Groton Quality Procedures Purchasing GQP 4.6-1

Document Number

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1.0 PURPOSE

This procedure defines the process for assuring that purchased goods and services conform to specified purchase requirements.

2.0 SCOPE

Applicable to PCC Structurals, Groton Division.

3.0 REFERENCES/APPLICABLE DOCUMENTS

- 3.1 APM 2-1 New Tool Estimating and Outside Tool Procurement Procedure
- 3.2 APM 2-3 Outside Tooling Rework procedure
- 3.3 **EXIM-P06 Anti-Boycott Process**
- 3.4 **EXIM-P07 Export Import Recordkeeping Procedure**
- 3.5 GQP 4.6-1 Form (3) Material Specification
- 3.6 GQP 4.6-2 Supplier Quality Management
- 3.7 GOP 4.6-3 Controlled Materials and Services
- 3.8 GQP 4.9-2 Process Change
- 3.9 GQP 4.10-2 Receiving Inspection
- 3.10 GQP 4.16-1 Control of Quality Records
- 3.11 QMSM 1.0 Quality Management System Manual
- 3.12 Approved Supplier List
- 3.13 AS9100 Quality Systems Aerospace Model for Quality Assurance
- 3.14 ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
- 3.15 NADCAP AC7004
- 3.16 ASQR-01 UTC Supplier Quality System Requirements

4.0 DEFINITIONS

- 4.1 Customer Approved Supplier: Those suppliers that have received approval from a specific PCC customer.
- 4.2 Groton Approved Supplier: A supplier of materials or services that has been approved by Groton Quality Assurance.
- 4.3 Approved Supplier List (ASL): List of Suppliers who have been approved by Groton Quality Assurance.
- 4.4 Requisitioner: The individual initiating the request for procurement of goods or services.
- 4.5 Key Characteristics: The features of a material or part whose variation has a significant influence on product fit, performance, service life, or manufacturability.
- 4.6 Blanket purchase order: An order that lists multiple release dates for product.
- 4.7 Purchasing: Procurement group comprised of both products (Buyer) and services (OSP coordinator).
- 4.8 General goods and/or services: Products, processes, and services that do not interact directly with the manufacturing process.

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4.9 Main Computer System (MCS): The combination of all network and software related tools for planning and product control.

5.0 REQUIREMENTS / RESPONSIBILITIES

- 5.1 The offsite Purchasing Department is responsible for the issuance and review of all purchase orders as well as for inventory control.
- 5.2 The Quality Department is responsible for the control of approved suppliers per GQP 4.6-2.
- 5.3 The Metallurgist and Process Engineering are responsible for creating and maintaining GQP 4.6-1 Form (3) Material Specifications.
- 5.4 The requisitioner is responsible for completing Purchase Requisition.
- 5.5 Receiving inspection shall be performed in accordance with GQP 4.10-2.

6.0 PROCEDURE

Requisitions are created within the Electronic Requisition Application in the MCS by the requisitioner using the app. Requisition numbers are assigned by the application and ultimately tied to the Purchase Order in the MSC, once approved, and processed. A purchasing request may be completed by anyone with access to the application and processed by Purchasing if properly approved by the authorized department designee. Purchase orders and/or purchase requisitions are reviewed and approved prior to release.

- 6.1 Purchase Requisition:
 - 6.1.1 General Goods/Services and Controlled Services and Materials in accordance with GQP 4.6-3: The Requisitioner will submit a purchase requisition in the Main Computer System (MCS).
 - 6.1.2 Controlled Manufacturing Services in accordance with GQP 4.6-3: The OSP coordinator will use workorder specific operations to determine required services.
- 6.2 Requisition Approvals:
 - 6.2.1 Purchasing will confirm all PCC Structurals Groton, CT. SOX requirements are met prior to issuing PO's.
- 6.3 Purchase Order:
 - 6.3.1 Purchase orders (POs) will be generated from the MCS. For controlled products and/or services, POs can only be created for suppliers on the ASL with a current approval status. Each PO will contain data clearly describing the product or service being purchased. Each PO specifies:
 - 6.3.1.1 Specific internal instructions or requirements
 - 6.3.1.2 Customer Specifications
 - 6.3.1.3 Supplier Quality Assurance Requirements (see Appendix 1)
 - 6.3.1.4 Terms and Conditions
 - NOTE: In addition to the PO, Purchasing shall supply current specification revisions and/or supporting documentation at time of placement.
 - 6.3.2 Prior to submission, PO's will be reviewed for any discrepancies.

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- 6.3.2.1 POs for products shall be checked against any applicable material specifications.
- 6.3.2.2 POs for services shall be checked against the workorder router to assure appl icable instructions are noted.
- 6.3.2.3 POs will be reviewed to verify there is no anti-boycott language (See EXIM-P06 Anti-Boycott Process), and records retained per the recordkeeping process (See EXIM-P07 Export Import Recordkeeping Procedure).
- 6.3.2.4 All parties to the transaction must be verified using the PCC

 Denied Party Screening Tool. A copy of the screening shall be
 retained per the recordkeeping process (See EXIM-P07 Export
 Import Recordkeeping Procedure).

NOTE: The Quality Department shall be notified of any discrepancies prior to submittal / shipment.

- 6.4 External Service PO grouping;
 - 6.4.1 When a sub-tier supplier is processing distinct lots (work orders) of a multi-sequence process (i.e. heat treat), PCC Groton is to include all work instructions for each separate sequence on the same single Purchase Order.
 - 6.4.2 A separate PO is required for PNs that are to receive different heat treat cycles.
 - 6.4.3 Multiple lots on purchase order must be for same actual Heat Treat operation to be performed.
 - 6.4.4 Every distinct lot (work order) detailed in the first Heat Treat sequence must also be identified for each subsequent heat treat sequence on the same sub-tier supplier Purchase Order.

Example: If 5 work orders are listed for sequence # 1 then only the same 5 work orders can be listed for the next sequence.

- 6.5 External Service Test Material(s) must be included for the following processes;
 - 6.5.1 Heat Treatment test coupon by material type
 - 6.5.2 HIP test coupons by material type
 - 6.5.3 Other processes as defined by the specific operation instructions
- 6.6 United Technologies Corporation (UTC); suppliers of controlled products and services
 - 6.6.1 The members of PCC Groton's supply chain that deliver products and/or services which interact with UTC hardware shall be provided PO flow-down and be compliant to;

NOTE: This includes both individual and blanket purchase orders

6.6.1.1 ASQR-01

6.6.1.2 PW-QA 6088

6.6.1.3 PWA 300

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6.7 **Inventory Control**

The Purchasing Manager or designee will be responsible for monitoring inventory levels through MCS data. The MCS data will be used for planning based on data tied to BOMs (e.g. Alloy and Cores). Supervisor inventory management will be performed by Groton team members as deemed necessary.

HISTORY

Rev 40	Added ASQR-01 ref documents; added 6.1.2.1; 6.1.2.1.1; 6.1.2.1.2 in regard to flow down of ASQR-01 for UTC sub-tier suppliers	In response to PW&C QSR audit	G. Gordon 10/05/16
Rev 41	Revise 4.6; add 6.1.7; revise 6.1.8.3; revise 6.2.3; add 6.5.4; add 6.5.5, SQAR rev U	Annual procedure review; update of SQAR rev U	G. Gordon 6/10/17
Rev 42	Add SQAR (rev U) clause 37.C.4 (Eye testing per ASQR-01 – Pratt and Whitney); update Table I with SQAR (rev U) clause 37. C.4. Add PW-QA-6088 to 6.1.2.1 and 6.1.2.1.1; Expand scope in 6.1.2.1 and 6.1.2.1.1 to include blanket purchase orders. Blanket purchase orders defined in Section 5.0.	Updates for Pratt and Whitney per ASQR-01 audit from 7/27/2017.	Jeff Caleshu 11/6/17
Rev 43	Revised Par. 4.4; added in Par. 3.0 PCR Doc 4.1	PCR for new supplier	S. Dombrowski 11/27/17
	Add to SQAR Table I: Categories for Chemical Testing, Kaowool, Shell Components, Tensile Testing and Wax	For AS9100D audit in December 2017 and to correct findings for Pratt and Whitney ASQR-01 2017 audit.	Jeff Caleshu 12/7/17
	Revised 4.1, added 4.3 and 4.4 to clarify responsibility; added 6.1.2.1.1.1 to clarify UTC; added GQP 4.6-1 Form (1) to 6.1.3; added 6.1.7.3; added 6.1.8.1, 6.1.8.2; changed "buyer" to "OSH Coordinator or buyer based on commodity" in 6.1.11; changed buyer/purchaser to "OSP Coordinator" in 6.4.3, changed "buyer" to Capital and Maintenance Project Coordinator" in 6.5.1 and 6.5.2; removed Repeating Table 1; updated purchasing flow chart; changed "ECAR" to "MCS" removed forms from procedure; reformatted procedure.	Pre-AS9100D audit	B. Grubb 8/13/18
Rev 44	Revised formatting, added referenced documents to section 3.0, swapped sections 4.0 and 5.0, added definitions and revised responsibilities, revised section on requisitions and purchase orders, removed outdated process flow chart.	Internal CAR 10043	B. Campbell 9/1/18
Rev 45	Section 6.3.1 Note added Update of SQAR to be Appendix 2 instead of Appendix 3, update of Hamilton Sundstrand to Collins Aerospace in Appendix 2. Appendix 2 initial note to allow acceptance of PO to equal acceptance of SQAR requirements. Remove Sikorsky from SQAR.	Update of SQAR to Rev V	M. Federer 4/13/21
Rev 46	Updated purchasing requisition form to be MCS, removed reference to Form (1) and Form (2), updated blanket PO definition, clarified requisitioner responsibilities and process, updated the UTC PO flow-down requirements, removed Boeing from A2	Updated for new MCS purchasing process	B. Campbell 5/17/21
Rev 47	Section 3.0 and 6.3.2.3 - Added reference to APM 1-2 Export Compliance. Updated 5.1 to include inventory control as a responsibility of Purchasing. Added 6.7 Inventory Control to explain how inventory is monitored by off-site Purchasing.	Updated due to an internal audit finding and also for export compliance.	K. Iwamoto/ C. Ortiz 8/19/22

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<u>Appendix 1</u> Guidelines for (SQAR) Selection

PROCURED MATERIAL OR SERVICE	THE FOLLOWING SQAR PARAGRAPHS APPLY.
ALLOY MATERIAL	1, 2, 3, 4, 5, 6, 7A, 10,11, 13, 13B ⁽⁴⁾ , 13D, 13E, 14, 17, 18, 23, 32A, 32B, 32C, 32D, 33, 35, 37, 38, 40, 51,
CALIBRATIONS	1, 2, 3, 10, 11, 13, 14, 17, 18, 23, 32, 32D, 33, 37, 37.C.4, 38B ⁽³⁾ , 39, 40, 41, 51,
CHEMICAL TESTING	1, 2, 3, 4, 6, 7, 8, 11, 12, 13A-13F, 14, 16, 17, 18, 24, 26, 30, 31, 32, 33, 37A-C (1-4), 38, 38A, 39, 40, 43, 45, 47, 51
ESA/VSE PROCESS	1, 2, 3, 10, 11, 13 ⁽¹⁾ , 14,16, 17, 18, 23, 31 ⁽¹⁾ , 32, 32D, 33, 34, 35, 37, 37.C.4, 38, 40, 42, 51,
ESA/VSE TESTING, LAB SERVICE	1, 2, 3, 6 ⁽¹⁾ , 7 ⁽¹⁾ , 10, 11, 13 ⁽¹⁾ , 14, 16, 17, 18, 23, 25 ⁽¹⁾ , 26 ⁽¹⁾ , 29 ⁽¹⁾ , 31 ⁽¹⁾ , 32, 32D, 33, 34, 35, 37, 37.C.4, 38, 38B ⁽³⁾ , 40, 42, 51,
HEAT TREAT	1, 2, 3, 10, 11, 13 ⁽¹⁾ , 13A, 14, 16, 17, 18, 23, 25, 30, 32A, 32B, 32C, 32D, 33, 35, 37, 37.C.4, 38, 38B ⁽³⁾ , 40, 42, 51,
HIP * ITAR CONTROLLED	1, 2, 3, 10, 11, 13 ⁽¹⁾ , 13A, 14, 16, 17, 18, 23, 25, 30, 32A, 32B, 32C,
(1 HIP process allowed. PCC Eng.& Quality must	32D, 33, 35, 37, 37.C.4, 38, 38B ⁽³⁾ , 40, 42, 51,
disposition any request for additional HIP cycles)	
INDUSTRIAL GAS	Identified in applicable Material Specification 10,
KAWOOL	1, 2, 3, 4, 5, 6, 10, 11, 13C-13F, 16, 17, 18, 24, 29, 32, 33, 37A-C (1-4),
	39, 40, 47, 50, 51
MACHINING	1, 2, 3, 10, 11, 13,14, 16, 17, 18, 20, 23, 32C, 32D,33, 37, 37.C.4, 38, 38A, 38B ⁽³⁾ , 40, 42, 44, 51,
NDT	1, 2, 3, 4, 10,11, 13, 13 ^(B) ,14, 17, 18, 23, 26 ⁽²⁾ , 32A, 32C, 32D,33, 37, 37.C.4, 38, 38B ⁽³⁾ , 40, 42, 44, 51,
PROCESS MATERIALS	1, 2, 3, 4, 5, 6, 9, 10, 11, 12 ⁽¹⁾ , 13 ⁽¹⁾ , 13A ⁽¹⁾ , 13B ⁽¹⁾ , 14 ⁽¹⁾ , 14A;14B;14C;14D;14E; 16, 17, 18, 23, 32A, 32B, 32C, 32D, 33, 35, 37, 37.C.4, 38, 40, 51,
PROCURED/CALIBRATED MEASURING	1, 2, 3, 10, 13,14, 17, 18, 23, 32A, 37A, 37B, 37C, 37.C.4,
DEVICES, WHITE LIGHT INSPECTION, AND	38, 38B ⁽³⁾ , 39, 40, 41, 51,
CMM INSPECTION	
SHELL COMPONENTS	1, 2, 3, 4, 5, 6, 9, 10, 11, 13C-13F, 16, 17, 18, 24, 26, 29, 32, 33, 37A-C (1-4), 39, 40, 47, 50, 51
SURFACE TREATMENT	1, 2, 3, 4, 10, 11, 13 ⁽¹⁾ , 13A ⁽¹⁾ , 14, 16, 17, 18, 23, 28, 29, 30, 32A, 32B, 32C, 32D, 33, 35, 37, 37.C.4, 38, 38B ⁽³⁾ , 40, 42, 51,
TENSILE TESTING	1, 2, 3, 4, 6, 7, 11, 12, 13A-13F, 14, 16, 17, 18, 24, 26, 30, 31, 32, 33, 37A-C (1-4), 38, 38A, 39, 40, 43, 45, 47, 51
VALUE ADDED MACHINING	1, 2, 3, 4, 10,11,13A, 13B ⁽⁴⁾ , 13C, 14, 16, 17, 18, 20, 23, 32C, 32D, 33, 35, 37A ⁽¹⁾ , 37B ⁽¹⁾ , 37C ⁽¹⁾ , 37.C.4, 38, 38A ⁽¹⁾ , 38B ⁽³⁾ , 40, 42 44, 45, 46, 47, 48, 49, 50, 51
WAX	1, 2, 3, 4, 5, 6, 9, 11, 13C-13F, 16, 17, 18, 24, 29, 32, 33, 37A-C (1-4), 39, 40, 47, 50, 51
WELD ROD	1, 2, 3, 4, 7A, 10, 11, 13, 14, 15,17, 18, 23, 32A, 32B, 32C, 32D, 33, 37, 37.C.4, 38, 38B ⁽³⁾ , 40, 51,

^{37.}C.4, 38, 38B ⁽³⁾, 40, 51, (1) When applicable (2) Requistioner must specify details (3) Applies to nuclear products (4) Applies for PW4000 & major rotating hardware

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Appendix 2

Supplier Quality Assurance Requirements (SQAR)
Revision V

NOTE: SQAR, when referenced on the face of the Purchase Order, is an integral part of the Order. Failure by the Supplier to conform to the applicable SQAR requirement(s) listed on the Purchase Order shall be cause for rejection and return of articles at the Supplier's risk and expense. Through acceptance of a purchase order, the supplier is acknowledging the requirements of the SQAR.

OUALITY SYSTEMS

- 1. The supplier shall maintain a Quality System in compliance to the requirements of ISO 9001, AS9100, ISO 17025 or equivalent.
 - 1.1 The supplier shall maintain quality records as required by the purchase order and section 13 A, B, or C below in accordance with the applicable sections of the latest revision of PCC Structurals, Groton Division GQP 4.16-1. All Quality Records that are created by and/or retained by the supplier shall be available for review by PCC Structurals, Groton Division, its customers, and/or Regulatory Authorities upon request.
 - 1.2 Outside service suppliers (i.e. materials testing, welding, heat treating, NDT, etc.) must hold certification for Nadcap special processes, as applicable.
 - 1.3 Outside service suppliers for laboratory testing and calibration must provide certification of compliance to ISO/IEC 17025.
- 2. The material supplier shall maintain an Identification and Verification Program to provide traceability of material while under his control.

APPROVED SOURCES

- 3. All material furnished, or processing performed under this order must be by a source approved by PCC Structurals, Groton Division, and/or a customer approved supplier list, as applicable.
- 4. Supplier shall pass on to any sub-tier supplier(s) the applicable requirements of this Purchase Order.
- 5. All material supplied under this purchase order shall be in accordance with the latest Process Control Procedure revision as specified on the face of the purchase order.

MATERIAL CERTIFICATION/RECORDS OF INSPECTION

- 6. Supplier shall submit a Certified Material Test Report providing mill identity and mill tests and analyses of material.
- 7. Supplier shall provide a Certified Chemical and/or Physical Test Report per applicable specifications. The report shall reflect the mill source of material.
 - A. Chemical
 - B. Physical
- 8. Supplier shall certify as to the ferrite content of the material. (When called out in specification)
- 9. Supplier shall submit a certification which includes cure or manufacturing date for material whose acceptability is limited by age. Both the cure date and shelf life shall be listed on the container and on the document certifying the material.
- 10. Supplier shall provide certification as to the country of origin of the materials provided. Supplier shall not use any conflict materials in the processing of material and supplies to be used in the product for PCC Groton. If it is found that conflict materials were used, the supplier shall notify PCC Structurals Groton immediately in writing.
- 11. Supplier shall certify that all articles furnished against this order do not contain, nor have they been contaminated with metallic mercury or mercury compounds; nor do they include any mercury-containing devices employing only a single boundary of containment.
- 12. Supplier shall certify that only material furnished by PCC Structurals, Groton Division, was used in the processing of the product.

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- 13. Supplier's certification shall list the specification and the amendment or revision level to which material is supplied.
 - A. Supplier shall record all specified measurements determined in the course of inspecting the item(s). Such records shall be maintained on file for a period of not less than thirty-(30) years and are subject to review by the Customer upon reasonable notice.
 - B. Supplier shall record all specified measurements determined in the course of inspecting the item(s). Such records shall be maintained on file for a period of not less than forty-(40) years and are subject to review by the Customer upon reasonable notice.
 - C. Sampling inspection may be employed on parts produced to this order, provided the supplier submits a proposed sampling plan and has received written approval from PCC Structurals, Groton Division, Quality Assurance Department prior to incorporating same. Once in place, records shall be kept on the sampling results; such records shall be retained on file for a period of not less than three years and are subject to review by the Customer upon reasonable notification at any time during that period.
 - D. DFAR-Defense Federal Acquisition Regulation Supplement & FAR-Federal Acquisition Regulations. Clauses when flowed down through the purchase order or work instructions, must be adhered to through the processing of the PCC part. Applicable FAR/DFAR clauses must be stated on C of C (Certificate of Conformance).
 - E. Counterfeit Material & Parts are defined as goods, materials, products or separately identifiable items that are an unauthorized copy or substitute of an Original Equipment Manufacturer (OEM) or Original Component Manufacturer (OCM). Suppliers are prohibited to the use of counterfeit or suspect parts and material.
 - F. FOD Free product: Foreign Object Debris is any substance, debris or article that is not a component of the part that would potentially cause damage.

MATERIAL IDENTIFICATION

- 14. All materials supplied under this purchase order must be identified and returned with the same lot and or serial number integrity as received. Failure to comply will result in product being returned and or vendor cost back.
 - Heat/Lot Number A.
 - В. Specification
 - Grade C.
 - D. Mill marking including material type
 - Shop Number/ Lot and or Serial Number.
- 15. Each individual length of weld rod must be "Flag-Tagged" on one end with material type and applicable AMS number. Each individual lot must be identified with the material type, lot number of the material, as well as the applicable AMS number.
- 16. Parts must be identified on package or container.
- 17. PCC Structurals, Groton Division, Quality Assurance reserves the right to inspect any or all of the materials included in this order at the supplier's plant. Right of entry privileges are also extended to representatives of PCC Structurals, Groton Division's customers.
- 18. The Government reserves the right to inspect any or all of the materials included in this order at the supplier's
- 19. Government inspection is required prior to shipment from your plant. Upon receipt of this order promptly notify and furnish a copy to the Government representative normally servicing your plant so that Government inspection can be appropriately planned. If a Government representative does not service your plant, contact the appropriate Government Inspection office in your area. If you cannot locate the Government office, our purchasing agent should be notified immediately.

DEVIATIONS/NONCONFORMANCE

23. For consideration by PCC Structurals, Groton Division any departure from drawings, specifications, or other Customer order requirements, must be promptly reported to PCC Structurals, Groton Division. Disposition of these departures must be approved in writing by PCC Structurals, Groton Division, Quality Assurance, Product

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Engineering or Process Control, as applicable, prior to shipment. When PW-QA 6088 is flowed down via PCC Purchase Order, any identified deviations /nonconformances must be processed in accordance with said specification. This starts with segregation of product and contacting PCC Groton.

SPECIAL PROCESSES

- 24. Supplier shall submit a written description of any Special Processes used.
- 25. Supplier shall submit a Certification of Heat Treatment/HIP, including items below, as/if specified:
 - A. Time/temperature chart for material (entire cycle).
 - B. Time/temperature chart for furnace (vessel).
 - C. Sketch of thermocouple placement(s) with key to multipoint recording if utilized.
 - D. Load Charts
- 26. Supplier shall submit N.D.T. items as specified below:
 - A. Radiographic Certification
 - B. Magnetic Particle Certification
 - C. Penetrant Inspection Certification
 - D. Ultrasonic Inspection Certification
 - E. Pressure Test Certification
 - F. Leak Test Certification
 - G. N.D.E. Personnel Qualifications
 - H. X-Ray Film
 - I. X-Ray Technique Sheets
- 27. Welding on material to facilitate a forming process is expressly prohibited without prior approval by PCC Structurals, Groton Division Quality Assurance.
- 28. Supplier shall submit a Certification of Plating per applicable specification.
- 29. Supplier shall submit a certification of the Special Process(es) as indicated below, per applicable specification(s):
 - A. Surface finish (roughness)
 - B. Coatings
 - C. Treatments
 - D. Adhesive Bonding

TEST MATERIAL AND SUPPLEMENTAL TESTING

- 30. TEST Material is required to be sent by PCC Groton, processed with parts, and returned with parts as detailed on PCC Purchase order. Test Material and its quantity are to be defined on PCC Purchase order: Test Bars, Test Coupons, Test Sample, etc. If test material is defined on Purchase Order but is not found upon receipt, contact PCC Groton PRIOR to process of product.
 - A. A Supplier shall submit, along with shipment and certifications, two (2) test samples, representative of the processed part(s), for the following: Plating
- 31. The Supplier shall obtain a Product Analysis from an Independent Testing Lab; certified results of that analysis shall be submitted, along with shipment and other certifications.
 - A. Chemical
 - B. Physical
 - C. The Independent Lab must be an approved lab.

CERTIFICATION OF CONFORMANCE

- 32. Supplier shall submit, with each shipment of items covered by this order, a Certificate of Conformance ("C of C"). This Certificate must reflect the revision level of all drawings and/or specifications referenced by the order. The "C of C" must be signed by a responsible representative, and shall attest to the following:
 - A. Materials supplied are those which have been specified by the Purchase Order; Supplier has on file Test Reports and/or other required evidence of conformance to applicable specifications.

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- B. Processes used in the fabrication of items delivered were in compliance with the applicable specifications forming a part of this Order.
- C. Items delivered comply with all drawing requirements which form a part of this Order.
- D. A replacement certification shall be issued when it's determined that the original certification does not represent the material or service referenced on the purchase order.
- 33. By making shipment under this Purchase Order, the Supplier automatically certifies that materials used in the items shipped (except material furnished by PCC Structurals, Groton Division) and the processes applied to such articles comply with the applicable drawings and specifications. Supplier agrees to retain objective evidence and/or records to substantiate significant activities in the manufacturing, inspection, testing, treating, preservation, packaging and packing of delivered items (as applicable). Such records shall be made available on request.

MANUFACTURING, INSPECTION, AND TEST CONTROL

- 34. A The Supplier shall submit to PCC Structurals, Groton Division, a product flow chart which defines the operational sequence, initial acceptance and testing points, and process control points, with sufficient description to identify the system. The factory inspection and test plan must be submitted prior to fabrication on this order, and is subject to approval by PCC Structurals, Groton Division.
- 34. B The Supplier shall submit a Quality Inspection Plan which provides a complete list of the drawing features and characteristics, as well as description of how those items are to be verified; e.g., Coordinate Measuring Machine, etc. The Quality Inspection Plan must be approved prior to shipment of items by the Supplier. Accordingly, it should be submitted within thirty (30) days after receipt of order, or two (2) weeks prior to completion of items...whichever is earlier.
- 35. Once practices are established and approved, they shall not be changed without informing the Customer PRIOR to performing changed process. This includes the following:
 - A: Changes to Approved process
 - B: Change of Facility location
 - B1: Changes of significant machinery within the Facility
 - B2: Change to another facility within Company
 - C: Change of Suppliers
- 36. Process and Procedure Sheets are required for source substantiation for Fixed Processes as defined by PCC Groton Customers. This is required of all initial part qualifications and subsequent changes. PCC Purchase Order shall detail applicable specifications and requirements. Supplier shall submit Process and Procedure Sheets for each individual item under this Order. In the event that the processes are complex and/or questions arise as to adequate description of those activities, the Supplier is encouraged to contact PCC Structurals, Groton Division, Quality Assurance for assistance.
- 37. A GE Specifications S-1000 and S-1002 apply to this order. General Electric end use.
 - B UTC Specifications ASQR-01 and PWA 300 applies. UTC end use.
 - a. Collins Aerospace end use.
 - b. Pratt & Whitney end use.

Special note about ASQR-01: If ASQR-01 (United Technologies Corporation) is flowed down to the supplier, then the supplier must verify that annual eye exams are performed for personnel performing inspection & measurement tasks, product acceptance tasks, and/or measurement & test equipment calibration. The verification must comply with the requirements of ASQR-01.

SPECIAL CATEGORY REQUIREMENTS

- 38. Supplier shall retain all final records applicable to this Purchase Order for a period of thirty (30) years (or as otherwise agreed upon) and shall notify PCC Structurals, Groton Division at the end of that period for disposition instructions.
- 38A. This order contains "Key Characteristics" which require 100 percent inspection at your facility, prior to shipment. Any sampling inspection proposed shall require prior approval by PCC Structurals, Groton Division, Quality Assurance.

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38B. TITLE 10, CHAPTER1, CODE OF FEDERAL REGULATIONS-ENERGY PART 21 (10CFR21), applies to this order.

MEASURING AND TEST EQUIPMENT (M&TE)

- 39. Each report must include a statement clearly describing whichever of the following is correct. All calibrations have been performed and results meet specification requirements, or All calibrations have been performed and results meet specification requirements except _______, which does not meet requirements, or All calibrations have been performed and results meet specification requirements except ______, which was not performed per the specification requirements.
- 40. Supplier must maintain a calibration system for measuring and test equipment which complies with the requirements of ISO –10012-1 or ANSI –Z540-1-1994.
- 41. Supplier of calibration services shall perform calibration of M&TE in accordance with ISO-10012-1 or ANSI-Z540-1-1994 as applicable. Certificates of Calibration must clearly state that the service was performed with equipment traceable to the N.I.S.T. Calibration accuracy shall conform to the requirements of PCC Structurals CM-CG-21 Table 1.

PACKAGING/PROTECTION

- 42. Castings shall be protected by appropriate material interleaved between individual sheets and on top and bottom surfaces of material.
- 43. Supplier shall individually wrap or box items to prevent damage in transit.
- 44. Supplier shall package items for shipment so as to prevent metal-to-metal contact on machined surfaces.
- 45. When protective devices accompany materials or items when shipped to supplier, the supplier shall maintain this protection during processing and return all such items with return shipment.

VALUE ADDED

- 46. First Article(s) must be accepted by PCC Structurals, Groton Division Quality Control prior to a production shipment unless specifically authorized by the buyer. Identifying the First Article with a tag is required.
- 47. Any departure from drawing, specifications, or other customer requirements must be promptly reported to PCC Structurals on the suppliers MRB form. Disposition must be approved prior to any shipment.
- 48. The supplier shall use a ballooned drawing along with the Characteristic Accountability, Verification, and Compatibility Evaluation Forms (3) and (3.1) GQP 4.10-D-2, provided by PCC Structurals, which provide a complete list of drawing features and characteristics to be measured, to develop a Quality Inspection Plan. The Quality Inspection Plan shall contain a description of how these items are to be verified; e.g., Coordinate Measuring Machine, fixture, etc. The Quality Inspection Plan must also include a router/flow chart and be approved prior to production run. Once the Quality Inspection Plan is established and approved, it shall not be changed without written approval from PCC Structurals, Groton Division.
- 49. The supplier is responsible for the cost of castings if the scrap exceeds what is on the quote and Purchase Order.
- 50. For drop shipments, a certification of work performed must be forwarded to PCC Structurals, Groton Division Production Control Manager/designee for review and approval. Shipment of product cannot be made without PCC Structurals approval and proper shipping documentation.

FRAUD AND FALSIFICATION REPORTING REQUIREMENT

51. Personnel shall be informed in writing, prior to their commencing work on any PCC Structurals, Groton Division, purchase order, that there is risk of criminal penalties associated with any falsification, concealment, or alteration of any material fact, or any false, fraudulent or fictitious statement or representation in connection with the performance of work on PCC Structurals, Groton Division, purchase orders.

All employees engaged in the performance of this purchase order shall be notified as follows:

(Your Company Name) performs work for PCC Structurals, Groton Division and the requirements of these contracts are designed to ensure that the essential attributes of the work are carefully checked or inspected. Pursuant to criminal penalties, it may be punishable to falsify, conceal or alter any material fact or to make

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false, fraudulent or fictitious statement or representation in connection with work performed under contract to PCC Structurals, Groton Division. Any deviation to the above will result in immediate loss of PCC Structurals, Groton Division business and possible civil action by PCC Structurals, its customer and/or applicable regulatory agencies.

In the event a false or fraudulent act has been committed, the Manager of Quality Assurance at PCC Structurals, Groton shall be notified so that an evaluation/investigation may be conducted to determine the validity and severity of the act and the course of any action to be taken by PCC Structurals Company.

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