

Supplier Quality Requirements Manual

Revision 1.3 Released June 22 2011



VP, Manufacturing Operations



Director of Procurement

Note: The holder of this document is cautioned that the information contained herein is uncontrolled. Suppliers are responsible for obtaining and using the current revision of this document.

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1. Introduction

Purpose

This manual documents the required quality standards for products and services purchased from suppliers and outlines PI's overall expectations. Adherence to these standards will help ensure a successful partnership between PI and our suppliers.

- Suppliers must be capable of providing defect free products that meet design intent, on time.
- All proposed material or process changes must be communicated in writing to PI Quality Management, Design and Development Engineering or Materials Management.
- All proposed manufacturing location changes must be communicated in writing to the appropriate Quality and Materials personnel prior to the move; and when required by the customer the move plan must be approved in advance by PI.
- All design changes must be communicated to Design and Development Engineering, Quality Management, and Materials Management well in advance, and when determined necessary PPAP submission is required.

Scope

This document is applicable to all current suppliers and potential new suppliers of purchased production material or services to PI.

2. PI Philosophies

PI Quality Policy

We will exceed our customer's expectations by delivering safe, defect free products on time.

8 Pillars of Quality

- Promote and nurture a culture that quality is the most important part of our business.
- Monitor benchmark and continually improve all systems, process and products.
- Every Associate has an individual responsibility in Quality Assurance.
- Commit to the development and diligent use of work instructions.
- Focus on prevention rather than detection.
- Perform product reviews on all products.
- Train and develop all of our employees.
- Work as a team to assure quality.

Mission Statement

Pacific Insight Electronics Corp. is driven by our customer's needs for electronic product solutions. PI designs, manufactures and supplies electronic solutions for North American transportation industries.

Our company's continued growth and commitment to building shareholder value is centered on the following strategic themes.

- Unparalleled quality, customer responsiveness, service and solution management
- Tenacious innovation and commitment to value added product and services
- Unwavering commitment to the development of our employees
- Strategic sales growth and growing profitability
- Excellence in all aspects of our company's operations.
- Demonstrated commitment to the community and environment

Gifts and Gratuity Policy

It is PI's policy that no PI employee accepts any gifts (other than items with small intrinsic value) or other gratuity from any supplier to PI or bidder for PI's business. This policy applies to all employees whether or not they are directly involved in the purchasing activity.

Environmental Policy

Pacific Insight Electronics Corp. recognizes that we have a responsibility toward the environment and an obligation to minimize the environmental impact of the company's activities.

Pacific Insight Electronics is committed to:

- Reducing losses due to the production of scrap material.
- Reducing pollution through the reduction of landfill disposal.
- Complying with all environmental regulatory legislation, consents and codes.
- Year on year improvement in environmental performance.

Pacific Insight Electronics will achieve the above goals by:

- Establishing an Environmental Management System based on the requirements of ISO 14001
- Integrating environmental management into our business and decision-making processes, regularly measure our performance, and practice continual improvement.
- Providing a training program to ensure employees are aware of the environmental policies, objectives and programs of the company
- Carrying out regular audits of the site to review progress towards objectives and targets

PI is required to comply with customer environmental material reporting directives and standards. In order to comply with these, PI requires suppliers to provide MSDS product data sheets, and IMDS Submissions upon request.

Supplier Compliance to Safety, Environmental and Governmental Regulations

PI is committed to ensuring that all of its operations are conducted in a manner that preserves and protects our natural resources, the environment and safeguards the health and safety of its employees and the public.

Suppliers must ensure their products comply with all current applicable governmental regulations. All production materials used in manufacturing shall satisfy current applicable governmental and safety constraints on restricted, toxic, and hazardous materials.

3. PI Supplier System Requirements

Packaging, Handling, Storage, Preservation and Delivery

All product shall be packed, packaged, marked and otherwise prepared for shipment in a manner which is in accordance with good commercial practice (unless otherwise specified), acceptable to common carriers for shipment at the lowest rate, and adequate to ensure safe arrival of the material. In accordance with PI's Environmental policy, packaging materials **must** be recyclable – preference is given to corrugated cardboard and paper products over plastic packaging of any kind.

Wood pallets must meet the phytosanitary requirements of ISPM 15. As of Feb. 1, 2006, shipments entering Canada from countries other than the USA which do not comply with this regulation will be rejected. Quarantine expenses will be billed to the supplier.

All shipments must be accompanied with an itemized packing slip.

Parts with special handling instructions such as ESD sensitivity, RoHS, MSD moisture sensitivity, WHIMIS, and UL must be marked appropriately by the supplier.

Identification requirements may include any or all of the following as specified by PI: Bar Code labels must be Human Readable.

- a) Part Identification
- b) Name of Manufacturer
- c) Lot number and/or Date Code
- d) PI Purchase Order number
- e) Quantity of Parts per container

Suppliers shall identify items of shelf life material with the manufacture date or the expiration date.

Scheduling

- PI establishes the shipping frequency for each production part via the Purchase Order. Suppliers must ship to the exact quantities, and dates specified on the release. To provide our suppliers with added flexibility, PI will accept material as delivered on time if received up to 3 calendar days in advance of the due date shown on the Purchase Order and 0 days late.

The quantity of products shipped must match the PO issued 100%. The supplier must seek agreement for a deviation prior to commencing business with PI as applicable to certain commodities.

Suppliers must use the PI specified freight forwarder.

Partial shipments; If for any reason the supplier is unable to meet the schedules communicated, it is the responsibility of the supplier to notify the appropriate PI Buyer and receive authorization for the under-shipment, over-shipment, or late shipment.

Supplier-caused premium transportation or transportation costs for material returned due to early and/or over-shipment or defective product will be the sole responsibility of the supplier.

Excess transportation or premium transportation costs incurred by PI and/or its customers will be the sole responsibility of the supplier including make-up for under shipments.

If PI and/or its customer's production is interrupted by the failure of the supplier to deliver contracted goods within the terms (includes failure from delivery and/or quality), all costs and/or penalties that are incurred by PI and/or its customers will be the sole responsibility of the supplier.

4. PI Production Part Supplier Management Program

The Supplier Certification Process

Suppliers are expected to implement a robust Quality Management System (QMS) that promotes defect free products through prevention, monitoring and continuous improvement.

Suppliers to Automotive Programs

PI prefers suppliers of materials for the automotive industry to be certified to the TS 16949 standard but will accept certification to ISO 9001. PI may strategically require TS 16949 certification in the future.



Suppliers of materials to an automotive program should reference current Automotive Industry Action Group (AIAG) manuals for Advanced Part Quality Planning (APQP), and Production Part Approval Process (PPAP).

Suppliers to Non-Automotive Programs

PI prefers certification to ISO 9001. PI may strategically require ISO 9001 certification in the future.

Supplier Performance Rating System

Our Supplier Scorecard captures and reports on the supplier's OTD, PPM, Quality System accreditation levels, and a quantitative assessment of supplier performance by the PI Purchasing Team.

This system will provide you with more clarity on what Pacific Insight expects from its suppliers, strengthen communication, and help foster lasting partnerships with the suppliers that meet or exceed our expectations.

The following is the weighting we have assigned to each element:

- 35% Quality (PPM)
- 35% OTD (% of shipments late, early or wrong quantity)
- 20% Purchasing Team Assessment (0-100 points)
- 10% Quality System Credential (0 points for none, 50 points for ISO 9001, 100 points for TS 16949)

The performance data is then translated into a rating that will be issued to each supplier

- 100 - 86 = **A** = Acceptable Performance – meets expectations
- 85.9 - 73 = **B** = Acceptable Performance – minimally meets expectations
- 72.9 - 65 = **C** = Marginal Performance - improvement required on selected elements
- 64.9 - 50 = **D** = Unacceptable Performance - improvement required
- 49.9 - 0 = **F** = Unacceptable Performance – probation

Pacific Insight requires 100% on time delivery from all suppliers.

Pacific Insight will be providing Supplier Scorecards to selected suppliers on a monthly basis and will require corrective action reports (to be submitted in the 8D format - attached) in the event that the supplier's OTD performance does not meet minimum requirements and/or the overall rating is a C or D. In the event that the Supplier is issued a rating of F, a formal meeting will be required to discuss the performance and the supplier will be placed on probation until the corrective actions agreed upon are executed.

5. Production Part Approval Process (PPAP)

All suppliers of parts coded as CUST-CRIT or CRIT on the Purchase orders must make a Level 4 PPAP submission for each CUST-CRIT or CRIT part. Suppliers of parts coded INS-STD PPAP REQ'D must make an Annual Level 1 PPAP and IMDS submission for each part. If the supplier is not capable of this submission, it is the responsibility of the PI Quality and Purchasing Department to work with the supplier so they may be able to submit. During this time their parts will be checked and approved by Engineering in order to allow receiving of parts.

Supplier PPAP submissions are desirable, but not required for parts coded as CUST and all parts originally purchased 1998 and earlier.

Submission Requirements Level 4:

- | | | |
|-----------------------------------|--|----|
| - Part Submission Warrant | Mandatory | |
| - Dimensional Results | Mandatory - Appearance Approval Report | If |
| requested on Engineering Drawings | | |
| - Material Specification Sheets | Mandatory | |
| - Sample Product | Master Samples retained by Supplier | |
| - All Design records and Drawings | Mandatory | |

If Production parts will be produced from more than one cavity, mold, tool, die or pattern, a complete submission is required for each cavity, mold, etc. The supplier must identify the specific cavities, molds, etc. for which parts are being submitted on the "Explanation/Comments" line of the Warrant or in an attachment.

All costs related to PPAP submissions are the responsibility of the supplier. PI will not authorize additional payment to a supplier for submission of a PPAP.

PPAP's are mandatory for the following conditions:

- New part
- Tool moves to alternate production facilities
- Design Change
- New or modified tool
- New or optional material/colour
- New sub-contractors
- Process changes

For further information reference current edition PPAP procedure manual.

PPAP Layout quantities are to be presented as follows:

- Single cavity tool: A 100% dimensional layout on all tolerances and non-reference dimensions for a minimum of 3 production parts produced from the tool. Parts must be clearly identified as the measurement samples.
- Multiple cavity tool: A 100% dimensional layout of all tolerance and non-reference dimensions for a minimum of 3 parts per cavity from the production tool. Parts must be clearly identified as the measurement samples. Samples must be taken from a minimum run of 300 parts.

Supplier Product or Process Changes

Automotive Products

PI must be notified in writing, by the supplier of **ANY** process, tooling, material, design, etc. changes to the Quality Department and **receive written approval from PI prior to any changes being implemented**. PI may reject material shipped without written authorization. Such a rejection will affect the supplier's quality performance rating and all cost and expenses incurred by PI as a result of unauthorized changes may be billed to the supplier.

Non-Automotive products:

PI must be notified in writing, by the supplier of **ANY** process, tooling, material, design, etc changes that affect fit, form or function of the material being supplied. PI may reject material shipped without written authorization. Such a rejection will affect the supplier's quality performance rating and all cost and expenses incurred by PI as a result of unauthorized changes may be billed to the supplier.

6. Supplier Corrective Action Process

Suppliers are responsible for the quality of their product at all times throughout the PI manufacturing process, installation at the final customer, and through to the end customers use. Suppliers must have procedures in place to prevent non-conforming product from escaping their process resulting in shipment to PI.

When nonconforming product/material that does not meet requirements is identified at PI, a Supplier Nonconformance report is written. The NC report will be forwarded to the supplier with samples (when applicable) exhibiting the nonconformance(s).

The supplier shall enact immediate activities to ensure continued availability of good material to PI whether by means of correcting the process that caused the nonconformance or by sorting and reworking the discrepant material.

Return Material Request

When material is to be returned to the supplier, PI must receive authorization (RMA: Return Material Authorization). If return authorization has not been received within 15 business days, PI may return the material to the supplier and debit their account.

Corrective Action Responses

The supplier corrective action response must address the root cause and argue that reoccurrence of the non-conformance has been eliminated; PI may require the supplier to submit the response in an 8D (8 Discipline) format.

Following is a definition of all 8 sections of a formal 8D Problem Solving Worksheet.

D1 - Establish Team

- Establish a Champion
- Select Team Members
- Check for Cross-Functional Team Representation and Expertise

D2 - Describe Problem (Object, Concern, Quantification)

- What - the object or part concern (defect)
- Where - seen on the object
- When - first discovered problem, when else seen, when seen in process cycle
- How Big - what is the trend, how big is the problem, how many parts affected

D3 - Contain Symptom

- Contain symptom immediately to protect Customer
- Identify Action
- Purge and sort at customer, in transit, and in house (end item and in process record date)
- Verify action stops defects, certify parts and confirm customer satisfaction.
Record date
- Validate action taken is fully effective and record date

D4 - Find and verify Root Cause

- Why did the problem occur(occur) - challenge the conclusion with why
- Verify this root cause by replicating the fault condition and then clearing the fault condition
- Why did the defect escape to the customer(escape) - challenge the conclusion with why

- Verify this root cause by replicating the fault condition and then clearing the fault condition

D5 - Choose Corrective Action and Verify

- Analyze best corrective action, focus on Impact and Risk
- (Occur/escape) Verify that C.A. eliminates root cause by testing to failure and the after condition does not create another effect. Record date of testing.
- (Occur) Choose C.A. which permanently eliminates the occur root cause path
- (Escape) Choose C.A. which permanently eliminates the problem from getting to the customer

D6 - Implement Corrective Action and Validate

- Follow Engineering Change Order Process - record date
- (Occur) - Implement the action plan
- Validate - use the original measurable (indicator) that identified problem
- (Escape) - Implement the action plan
- Validate - if there are any escapes then correct occur root cause was not properly identified.
- Assess removal of containment action

Prevent System Problem

- (Occur) identify the system, practices, procedures and specification standards that allowed the problem to occur
- Reassess the team for cross-functional expertise to ensure system actions are implemented and evaluate results through trend charts. Record the date of testing
- Link corrective actions to product development process
- (Escape) scope system and determine prevent actions which will continue to reduce variation

D8 - Congratulate Team

- Determine appropriate recognition
- Determine need to continue problem resolution cycle

Accountability and Cost of Quality

Suppliers are selected based on their ability to provide cost effective, superior defect free products, their expert knowledge of their product and manufacturing processes, and their ability to provide responsive and proactive support. With these expectations, suppliers shall be held accountable and responsible for all costs incurred due to defective product identified during PI manufacturing/installation, or end customer use of the product.

- Recovery costs due to an automotive vehicle recall
- 3rd party sorting or reworking costs
- Labour for sorting or reworking of raw stock
- Labour for sorting or reworking finished goods
- Labour for sorting or reworking finished goods installed in the end customer product
- Scrapping or reworking of finished goods due to defective supplier product
- Shipping fees related to return of defect product
- Fees and taxes related to scrapping of material outside of Canada
- Warehousing/storage fees accumulated through disposition of suspect product
- Rework or repair materials, tooling, gauges, testing equipment, or third party testing
- Excessive or additional freight charges and air shipments
- Production downtime at PI manufacturing facility
- Production overtime at PI manufacturing facility
- Production downtime at customer locations
- Administrative, corporate and management support fees
- Follow up actions and assessments as appropriate
- Any other fees associate with defective condition

All costs are calculated based in Canadian currency using standard labour rates established by PI. Appropriate debits are issued to the supplier through the Accounting Department in cooperation with Purchasing.

Supplier Sub-Contractors

Suppliers are responsible for sub-contracted products and services used in product sold to PI. It is expected that suppliers work closely with their sub-contractors and monitor their quality level. PI reserves the right to perform necessary assessments at sub-contractor facilities.

7. Forms

– If a form is needed the supplier must contact the Quality Department at PI or refer to the current Production Part Approval Process (PPAP) Manual.

Revision History

1.0	Initial release		February 24 2006
1.1	Update to OTD requirements	CA# 6047	October 12 2006
1.2	Update to Sections 3, 5, and 7	EC # 9015	January 16 2009

1.3

Multiple updates

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June 22 2011