must be maintained and provided to GDLS-C upon request.

If the supplier is not authorized by GDLS-C to scrap on-site, all material must be returned to GDLS-C, per GDLS-C direction.

**SC-34 FOD Prevention Program**

Supplier shall establish, implement and maintain a “FOD” (Foreign Object Debris) prevention program / practice in accordance with AS9146 requirements.