PURCHASE SPECIFICATION

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TITLE: QUALITY ASSURANCE REQUIREMENTS FOR SUPPLIERS

1.0 PURPOSE:

1.1 This specification describes the minimum Quality Assurance requirements for suppliers who provide material and/or services to PCC Structurals, Inc.

2.0 SCOPE:

2.1 This specification applies:

A. When specifically referenced in the order, or

B. Through other applicable PCC specifications or documents.

2.2 This specification describes:

A. The Supplier's obligation relative to purchase order requirements,

B. The method by which approval status is granted, and

C. Considerations for controlled process.

2.3 By section, this procedure addresses:

1.0 Purpose:

2.0 Scope:

3.0 Applicable Documents:

4.0 Purchaser Responsibility:

5.0 Definitions:

6.0 General Supplier Obligations:

7.0 Minimum Quality Assurance Requirements:

8.0 Additional Quality Assurance Requirements:

9.0 Supplier Qualification:

10.0 Continuing Approval:

11.0 Controlled Processes:

3.0 APPLICABLE DOCUMENTS:

3.1 Minimum requirements for the Supplier's Quality Assurance and Calibration Systems are described in section 7.0 and reflect excerpts from:

ANSI/NCSL Z540.3 Requirements for the Calibration of Measuring and Test Equipment

ISO 10012	Measurement Management Systems – Requirement for Measuring Processes and Measuring Equipment
ISO/IEC 17025	General Requirements for the Competence of Testing and Calibration Laboratories
ISO 9001	Quality Management Systems – Requirements
ARP 9005	Aerospace Guidelines for Non–Deliverable Software
AS 6174	Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel
AS 9100	Quality Management Systems – Aerospace Requirements
AS 9115	Deliverable Software Supplement for AS 9100
AS 9131	Quality Systems – Nonconformance Documentation
AS 9146	Foreign Object Damage (FOD) Program Prevention
AS 13004	Process Failure Mode and Effects Analysis (PFMEA) and Control Plans
AS 13006	Process Control Methods
ASQR-01	Supplier Quality System Requirements (Pratt Whitney End–Use)
SQOP 01-01	P&WC Supplementary Supplier Quality Requirements
GRP–0087	SAFRAN Requirements for Suppliers
MTN 94111	MTU Quality Management Vendor Requirements
S–1000	GE Aviation Quality System Requirements For Suppliers (GE End–Use)
SABRe	Rolls Royce Supplier Management System Requirements
SPOC Manual	Honeywell Aerospace Supplemental Purchase Order Conditions Manual
0070Q	Avio Handbook for Suppliers of Materials and Services to GE
CPW 135	PWC Engineering Source Approval
SQOP 01-07	PWC Engineering Source Approval – Frozen Process Control

3.2 The latest revision of a document in effect at time of bid applies.

4.0 PURCHASER RESPONSIBILITY:

4.1 The Purchaser shall invoke this specification on the purchase order when such requirements are a condition of the purchase order with its customer. Deviations from these requirements are subject to the written approval of the Purchaser.

5.0 DEFINITIONS:

CONTROLLED MATERIAL/ SERVICES – Material or services considered critical in their application or procurement, as defined by Purchaser purchase specifications. “Controlled” shall be considered synonymous with “critical”, “significant” , “fixed”, or “frozen”. Whenever any of these terms are used on purchase order or specification, the requirements of 11.0 shall apply.

COUNTERFEIT MATERIEL – Fraudulent materiel that has been confirmed to be a copy, imitation or substitute that has been represented, identified, or marked as genuine, and/or altered by a source without legal right with intent to mislead, deceive, or defraud.

END–USER – The Purchaser’s customer.

FOREIGN OBJECT DAMAGE (FOD) – Damage to product which arises from unplanned or careless introduction of foreign objects. The result of damage could have an effect on subsequent manufacturing operations or product safety.

FOREIGN OBJECT – A substance or article alien to the product/process that could potentially cause FOD.

MATERIAL – The elements, constituents, or substances of which something is composed or can be made.

MATERIEL – The equipment, apparatus, and supplies used by the organization.

PURCHASER – PCC Airfoils Deer Creek, PCC Structurals Large Parts Campus or PCC Structurals Small Structurals Business Operation.

SPECIAL REQUIREMENTS – Those requirements identified by the Purchaser or End–User, or determined by the supplier, which have high risks to being achieved, thus requiring their inclusion in a risk management process. Factors used in the determination of special requirements include product or process complexity, past experience and product or process maturity. Examples of special requirements include performance requirements imposed by the Purchaser or End–User that are at the limit of the industry's capability, or requirements determined by the supplier to be at the limit of its technical or process capabilities.

SUPPLIER – Subcontractor, vendor, et al, that is performing work for or supplying material or services to the Purchaser.

6.0 GENERAL SUPPLIER OBLIGATIONS:

6.1 Contractual Intent: This specification requires the establishment of a quality program by the Supplier to provide adequate assurance that this specification along with all other contractual requirements are met. The program and procedures used to implement this specification shall be developed by the Supplier. The quality program shall be documented at least to the extent of the requirements of section 7.0, and shall be subject to the approval of the Purchaser.

6.2 The Supplier shall establish, maintain, and document as part of their quality program, an internal auditing program that assures compliance to their internal procedures and customer requirements. The results of internal audits, including surveillances, shall be made available to PCC upon request.

6.3 The Supplier shall assure that all personnel performing work directly or indirectly affecting conformity to product requirements are thoroughly trained and competent in the methods and skills required to perform their tasks, e.g., the proper operation of instruments, tools and machinery used, reading and understanding the documentation provided, the relationship of their duties to quality and safety in the workplace, etc. Supplier shall assure proper documentation of training and retain for a period of not less than 3 years after employee leaves the organization.

6.4 Relation to Other Contract Requirements: This specification and any other procedure or document intended to accomplish its requirements shall be in addition to and not in disagreement or conflict with any other contract requirements.

6.5 The supplier shall promptly notify PCC in event of any changes in company ownership, facility location, 3rd party accreditations, or significant change in Quality Management System or operations.

6.6 Purchaser, End–Users, and Regulatory Agencies shall be afforded right of entry at any level in the supply chain to determine and verify the quality of contracted work, records, and material.

6.7 If the contract specifies a “DO” or “DX” type DPAS rating, the Supplier is obligated to comply with all of the relevant provisions of section 15CFR350 of the Defense Priorities and Allocation System Regulation, including flowing such rating and requirements down to their own sub–contract sources.

6.8 If the contract, drawing, and/or specification specifies the following legend (or equivalent), the Supplier is obligated to comply with all relevant sections of ITAR and/or EAR, including flowing such requirements down to their sub–contract sources:

“This technical data is controlled by International Traffic in Arms Regulations (ITAR) and/or Export Administration Regulations (EAR) pursuant to 22 CFR Part 120–130 and 15 CFR Parts 730–774 respectively. Transfer of this data by any means to a Non–U.S. Person, whether in the United States or abroad, without the proper U.S. Government authorization is strictly prohibited.”

6.9 The Supplier shall determine, provide, and maintain the infrastructure needed to achieve conformity to product requirements. Requirements for maintenance activities shall be documented, and records retained. Supplier shall maintain an acceptable level of cleanliness to assure the prevention of foreign object debris (FOD), including conformance to the requirements of AS 9146.

6.10 The Supplier shall have provisions in place to prevent and mitigate risk of supplying counterfeit material. This includes conformance to the requirements of AS 6174 and reporting counterfeit prats to PCC purchasing within three working days of confirmation. The supplier shall ensure traceability of its supply chain back to the original manufacturer.

6.11 Supplier shall adhere to the minimum requirements or equivalent of the Precision Castparts Code of Conduct. The Precision Castparts Code of Conduct can be found by searching the Internet using the phrase “PCC Code of Conduct”.

7.0 MINIMUM QUALITY ASSURANCE REQUIREMENTS:

7.1 MANAGEMENT RESPONSIBILITY:

7.1.1 System Description

The Supplier's management shall define and document its policy and objectives for, and commitment to, quality. The Supplier shall assure this policy is understood, implemented and maintained at all levels of the organization.

7.1.2 The Supplier shall establish, document, implement, maintain, and continually improve the effectiveness of a Quality Management System (QMS). The processes needed for the QMS and their sequence and interaction shall be defined, monitored and measured, periodically evaluated for their effectiveness, and continually improved.

7.1.3 Effective management for quality shall be clearly prescribed by the Supplier. Personnel performing quality functions shall have sufficient, well–defined responsibility and authority, and the organizational freedom to identify and evaluate quality problems and to initiate, recommend or provide solutions.

7.1.4 The Supplier shall appoint a management representative who irrespective of other responsibilities shall have defined authority and responsibility for ensuring that the requirements of this specification are implemented and maintained. The representative shall be afforded unrestricted access to Top Management to resolve matters pertaining to quality.

7.1.5 Top Management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction. Product conformity and on–time delivery performance shall be measured and appropriate action taken if planned results are not, or will not be, achieved.

7.2 INITIAL QUALITY PLANNING:

7.2.1 System Description

The Supplier, during the earliest practical phase of contract performance, shall conduct a complete review of the requirements of the contract to identify and make timely provision for the controls, processes, test equipment, test specimens, fixtures, tooling, and skills required for assuring quality. This includes any risk management determinations necessary due to the identification of special requirements (See 5.0).

Records of such contract reviews shall be maintained.

7.2.2 For certain services rendered and detail items contracted for, Purchaser's work instruction will denote by reference the End–User (Purchaser's Customer) to whom the product will be delivered.

If specific End–User requirements necessary to satisfy technical and quality provisions are required, they will be so specified in the work instruction. Those requirements may include, but are not limited to:

A. Use of End–User drawings and specifications, to the latest revision unless otherwise specified.

B. Use of End–User approved sources, including utilization of End–User provisions for approval of procedures, processes, work instructions, equipment, materials, and personnel.

C. Satisfaction of End–User product and process verification and other related instructions for acceptance.

D. Use of statistical techniques for product acceptance (See 8.2).

E. Handling and inspection of designated critical items, including verification of key characteristics.

F. Notification of changes in product and/or process (See 11.0).

G. Flow down of End–User requirements to the supplier's subcontractors (See 7.10).

7.3 WORK INSTRUCTION:

7.3.1 System Description

The Supplier shall assure that all work affecting quality shall be prescribed in clear and complete documented instruction of a type appropriate to the circumstances. Such instruction shall provide the criteria for performing the work functions, and shall be compatible with acceptance criteria for workmanship. The instructions are intended also to serve for supervising, inspecting, and managing work.

7.4 RECORDS:

7.4.1 System Description

The Supplier shall establish and maintain procedures for identification, collection, indexing, filing, storage, maintenance and disposition of quality records.

The Supplier shall maintain and use any records or data essential to the effective operation of the quality program. These records shall be available for review by the Purchaser and copies of individual records shall be furnished at request.

A. Records are considered one of the principal forms of objective evidence of process completion and acceptance. The quality program shall assure that records are complete, reliable, retention times are established in writing and readily retrievable within 24 hours.

B. Inspection and testing records shall, as a minimum, indicate the nature of the observations together with the number of observations made and the number and type of deficiencies found.

C. Records for inspection and testing shall indicate the acceptability of work or products and the action taken in connection with deficiencies.

7.4.2 Purchaser Unique Requirements

Records of processing, inspection, and test which are of crucial importance in substantiating conformance to the order shall be retained for the duration specified in

the applicable purchase specification, or for a minimum of 11 years, whichever is greater. When authorized by the Purchaser, records may be submitted with the item/product to the Purchaser for Purchaser's retention.

7.5 CORRECTIVE ACTION:

7.5.1 System Description

The Supplier shall ensure the prompt detection and correction of assignable conditions adverse to quality. Corrective action shall include a minimum:

A. Analysis of data and examination of nonconforming or adverse conditions to determine extent and cause.
B. Analysis of trends in processes or performance of work to prevent the nonconformance; and
C. Introduction of required improvements and corrections, an initial review of the adequacy of such measures, and monitoring of the effectiveness of corrective action taken.

7.5.2 Purchaser Unique Requirements

When notified of a nonconformance relative to a material or service, the Supplier is required to investigate immediately and report within fifteen (15) working days to the Purchaser the root cause(s) and planned corrective action, and commitment date for ultimate correction.

7.6 DOCUMENT CONTROL:

7.6.1 System Description

The Supplier shall ensure the adequacy, the completeness and the currentness of drawings and specifications, and shall control the effectivity of changes in design and/or contract.

7.6.2 Purchaser Unique Requirements

The Supplier is responsible to ensure that documentation (drawings, specifications, and other) is available at locations where operations essential to the effective functioning of the quality system are performed and is of the correct revision status.

Government and general industry specifications are to be obtained from applicable sources. PCC will not supply these documents.

Specifications written by the Purchaser and the End–User can be obtained directly through the Purchaser.

7.6.3 Document Changes/modifications

Changes to documents shall be reviewed and approved by the same functions/ organizations that performed the original review and approval unless specifically designated otherwise. The designated organizations shall have access to pertinent background information upon which to base their review and approval.

Where practical, the nature of the change shall be identified in the document or the appropriate attachments.

A master list or equivalent document control procedure shall be established to identify the current revision of documents in order to preclude the use of non–applicable documents.

Documents shall be re–issued after a practical number of changes have been made.

7.7 INSPECTION AND TESTING:

7.7.1 Receiving inspection and testing

The Supplier shall ensure that incoming product is not used or processed (except in the circumstances described below) until it has been inspected or otherwise verified as conforming to specified requirements. Verification shall be in accordance with the quality plan of documented procedures.

Where incoming product is released for urgent production purposes, it shall be positively identified and recorded in order to permit immediate recall and replacement in the event of nonconformance to specified requirements.

NOTE In determining the amount and nature of receiving inspection, consideration should be given to the control exercised at source and documented evidence of quality conformance provided.

7.7.2 In–process inspection and testing

The Supplier shall:

A. Inspect, test and identify product as required by the quality plan or documented procedures.

B. Establish product conformance to specified requirements by use of process monitoring and control methods.

C. Hold product until the required inspections and tests have been completed or necessary reports have been received and verified except when product is released under positive recall procedures. Release under positive recall procedures shall not preclude the activities outlined in 7.7.2.A.

D. Identify nonconforming product.

7.7.3 Final inspection and testing

NOTE Supplier shall identify key/critical characteristics and include the inspection of the key/critical characteristics after subsequent processing to assure the product meets requirements.

The quality plan and/or documented procedures for final inspection and testing shall require that all specified inspection and tests, including those specified either on receipt of product or in process, have been carried out and that the results meet specified requirements.

The Supplier shall carry out all final inspection and testing in accordance with the quality plan and/or documented procedures to complete the evidence of conformance of the finished product to the specified requirements.

No product shall be dispatched until all the activities specified in the quality plan and/or documented procedures have been satisfactorily completed and the associated data and documentation are available and authorized.

7.7.3.1 Purchaser Unique Requirements

7.7.3.1.1 When certification is requested, the certificate shall include a statement of conformity signed by a cognizant person declaring the end use customer (e.g., PWA End Use, GE Aviation End Use), listing of each material element or test result, that the product has been tested to requirements, inspected (or processed) as specified and the results of these inspections and tests conform to the requirements. Any exceptions to the test requirements or conformity shall be clearly stated.

7.7.3.1.2 When product acceptance media (e.g. stamps, electronic signatures, password) are used, the Supplier shall establish controls to avoid misuse, establish traceability to the authorized user, avoid duplication, align to definitions of authority within the quality system and maintain good condition and legibility. Computer-generated certificates require either (a) an actual or facsimile signature adjacent to a typed name, or (b) a letter accompanying the certificate. The letter must be signed by a responsible Supplier representative, attesting that:

A. The Supplier is using a computerized system;
B. The typed name on the certificate is an authorized Supplier representative;
C. The Supplier is responsible for the information contained herein.

7.7.3.1.3 Except as stated in 7.7.5, first article requirements will be specified in the purchase order.

7.7.4 Measuring and Test Equipment (M&TE)

7.7.4.1 System Description

The Supplier shall provide and maintain gages and other measuring and testing devices necessary to assure that the purchased material or service conforms to technical

requirements. The calibration of measuring and testing equipment and of measurement standards shall be in conformance with ISO 10012, ISO/IEC 17025, or ANSI/NCSL Z540.3.

7.7.4.2 Purchaser Unique Requirements

7.7.4.2.1 When required, gages, measuring, and testing devices shall be made available for use by the Purchaser, at the Suppliers facility, to determine conformance with contract requirements. If conditions warrant, Supplier's personnel shall be made available for operation of such devices and shall verify the device's accuracy and condition.

7.7.4.2.2 ANSI/NCSL Z540 systems shall use the Handbook Z540.3 as the interpretive guide.

7.7.4.2.3 Reliability goals, accuracy ratios, and Significant–Out–Of–Tolerance condition criteria must be established.

A. The calibration interval analysis methodology used to maintain the reliability of M&TE, shall have a stated reliability goal to meet a minimum 95% reliability target for M&TE in–tolerance at the end of their interval schedule.

B. Significant–Out–Of–Tolerance conditions are defined as any M&TE out–of–tolerance condition exceeding 25% of the product tolerance. These conditions require documented review of impact on quality and notification to the Purchaser if product received by Purchaser has been affected.

7.7.4.2.4 Individuals performing visual inspection (i.e. calibration, non–weld, in–process, layout, dimensional) shall be compliant to the near vision requirements of Snellen 14/18, (20/25) and Jaeger 2 at not less than 12 inches.

7.7.4.2.5 Individuals performing inspections on welds shall be compliant with the American Welding Society Standard (AWS) D17.1.

7.7.4.2.6 Individuals performing Non Destructive Testing (NDT) shall be compliant with the Aerospace Industries Association National Aerospace Standard (AIA/NAS) 410.

7.7.5 First Article Inspection

(When specified) the Supplier's system shall provide a process for the inspection, verification, and documentation of a representative item from the first production run of a new part, or following any subsequent change that invalidates the previous first article inspection result.

7.8 PURCHASER SUPPLIED TOOLING AND MATERIAL (INCLUDES GOVERNMENT FURNISHED MATERIAL):

7.8.1 System Description

When tooling (e.g., jigs, fixtures, wax injection tools, core tools), or material (e.g., raw castings, plate stock for patches, revert to be refined or remelted) is furnished by the Purchaser, the Supplier's procedures shall establish requirements for initial and periodic

assessment, adequate storage and protection, and maintenance of such equipment. Inspection, maintenance, and inventory records must be maintained.

7.8.2 Purchaser Unique Requirements

7.8.2.1 The Supplier shall use Purchaser supplied products and tooling only in the manufacture and processing of Purchaser's products, and only under the contract specified.

A. Product includes but is not limited to cast components, wrought materials, weld wire, revert to be refined or remelted, etc.

B. Tooling includes but is not limited to jigs, fixtures, wax injection dies, core dies, etc.

7.8.2.2 The Supplier shall control Purchaser supplied tooling and/or product as follows:

A. Upon receipt, inspect for identification, general condition, completeness, and proper quantity, type, or size. Perform functional testing of tooling, where necessary prior to production processing, to ensure proper operation;

B. After inspection of 7.8.2.2.A, provide for identification and protection, periodic assessment, and controls necessary to ensure against loss, damage, or deterioration during handling, use, and storage.

C. Provide controlled movement, usage and disposition to protect against unauthorized processing or merger with other materials;

D. Stop work and report unacceptable conditions immediately to the Purchaser.

7.8.2.3 Unless otherwise addressed by purchase order or agreement, calibration of supplied tooling will be the responsibility of the Purchaser. The Supplier shall:

A. Make arrangements through Purchaser in advance of the calibration expiration date for the return of supplied tooling to Purchaser for calibration and relabeling of calibration status;

B. If supplied tooling exhibits expired calibration status, arrange through Purchaser for the recalibration of the item before further use.

7.9 PRODUCTION TOOLING USED AS MEDIA OF INSPECTION:

7.9.1 System Description

When Supplier owned production jigs, fixtures, tooling masters, templates, patterns and such other devices are used as media of inspection, they shall be qualified by the Supplier for accuracy prior to release for use. After qualification, these devices shall be proved periodically by the Supplier for accuracy at intervals established in a formal manner to cause their timely adjustment, replacement, or repair prior to becoming inaccurate.

7.9.2 Purchaser Unique Requirements

Inspection devices described in 7.8.1 that are designed, built, modified or purchased by the Supplier must be under the control of 7.8.1. Devices supplied by the Purchaser are

exempt from the requirements of 7.8.1 and will be controlled under the Purchaser's inspection system unless otherwise specified by purchase order or other agreement.

7.10 CONTROL OF PURCHASES:

7.10.1 System Description

Materials and services procured from the Supplier's subcontractors and suppliers which are deemed critical to the performance of the contract, must conform to the Purchaser's contract requirements. The Supplier's responsibility for the control of purchases includes:

A. Inclusion of all applicable references from the Purchaser's purchase order, blueprints, and specifications on instructions to the sub–tier Supplier.
B. The evaluation of adequacy of procured items; and
C. Effective provisions for early information feedback and correction of nonconformances.

7.10.1.1 Assessment of subcontractors

The Supplier shall select subcontractors on the basis of their ability to meet subcontract requirements, including quality requirements. The Supplier shall establish and maintain records of "acceptable subcontractors" previously demonstrated capability and performance.

The Supplier shall ensure that quality system controls are effective.

7.10.1.2 Purchasing data:

Purchasing documents shall contain data clearly describing the product ordered, including, where applicable;

A. The type, class, style, grade or other precise identification;
B. The title or other positive identification, and applicable issue of specifications, drawings, process requirements, inspection instructions and other relevant technical data, including requirements for approval or qualification of product, procedures, process equipment and personnel;
C. The title, number and issue of the quality system standard to be applied to the product.

7.10.1.3 The Supplier shall review and approve purchasing documents for adequacy of specified requirements prior to release.

7.10.1.4 The Supplier shall ensure that both the Supplier and sub–tier supplier's equipment, processes, operators, and inspectors are certified or qualified as required by specification (or other reference document) and that such certification or qualification is documented accordingly.

7.10.1.5 It is the Supplier's responsibility to obtain full compliance from sub–tier suppliers.

7.10.1.6 The Supplier shall ensure that raw materials to be used in fabrication or processing of products conform to the applicable physical, chemical, and other technical requirements. Laboratory testing shall be employed as necessary. When certifications are required, the actual quantitative test values shall be provided.

7.10.2 Purchaser Unique Requirements:

7.10.2.1 The Supplier shall not subcontract or transfer work (the order) without express permission from both the Purchasing and Quality Departments of the Purchaser. Where subcontracting is permitted, the Supplier shall use only those sources designated or authorized by the Purchaser and the End–Users.

7.10.2.2 When it is specified by the Purchaser that an approved laboratory must be used for testing, the test laboratory used must be approved by the Purchaser. This in no way reduces or eliminates the Supplier's responsibility for testing performed by Supplier's selected laboratory.

7.10.2.3 The Supplier shall not under any circumstance accept for use a material or service which is in variation from the Purchaser's contract without first obtaining express written approval from the Purchaser.

7.10.2.4 Any purchased material or service applicable to a controlled process of Section 11.0 shall be considered critical, and all requirements of section 7.9 shall apply.

7.11 PROCESS CONTROL:

7.11.1 System Description

The Supplier shall ensure that all machining, heat treating, hipping, radiographic inspection, etc., and all basic production operations of any type, together with all processes and fabrication of any type, shall be accomplished under managed conditions. Managed conditions include documented work instruction, adequate production equipment, any special working environment, and qualification or certification as may be applicable.

Inspection and monitoring of processed materials or services shall be accomplished in any suitable manner prescribed by the Supplier, unless otherwise specified by the purchase order.

7.12 HANDLING, STORAGE AND DELIVERY:

7.12.1 System Description

The Supplier shall provide adequate work and inspection instructions for handling, storage, preservation, packaging, and shipping to protect the quality of materials and prevent damage, loss, deterioration, degradation, or substitution.

7.12.2 The supplier shall include an inventory management system or method to assure stock rotation (e.g., FIFO – first in first out), shelf life control, inventory accuracy, and segregation of unserviceable product, equipment, tools, and material.

7.13 NONCONFORMING MATERIAL:

7.13.1 System Description

The Supplier shall establish and maintain an effective system for controlling nonconforming material, including procedures for its positive identification, segregation, and disposition.

7.13.2 Purchaser Unique Requirements

A. The Supplier shall not rework, repair, substitute or subject material to operations or processes which are not otherwise authorized in the contract. Nonconformances of this nature shall be promptly referred in writing to the Purchaser for the Purchaser's disposition.

B. Nonconforming materials are not to be delivered without the express written approval of the Purchaser regardless of any previous conditional acceptance.

C. On items previously delivered, the Supplier is required to notify the Purchaser within twenty–four (24) hours of the detection of any nonconformance which exists, or may exist. Escape information shall be recorded onto the Notification of Product Quality Escape (or equivalent) of AS 9131 and promptly communicated to Purchaser.

7.14 INDICATION OF INSPECTION STATUS:

7.14.1 System Description

The Supplier shall maintain a positive system for identifying the stage of processing (inspection status) of material. Identification may be accomplished by means of stamps, tags, routing cards, move tickets, tote box cards or other control devices.

7.14.2 Purchaser Unique Requirements

If inspection stamps are used, they should be of design which cannot be mistaken for a Government stamp.

7.15 SOURCE INSPECTION:

7.15.1 System Description

The Supplier's system must provide for the following when Government Source Inspection is required by purchase order:

A. Prompt notification to the Government Representative upon receipt of the order.

B. Prompt purveyance of copies of the purchase order to the Government Representative upon receipt of the order.

C. Availability at site of all documents and reference data for review by the Government Representative.

D. Purveyance of copies of purchasing documents as instructed by the Government Representative.

7.15.2 Purchaser Unique Requirements

When source inspection at Supplier facilities is required, the purchase order will so state. The Government and the Purchaser reserve the right to inspect at the Supplier facilities. Source inspection shall not constitute acceptance; nor shall it replace the Supplier's inspection or otherwise relieve the Supplier of responsibility to furnish acceptable material or service. Source inspection is not to be used as evidence of effective inspection.

7.16 Product Identification and Traceability

7.16.1 Where appropriate, the Supplier shall establish and maintain documented procedures for identifying the product from receipt and during all stages of production, delivery, and installation.

Where, and to the extent that, traceability is a specified requirement, individual product or batches shall have a unique identification. This identification shall be recorded.

7.16.2 Purchaser Unique Requirements

PCC lot control and serialization traceability shall be maintained at all times.

8.0 ADDITIONAL QUALITY ASSURANCE REQUIREMENTS:

8.1 SOFTWARE QUALITY ASSURANCE

8.1.1 System Description

When a controlled material or service is specified by purchase order or other agreement, a system must be developed and implemented by the Supplier to assure that software meets the contractual requirements. The system will consist of methods, documentation and control of: systems analysis, design, software development, acquisition, use cataloging, storage, revision, audit, and testing.

8.1.2 Purchaser Unique Requirements

The Supplier shall establish and implement a Software Quality Assurance Plan (SQAP) to ensure that deliverable software, and non–deliverable software used directly for the design, processing, inspection, test or operation of deliverable materials is controlled. The SQAP must detail the methods to be used and the responsibilities and identification of personnel and/or positions involved with specific software systems.

8.1.2.1 For deliverable software and software contained in deliverable materials, all elements of AS 9115 must be addressed and appropriately tailored in the SQAP.

A. The Supplier may be required to submit the SQAP to the Purchaser's Quality Department via Purchasing, prior to contract award, for review and approval.

8.1.2.2 For non–deliverable software such as CAD, CAM, CAI, and ATS, all elements of ARP 9005 must be addressed in the SQAP, including but not limited to:

A. Software Development – A system for the development, acceptance, and implementation of software must be established. The system must include test procedures, authorizations required, and method of software acceptance.

B. Software Test Criteria – Responsibility for delineating the criteria for demonstrating that software is adequate for its intended use must be established.

C. Documentation – Program requirements shall be thoroughly documented to provide the basis for subsequent software maintenance. Test criteria used and required approvals by Supplier's quality department shall be documented.

D. Library Controls – Suppliers shall ensure that different software versions are identified, that no unauthorized modifications are made, that all approved modifications are properly incorporated, and that software in use is the correct approved version.

E. Subcontractor Control – Suppliers shall ensure the requirements of this section (section 8.1) are flowed down to their sub–tier suppliers. Suppliers shall identify the approval authority for sub–tier supplier SQAPs.

8.1.2.3 For Suppliers using non–deliverable software, the SQAP shall be subject to review and disapproval by the Purchaser.

8.2 STATISTICAL QUALITY CONTROL:

8.2.1 System Description

When specified by purchase order or other agreement, a program for statistical quality control shall be developed and implemented by the Supplier. Statistical methods, planning, analysis, tests and quality control procedures may be used whenever such procedures are suitable to maintain the required control of quality. The Purchaser reserves the right to review such procedures and approve or disapprove where reasonable concern for the assurance of quality is given.

8.2.2 Purchaser Unique Requirements

8.2.2.1 Sampling inspection procedures proposed by the Supplier to determine quality conformance of materials shall comply with the requirements of the purchase order and shall be subject to the Purchaser's approval.

8.2.2.2 Statistical quality control should be demonstrated by analysis of objective quality evidence prior to proposed new or reduced sampling inspection procedures except where:

A. Final inspection is performed by destructive testing.
B. Inherent characteristics of the product indicate that sampling inspection will not jeopardize the quality.
C. Subsequent inspection at a later operation will provide the necessary quality assurance.

8.2.2.3 Statistical process controls that are not used to determine quality conformance of materials or services may be used at the Supplier's discretion.

8.3 QUALITY COSTS:

8.3.1 System Description

When specified by purchase order or other agreement, the Supplier shall maintain and use quality cost data as a management element of the quality program.

8.3.2 Purchaser Unique Requirements

The Supplier's Quality Cost program shall include identification, documentation, and analysis of the costs of prevention, appraisal, correction and failure.

At the request of the Purchaser, the Supplier may be required to demonstrate the effective use of this data as a management tool.

9.0 SUPPLIER QUALIFICATION:

9.1 Supplier Evaluation: The purpose of the Supplier Quality Evaluation is to verify that the Supplier has the systems and procedures necessary to assure compliance to this document and other contractual requirements. Arrangements for a system appraisal will normally be made through the Purchase Agent. During the appraisal, the Purchaser's Quality representative, with assistance from the Supplier, shall complete the specific items of the Supplier Quality Survey Form.

9.2 The appraisal may include a tour of the Supplier's facilities to determine if the organization, procedures, techniques, etc., are in effect. Appraisal criteria will include, but not be limited to the following:

A. Quality System
B. Calibration System and adequacy of calibration procedures.
C. The adequacy of the operation, methods, and facilities as they effect quality workmanship (e.g., plant layout, hand tools, personnel, fixtures, equipment, etc.).
D. A comparison of the workmanship standards of the Supplier to that of the Purchaser's requirements.

9.3 Where deficiencies are noted, the Supplier will be required within fifteen (15) working days to initiate statements of cause, corrective action, and effectivity. Approval will be granted, extended, or denied, based upon the acceptability of the statements. The

Purchaser reserves the right to verify, by survey or other means, that corrective action is effective. (Reference paragraph 7.5.)

10.0 CONTINUING APPROVAL:

10.1 The Supplier's approval status shall remain in effect provided all of the following apply:

A. The Supplier performs work for the Purchaser on a routine basis.
B. The Supplier Quality Rating is satisfactory.
C. Quality Surveys are satisfactory.
D. The Supplier performs within the limits of the approval.

10.2 The Supplier approval status may be revoked whenever any one of the following apply:

A. The Supplier does not perform work for the Purchaser for a period of twelve (12) consecutive months.
B. Supplier or Quality Survey results are unsatisfactory.
C. The Supplier violates (without prior approval) the limits of the approval certificate.
D. The Supplier fails to take prompt corrective action when requested by the Purchaser.

10.3 A Supplier who is denied continuing approval will be so notified by the Purchaser. The notification will specify the reason for denial and may include recommended action necessary to regain the approval status.

11.0 CONTROLLED PROCESSES:

11.1 When a material or service is designated by purchase order or other agreement as being subject to controlled process, the Supplier shall be required to:

A. Submit work instruction and applicable procedures to the Purchaser for approval.
B. In the event of proprietary elements, demonstrate to the Purchaser a program of configuration management and subsequent assignment of code numbers to the process.
C. Submit to the Purchaser for approval any proposed change to the process or materials, or to Suppliers.

11.2 The Supplier shall submit the controlled process package to the attention of the Purchase Agent at the earliest opportunity after order acceptance.

11.3 Upon establishment of an approved controlled process, the Supplier shall not modify, substitute, or otherwise change the process without the written approval of the Purchaser. This includes, but is not limited to:

A. Materials
B. Equipment (including location)
C. Process elements

11.4 The Purchaser reserves the privilege to submit controlled process packages to its End–User customer for approval.

11.5 When requested by the Purchaser, the Supplier shall supply samples and data for correlation of their inspection techniques with those of the Purchaser.

RevHist

Precision Castparts Corp.

Specifications: PS 76-001

REVISION RECORD

NOTE: When describing changes on this form, put yourself in the position of someone reading it years later. What is the change? From what to what? When is it effective? What is your authority for making the change? Is the customer approval required? What is that approval? Make your comments a stand-alone historical document.

When required, Quality Engineer shall be responsible for obtaining customer approval of significant changes. Customer may sign and date in the 'Description of Change' Block.

Rev	Released	Change Description	Rev Author	Contributor
J	1/3/2024	Change description history and document start date has been redacted prior to posting, as these contain potentially confidential information. PCC Structurals Division Quality Systems Supervisor		