

POLICY

Quality Provision Riders | Quality Clause Flow-Downs

Supplier Terms, Clauses or Conditions (TCC) of Purchase and/or Sale must be specified prior to confirming this Purchase Order (PO) and are accepted only when individually signed for, as accepted, by the procuring agent from Pacific Transformer Corp (PTC). All other TCC will hereby be nullified and replaced by PTC's TCC. Compliance with the following Quality Provisions are required on all deliverable goods, confirmed by purchase orders as issued by Pacific Transformer Corp. For Clarification, supporting documentation or assistance implementing these requirements, send a request to the PTC agent who has issued this PO. If additional requirements are listed on the PO which are Conflicting with those listed within this document, the PO requirement supersedes this document. Exceptions or Deviations must be explicitly taken prior to confirming and accepting this PO. The following are the standard practices and expectations of PTC

QPR-1 Quality Management System: Requirements

- 1.1 Suppliers: Manufactures, Distributors and Subcontractors, quality management system shall be in compliance with the current revision of AS91XX or ISO900X and shall be evidenced by a third-party accreditation. Evidence of recognition, renewal or change in status is required.
- 1.2 In absence or addition to a third-party certification Pacific Transformer may request specific Quality Management System information and/or audit as necessary to apply an approved status on the Authorized Vendor List.

QPR-2 Quality/Inspection System

- 2.1 The supplier shall maintain a quality / inspection system which is in conformance with the requirements of ISO900X to include:
 - 2.1.1 Receiving Inspection
 - 2.1.2 In-Process Inspection
 - 2.1.3 **Final Inspection:** shall occur after all sub-processes have been completed. The seller shall use 100% inspection, not a sample inspection plan when performing final inspection for custom made-to-order product (Non-Catalogue).
 - 2.1.4 **First Article Inspection:** may be invoked in accordance with AS9102 requirements as necessary
- 2.2 Inspection records shall be supplied to PTC if requested on completion or after shipment of the applicable order.

QPR-3 Certificate of Compliance/Conformance (C of C)

- 3.1 For all purchased materials, a C of C is required with each lot/delivery and must include RoHS identification.
 - 3.1.1 RoHS compliance declaration shall be in accordance with present requirements. Currently RoHS III per the EU Directive 2015/863
 - 3.1.2 REACH Compliance shall be in accordance with the present requirements to the current EU Directive.
- 3.2 All Manufactured Goods delivered must **Conform** to the requirements as specified, purchased or otherwise established.
 - 3.2.1 Agency (Listed or Recognized) goods must also be **Compliant** to the agency requirements.
 - 3.2.1.1 If agency markings are applied to the product, materials used must be within the system specified, tested, and inspected to those requirements. UL, CSA, ETL, TUV, etc...

QPR-4 Calibrated System

- 4.1 Supplier's Calibration System shall meet the requirements of ANSI-Z540, ISO17025, MIL-STD-45662 or equivalent. The system shall ensure the timely recall and calibration of all company measurement and test equipment used for product acceptance. Suitable records shall be maintained and available for review.

QPR-5 Changes: No Change to Product, Processes or Materials

- 5.1 The supplier shall notify and obtain approval of changes in product and/or process, material substitution, changes of manufacturing facility location including significant changes to their Quality Management System that will directly impact the product, service or delivery. Failure to report change will result in an automatic rejection and disqualification as an approved source of supply.
 - 5.1.1 Approved Deviations must be included/attached to the shipment.
 - 5.1.2 Temporary Deviations are applicable for a single Purchase Order unless an extension is authorized in writing by PTC.
 - 5.1.3 Deviation is made permanent only by a PTC issued amendment to the Specification.
- 5.2 This Clause is not applicable when PTC is purchasing a supplier's standard/catalogue offering or COTS.

QPR-6 Purchase Order Traceability Identification

- 6.1 The supplier must identify the P.O. number on all documents, for traceability, included with the shipped material. (Pick List, CofC's, Analysis, Test Reports, etc.)

QPR-7 Contract Review: Conversion of PTC Requirements

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- 7.1 The supplier shall review the purchase order, including terms & clauses, and PTC Specification(s) prior to its initiation. Any inconsistencies noted with the PO, specifications or applicable documentation shall be communicated to PTC. Suppliers proceeding with work without written concurrence do so at their own risk. Product will not be accepted by PTC unless it is compliant to the Purchase Order and all Referenced Documentation. Upon acceptance of the contract Suppliers shall assure contractual requirements are adequately communicated and Flown-Down internally.

QPR-8 Quality Flow-Down: Requirements for External Providers or Sub-Tier Suppliers

- 8.1 Suppliers Quality System shall assure that all relevant Purchase Order requirements (including this document) are flow down to sub-tier suppliers. Sub-tier suppliers are responsible to comply with the same specifications and requirements specified on this Purchase Order. This clause shall not apply in cases where PTC is procuring a suppliers Catalogue/Standard items or COTS.

QPR-9 Special Processes

- 9.1 Any process for which resulting output(s) cannot be verified after the process without destructive testing and where deficiencies may only become apparent after the product is in use are considered special processes. In order to prevent output deficiencies, these special processes must be validated in order to prove that they can generate planned results in accordance with the requirements specified by ISO900X/AS910X.

QPR-10 Facility Access: Right of Entry

- 10.1 Pacific Transformer reserves the right to inspect any & all work on open orders, or future business, at the supplier's plant. This Right is extended to PTC's Customers & Relevantly Interested 3rd Parties, such as UL, CSA, ETL TUV, etc.. Advanced Notice shall be provided, 24hours Minimum.
- 10.2 Pacific Transformer reserves the right to perform an onsite Quality Management Systems Audit to verify/validate compliance requirements.
- 10.2.1 Access rights shall be extended to accompanying Pacific Transformer Customers or 3rd party representatives. If a knowledgeable representative is required, a 48-hour advanced notice will be issued.

QPR-11 Qualification of Personnel: Requirements

- 11.1 The supplier's quality system shall assure all applicable processes affecting the final quality of product in the Purchase Order were rendered by qualified and trained Personnel.

QPR-12 Notification of Obsolescence

- 12.1 The supplier shall notify PTC of any planned material or Component Obsolescence prior to the acceptance of the PO. In addition, the supplier shall notify PTC of any plans to obsolete material on any or all existing orders with sufficient notice to facilitate, when applicable, an option for last time buy.

QPR-13 Electrostatic Discharge: ESD Control Program

- 13.1 For all purchased items that are susceptible to damage from ESD, the supplier is responsible to establish and implement an ESD Control Program per the latest revision of MIL-STD-1686, EIA-625, ANSI/ESD 20.20 or equivalent. The supplier shall take the necessary precautions to ensure that static susceptible devices are adequately protected from ESD damage during manufacturing, test, inspection, packaging and shipping. Packaging shall be marked with an ESD cautionary note or symbol.

QPR-14 Shelf Life & Handling Requirements: Time/Age Sensitive Material

- 14.1 Items such as Chemicals / Epoxies or Compounds with limited Shelf Life shall be delivered having no less than 75% of shelf life remaining unless written approval from Pacific Transformer is obtained accepting less than stated above.
- 14.1.1 Material shall be marked with the batch number, manufacturing date and expiration date.
- 14.1.2 An MSDS sheet shall be provided with each shipment of product requiring special handling
- 14.2 When applicable, any special handling, hazards or storage requirements shall be Defined & Displayed on both Documents & Packages
- 14.2.1 Examples of this includes those for items such as flammable liquids, Time/Temperature sensitive materials & agency considerations such as California Proposition 65

QPR-15 Documentation

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- 15.1 Revision and Configuration Control: Seller shall assure they have the revision of the drawing matching the revision noted on this Purchase Order. If an item on this Purchase Order is controlled by a drawing that lists or references a Parts List (PL), the supplier must assure that they have the revisions in effect for the date of this Purchase Order. The supplier should contact the procurement agent whose name is on the Purchase Order for the current drawing revision level listed.
- 15.1.1 Controlled Documentation may be delivered via the Owner of Information when proprietary or export requirements demand.
 - 15.1.2 All Documentation issued by PTC including Customers of PTC or those with Proprietary or Export Controlled statements are to be deemed to be confidential and may not be duplicated, distributed, divulged, or exported without written authorization from PTC. These Documents shall be safeguarded until such time that they are deemed unnecessary or obsolete, and shall be permanently destroyed.

QPR-16 Prohibition of Elements

- 16.1 The supplier is responsible for communicating these restrictions to subcontractors or sub-tier suppliers as required.
- 16.1.1 The uses of Pure Tin-Plated finishes are strictly prohibited. Any Tin Plating or Tin Solder processes shall contain NO LESS than 0.5% Cu (copper), or Ag(silver) composition.
 - 16.1.2 The uses of Pb (lead) Tin Plated finished are strictly prohibited unless specifically authorized/instructed by PTC, when if required for military application.
 - 16.1.3 The use of Hg (mercury), Cd (Cadmium), is strictly prohibited.
 - 16.1.4 The Following Restricted Substances shall not be present, per RoHS Requirements in quantities greater than...
 - 16.1.4.1 Cadmium (0.01%), Lead (0.1%), Mercury (0.1%), Hexavalent Chromium (0.1%), Polybrominated biphenyls (PBB) (0.1 %), Polybrominated diphenyl ethers (PBDE) (0.1 %), Bis(2-ethylhexyl) phthalate (DEHP) (0.1 %), Butyl benzyl phthalate (BBP) (0.1 %), Dibutyl phthalate (DBP) (0.1 %), Diisobutyl phthalate (DIBP) (0.1 %)

QPR-17 Foreign Object Debris: FOD Prevention & Elimination

- 17.1 The supplier shall establish the requirements for the prevention of contamination or foreign objects from becoming entrapped in the supplier's product during manufacturing, assembly, testing or handling and is applicable to all design and manufacturing processes, training, material handling and parts protection, housekeeping, tool accountability, hardware accountability, lost items, and physical entry into FOD critical areas. FOD prevention may include clean room disciplines, 5S or 6S programs, FOD awareness, performance Metrix.

Definition: Foreign Object Debris (FOD) is a substance, debris or article, alien to a vehicle or system which would potentially cause damage. Foreign Object Damage is any damage or incident attributed to Foreign Object that may result in a degradation of the product's required safety and or performance Characteristics.

QPR-18 Quality and Delivery: Requirements

- 18.1 Seller must deliver products / services which contain materials from original equipment manufacturer (OEM), original component manufacturer (OCM) that are, defect free, are NOT altered or counterfeit, reliable, accurate, in accordance to requirements of the product design and purchase order. Delivered products / services must be fulfilled On-Time per contracted delivery schedule. Any delay (or potential delay) must be reported to Pacific Transformer immediately.
- 18.2 Any Known Non-Conformance, or Potential Non-Conformance, must be reported to Pacific Transformer Immediately.
- 18.3 Failure to Produce Conforming Goods on Time will impact your Supplier Scorecard and affect your status on our Approved Vendor List. Non-Conformance Reports, low ratings or a change in status will be reported. To request current standings, contact the agent who issued this purchase order.

QPR-19 Conflict Minerals: DRC Free, Prohibition Requirements.

- 19.1 Seller must ensure product delivered comply with provisions of the Dodd-Frank Wall Street Reform for conflict minerals (tantalum, tin, tungsten and gold). These minerals shall not originate from the Democratic Republic of Congo ("DRC") or certain adjoining countries origin. Suppliers must furnish upon request a record of its most recent CFSI_CMRT declaration.

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- 19.2 Sellers shall notify PTC immediately if they become aware of any material that is not DRC Free that has entered the supply chain of materials shipped or in process to PTC.

QPR-20 Counterfeit Product Prevention: Material Avoidance

Counterfeit Product: means product that is an unlawful or unauthorized reproduction, substitution, or alteration that has been knowingly mismarked, misidentified, or otherwise misrepresented to be authentic, unmodified product from the original manufacture, or provided by a source without the express written authority of the original manufacture or current design activity, including unauthorized aftermarket manufacturer. Included is used product represented as unused or falsely identified by grade, serial number, lot number, date code or performance characteristic.

- 20.1 Suppliers shall assure that all products provided to PTC are genuine, and that no counterfeit product shall be used or shipped. Supplier is responsible for maintaining an active Counterfeit Material Avoidance program to ensure materials are from original equipment manufacturer (OEM), original component manufacturer and they are NOT altered or misrepresented in any fashion.
- 20.2 Supplier shall notify PTC immediately if counterfeit material has escaped or has become suspect counterfeit.

QPR-21 Packaging and Handling

- 21.1 Seller must maintain a system for the handling of product that ensures protection from potential damages or degradation throughout the entire processes. Packaging method and materials used shall ensure product arrives at Pacific Transformer without physical damage, degradation, contaminates, or potential for introduction of Foreign Object Debris.

QPR-22 Critical Information: Identification Requirements

- 22.1 All critical information including but not limited to, manufactured date/ shelf life / batch identification / country of origin /etc. must be typed and legible on supplier's pack list or material certification.

QPR-23 Corrective Action: SCAR, NCR or Failure Review

- 23.1 For all Non-Conformance(s) Failure Review & Corrective Action (CA) or Preventive Action (PA) is required to be initiated, resolved and closed in a timely manner with all due diligence.
- 23.1.1 An RMA must be issued for the return of Non-Conformant material or items.
 - 23.1.2 Final Disposition Authority resides with PTC &/or PTC's Customer
 - 23.1.3 A Pacific Transformer approved CA/PA report shall be submitted prior to, or with returned material.
 - 23.1.3.1 In the event that CA/PA requires extensive time to complete, an open report may be submitted with returned material contingent on confirmation of completion.
 - 23.1.3.2 Suppliers are encouraged to use the 8D problem solving format.

QPR-24 Notification of Non-Conforming Product

- 24.1 Supplier is required to notify PTC in the event that Non-Conforming material, has been produced for, or escaped and shipped to PTC. Supplier is to obtain PTC approval for all Non-Conforming Product Final dispositions.
- 24.2 Unapproved repairs or Non-Conformances that are shipped to PTC will be subject to rejection upon detection regardless of the levels of consumption within PTC.
- 24.3 If PTC labor &/or materials are added prior to the detection & rejection, then the supplier is responsible for the costs of suitable replacement or rework necessary to bring product back into conformance. This includes material/labor expenses consumed by PTC.

THE FOLLOWING PROVISIONS ARE APPLICABLE ONLY TO CONTRACT MANUFACTURERS OR SUB-TIER MANUFACTURES

QPR-25 Disaster Recovery

- 25.1 PTC has a responsibility to our customers to maintain a continuity of operations and services that considers disaster recovery. Suppliers should develop a plan that will protect and restore vital business processes in the event of an unanticipated disruption.
- 25.1.1 Supplier shall notify PTC in the event of an unanticipated disruption to production or the supply chain to minimize the effects of the disruption.

QPR-26 Source Inspection

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- 26.1 If PTC inspection is required at the source of manufacture (Source Inspection) as noted specifically on the PO, the following activities shall take place.
- 26.1.1 Upon completion of manufacturing of product, the supplier shall contact the Purchasing Agent to schedule Source Inspection. The supplier shall allow 1-2 business days for coordination and other paperwork.
 - 26.1.2 The supplier shall make available any required drawings, documents, tools, inspection equipment, used in the manufacturing and required to demonstrate conformance. This includes demonstration from qualified personnel to perform or repeat tests, processes, or inspections. The seller shall provide reasonable assistance, facilities and representatives necessary to complete Source Inspection.

QPR-27 Record Retention

- 27.1 The supplier shall retain records of test, inspection and quality documentation, which include at a minimum the Date of Manufacturing, batch lot I.D control, manufacturing facility of product/service, processing records for the following terms. 5 Years COTS, 10 years Commercial/ISO9001, 12Years for Military/Aerospace/Medical products and services.
- 27.1.1 The Records must be legible and retrievable.
 - 27.1.2 If the above records cannot be retained for the specified time required, these records must be submitted with the material and be positively identified as such for redundant record retention by Pacific Transformer.

QPR-28 First Article Inspection Report

- 28.1 The First Article(s) must be positively identified as such, be 100% inspected, reproducible and have data recorded by the supplier prior to submittal.
- 28.1.1 First article approval is required before production manufacturing begins, for new & revised goods.
 - 28.1.2 The First Article must be submitted with a report, identifying all requirements (as specified vs. as measured) including mechanical dimensions, electrical characteristics, bill of materials, including jig(s) & fixture numbers if used.

QPR-29 Seller Controlled Products: as applied to finished goods

- 29.1 The initial shipment on this purchase order shall be accompanied by a legible and reproducible copy of applicable specifications, drawings, bill of material and manufacturing instructions in English and preferably in the Pacific Transformer standard format. Request Templates a/r.
- 29.1.1 Pacific Transformer requires control and ownership of the specified documents prior to subsequent shipments.
 - 29.1.2 Assign alternative part number(s) from catalog number if required or reference the part number issued by Pacific Transformer.

QPR-30 Awareness

- 30.1 Suppliers are required to ensure that persons (at all operational levels) are aware of their contribution to product or service conformity, product safety, and the importance of Ethical Behavior.

QPR-31 Soldering Standards & RoHS Compliance

- 31.1 All materials supplied or furnished must be RoHS compliant unless specifically instructed or authorized in writing by Pacific Transformer.
- 31.1.1 PTC requires SN99.X, (X= 0 to 5) solder or J-STD-006 Equivalent, on all standard applications unless otherwise specified.
 - 31.1.2 PTC requires all PCB component solder joints to be tinned with No-Clean Flux 979 or J-STD-004 Equivalent.
 - 31.1.3 PTC requires all terminals / solder joints (Not PCB level) to be tinned with Rosin Flux 1544 or J-STD-004 Equivalent.
 - 31.1.4 Pacific Transformer requires all solder joints to conform to the applicable practice and inspection set by J-STD-001 & IPC-610, current revision.

QPR-32 Traceability of Material

- 32.1 The supplier shall maintain a method of traceability that ensures the tracking of the supply chain back to the manufacture of all items included in the product being supplied. This traceability method shall clearly identify the name and location of all supply chain intermediaries from the manufacture to the direct source of each item for the supplier

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and shall include the manufacture's batch identification for the item such as but not limited to date codes, lot codes, serializations, or other batch identifications.

QPR-33 Final Inspection & Electrical Test

- 33.1 All items manufactured for Pacific Transformer which contain electrical requirements shall be 100% Tested.
 - 33.1.1 All Final Tests shall be performed on calibrated equipment, suitable for the required function.
 - 33.1.2 All Tests performed prior to final test are considered "Reference Only" and may be performed on a sampling basis, and controlled by the supplier as necessary to achieve Conformance for Final Test.
- 33.2 All items manufactured for Pacific Transformer which have mechanical requirements shall be 100% Inspected.
 - 33.2.1 AQL or Sampling test/inspections may only be performed as a secondary or as a support function.
- 33.3 The seller shall provide, when requested, and maintain an inspection system acceptable to PTC. The seller's system shall be subject to audit by PTC. The procedures shall be clear, concise and adequate to fulfil the requirements of this purchase order. The system shall provide sufficient controls, records and inspections to assure compliance to contract or purchase order requirements. The system shall have a method of obtaining and providing written corrective action. The system will include verification of material, mechanical, electrical, process & procedural conformance as necessary. Records shall be maintained.
- 33.4 All Equipment used for product acceptance must be maintained &/or calibrated as applicable.

QPR-34 PRODUCT IDENTIFICATION

- 34.1 The supplier must identify all parts legibly with a minimum of Part Number, Revision and Manufacture Date Code by Week and Year (WWYY) and include stamping (evidence) of testing and/or inspection. Where size and spacing allow Manufacture Identification "Pacific Transformer" is also required unless otherwise specified. See the following examples
 - 34.1.1 The Origin or Manufacture ID should be identifiable on every unit.
 - 34.1.1.1 A record/log of your stamps or labels is required and must be furnished upon request.
 - 34.1.1.2 Pacific Transformer will issue/recommend acceptable stamps upon request.
 - 34.1.2 Where size and spacing do not allow, parts must be identified on the bag or container.
 - 34.1.3 Where applicable, orientation (Pin 1 ID), cautionary, safety, usage and agency marking is also required.
 - 34.1.4 Unless otherwise specified the default Font to be used is any Sans-Serif with 5pts minimum.
 - 34.1.5 Markings and stampings should be made permanent by use high tack labels, sealing, anchoring or permanent Ink.

See the following examples which show acceptable marking Conformance.

34.1.5.1 Functional Test	<div style="border: 1px solid black; padding: 2px; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">F Test</div>	<div style="border: 1px solid green; border-radius: 50%; padding: 2px; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; background-color: #e0f0e0;">PASS QC 01 PTC</div>	<div style="border: 1px solid black; padding: 5px; width: 150px; height: 60px; background-color: #ffe0b2; display: flex; flex-direction: column; justify-content: center; align-items: center;">PACIFIC TRANSFORMER P/N: 123456 REV: A DC: 0615</div>
34.1.5.2 Inspection			
34.1.5.3 Identification			

The Contents of this document and not intended to hinder, delay or inhibit PTC suppliers. This document is designed to reiterate the standards by which PTC can consistently and repeatedly produce goods destined for customers and/or end users. The standards defined within this document are the mandated Flow Down requirement defined by Quality Management Systems for ISO900X and AS91XX.

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